

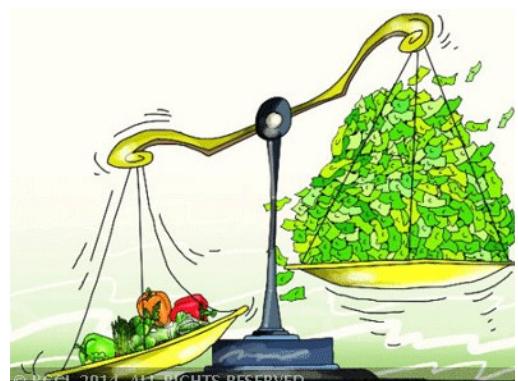
# Edexcel A level Economics (A)

## Theme 2

*The UK economy – performance and policies*

Teacher **2** Course companion **5**

## INFLATION (2.1.2)



Student name: \_\_\_\_\_

Group: \_\_\_\_\_

Teacher: \_\_\_\_\_ (AT101)

## 2.1.2 (a) Understanding of:

- **inflation**
- **deflation**
- **disinflation**

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



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

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

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

**Consumer Price 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 (see below)

**CPIH:** a measure of CPI inflation including owner occupier housing costs and council tax. (Since March 2017 this has been the main measure of inflation in the UK.)

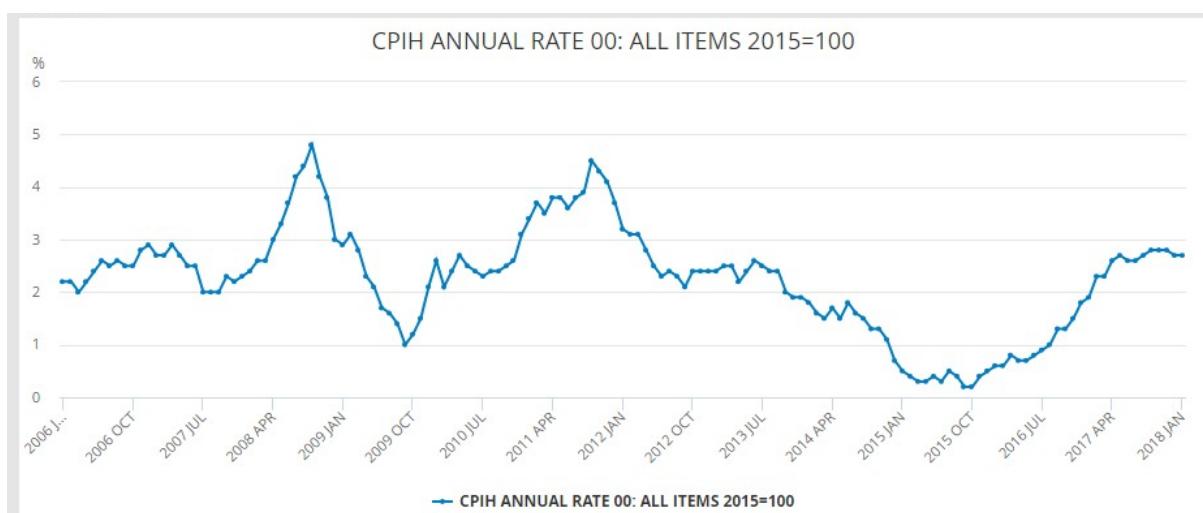
**Retail Prices Index (RPI):** a measure of the price level which has been calculated in the UK for over 60 years and is used in a variety of contexts such as by the government to index welfare benefits and regulated train fares. (RPIX excludes mortgage interest payments)

**The inflation rate** is calculated as the percentage change in the CPI. This is calculated relative to a *base year* set equal to 100.

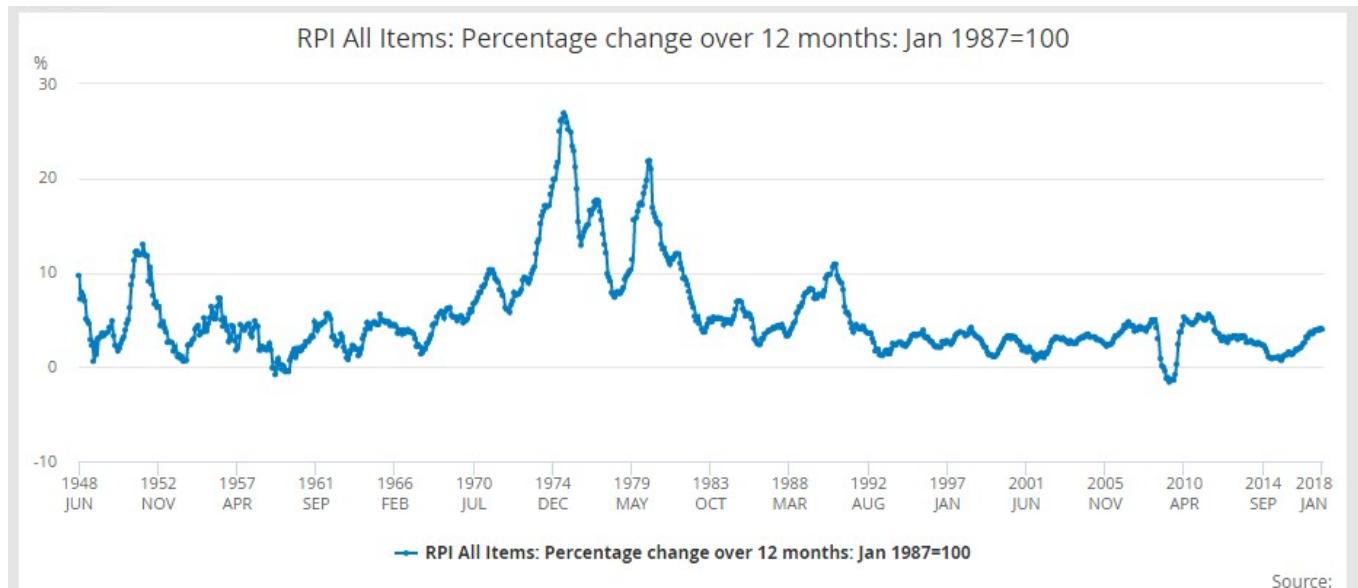
Note: A **fall in the rate of inflation (disinflation)** means that the cost of living of the typical household is *rising* less quickly. It does not mean falling prices (which is known as *deflation*).

The Bank of England inflation target is  $2\% \pm 1$  as measured by the CPI.

### CPIH inflation in the UK 2006-2018 (Source: ONS)



## RPI inflation in the UK 1948-2018 (Source: ONS)



Using the RPI measure of inflation, identify periods of:

(a) inflation

(b) disinflation

(c) deflation

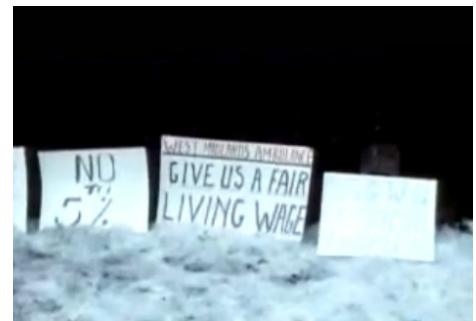
## The History of Inflation

\* <https://www.youtube.com/watch?v=7rpvxZphZZc>

1. **When** has inflation been high in the UK and the other countries mentioned?



2. What **causes** of inflation are described?



3. What **problems** of inflation are described?



## **2.1.2 (b), (c) & (d)**

- (b) The process of calculating the rate of inflation in the UK using the Consumer Prices Index (CPI)**
- (c) The limitations of CPI in measuring the rate of inflation**
- (d) The Retail Prices Index (RPI) as an alternative measure of the rate of inflation**

### **The process of calculating the rate of inflation in the UK using the Consumer Prices Index (CPI)**

The RPI, CPI and CPIH are calculated from the same data collected through monthly surveys:

#### **Living costs and food survey**

- Asks around 11,500 households chosen randomly (of whom 5,500 participate), to keep diaries of what they spend over two weeks, to work out spending pattern of the average household.
- Used to decide a 'basket' of 700 representative goods and services for which price information will be collected (in the price survey).
- The RPI and CPI are **weighted** to reflect the importance of different expenditures in the total.



#### **Price survey:**

- Prices collected in 140 different areas of UK, locations chosen by random sampling, and range of outlets surveyed e.g. supermarket & corner shop.
- 100,000 prices are collected for the 700 goods in 'basket'.
- A further 80,000 prices are collected centrally, where local sampling inappropriate e.g. catalogues/internet, utility bills, road tolls, mortgage interest payments.

In principle, the basket should contain all consumer goods and services purchased by households and the prices measured in every shop or outlet that supplies them. In practice, the consumer price indices are calculated by collecting a sample of prices for a selection of representative goods and services in a range of UK retail locations including the internet. Currently, around 180,000 separate price quotations are used every month in compiling the indices, covering around 700 representative consumer goods and services. These prices are collected in around 140 locations across the UK and from the internet and over the phone at ONS.

Within each year, the consumer price indices represent the changing cost of a basket of goods and services of fixed composition, quantity and quality. In practice, this is achieved by:

- keeping the sample of representative goods and services constant
- applying a fixed set of weights to price changes for each of the items such that their influence on the overall index reflects their importance in the typical household budget (ONS)

## Changes to the ‘basket’ of goods

The “shopping baskets” of items used in compiling the various measures of consumer price inflation are reviewed each year. Some items are taken out of the baskets and some are brought in to make sure the measures are up to date and representative of consumer spending patterns.

### Leggings in and pork pies out of latest inflation basket BBC website on 13<sup>th</sup> March 2018

Women's leggings and mashed potato will now be used instead of pork pies and lager sold in nightclubs to help calculate the cost of living in the UK. The changes are part of the Office for National Statistics' (ONS) annual review of the basket of goods used to measure the UK's inflation rate. Quiche, action cameras and soft play sessions have also been added. The price movements of 700 goods and services are measured in 20,000 UK outlets to calculate inflation.



#### Inflation basket 2018

### In

Exercise leggings, chilled mashed potato, raspberries, high chairs, body moisturising lotion, quiche and action cameras, such as GoPros

### Out

Pork pies, Edam cheese, camcorders, bottle of lager in a nightclub, peaches, nectarines, cash machine charges and leg waxing

Source: ONS



The basket of goods reflects contemporary habits and technology to calculate the changing cost of living, as measured by the inflation rate. The ONS also aims to ensure that each sector is reflected adequately in the calculations. So, this year, a high chair has been introduced to represent nursery furniture, which has not been covered in the baskets since the removal of a cot in 1999. The exclusion of the pork pie is the result of rethinking the area of "cooked pastry-based savoury snacks", according to the ONS. The aim was to reflect the "widening collection across a range of takeaway outlets", rather than only pasties and pies in traditional fish and chip shops. Some items are replaced with updated versions, so mashed potato returns - although now it is chilled rather than dried - and a sit-upon wheeled toy replaces the traditional tricycle. Last year, speciality gin and children's scooters were among the items that went into the inflation basket, and menthol cigarettes and a child's swing were ejected.

***Explain the importance of updating the items in the shopping basket each year.***

## Weighting of items in the shopping basket

Consumer price inflation is the speed at which the prices of goods and services bought by households rise or fall and is estimated by using price indices. One way to understand a price index is to think of a very large shopping basket containing goods and services typically bought by households. The price index estimates changes to the total cost of this basket by calculating the average of price changes of the items within the basket.

However, we know that households spend more on some goods and services than others, so we would expect, for example, a 10% increase in the price of petrol to have a much bigger impact on the basket than a similar rise in the price of tea. For this reason, the components of price indices are weighted; using the amount we spend on these items as consumers, to ensure that it reflects the relative importance of the various items in the average shopping basket.

The various weights used in the calculation of consumer price inflation, along with the items that form the “shopping basket” are reviewed and updated each year. This ensures weights remain representative of current household expenditure patterns and reflect the introduction of new items into the shopping basket and removal of old ones.

## Calculation of price index

- Price survey data is used to calculate average price rise for each of the 700 goods/services in the basket.
- Price index calculated by giving greater **weight** to goods which account for a **greater proportion** of family income
- For example, see simplified example in table 1: households spend 75% of income on food and the remaining 25% on cars.
- Food given a weight of three quarters (750 out of 1000) and cars a weight of one quarter (250 out of 1000)
- A weighted average is calculated as the sum of the products of the percentage increase/(decrease) in price of each good/service multiplied by their respective weights divided by the sum of the weights (i.e. 1000 here)
- Average increase in prices is  $(8\% \times 0.75) + (4\% \times 0.25) = 7\%$  **OR**  $(8\% \times 750 + 4\% \times 250)/1000$  (See table below)
  - Note that 7% is closer to the food inflation rate (of 8%) than it is to the car inflation rate (of 4%) due to food's greater importance/weighting in the 'basket'

**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%

## Measuring Inflation – weights

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### Why are weights used?

Households spend more on some items of expenditure than others. We would therefore expect price increases for certain items to have a bigger effect on the overall change in the cost of the ‘basket’ than others. The weights for both the CPI and RPI reflect these varying degrees of importance. For example, an average household spends about ten times as much on sweets and chocolate as they do on postal services, so a five per cent increase in the price of sweets and chocolates would have ten times as much effect on the total cost of the ‘basket’ when compared to a five per cent increase in postal charges. Each item in the index is weighted to reflect the proportion of household expenditure spent on the item.

### Frequency of updating

The weights for all items in the CPI are updated every year to coincide with the general review of the representative items in the basket. Annual updates to the weights are necessary to ensure that the CPI remains representative of current expenditure patterns. In addition, weights also need to be updated to reflect the introduction of new items and the removal of old ones. There is also a tendency for consumers to move away from buying goods and services which have risen relatively rapidly in price. For example, if the price of tea rose dramatically during one year, consumers might switch their spending towards coffee, making it necessary to adjust the expenditure weights accordingly in the following year.

**Study the table below showing the weightings for goods and services from 1988 to 2015. Answer the questions which follow**

Item	Weights 1988	Weights 2007	Weights 2011	Weights 2015
<b>Food and non-alc. bevs</b>	<b>184</b>	<b>103</b>	<b>118</b>	<b>110</b>
<b>Alcoholic bevs and tobacco</b>	<b>67</b>	<b>43</b>	<b>42</b>	<b>43</b>
Clothing and footwear	84	62	62	70
Housing, water, elec., gas and fuels	134	115	129	128
Furniture, household equipment	76	68	61	59
Health	5	24	24	25
Transport	159	152	159	149
Communication	20	24	26	31
<b>Recreation and culture</b>	<b>94</b>	<b>153</b>	<b>147</b>	<b>147</b>
Education	9	18	18	26
<b>Restaurants</b>	<b>118</b>	<b>138</b>	<b>120</b>	<b>121</b>
Misc.	50	100	94	91
<b>TOTAL</b>	<b>1000</b>	<b>1000</b>	<b>1000</b>	<b>1000</b>

a) Explain the changes in CPI weighting for food, alcohol and tobacco.

b) Explain the changes in CPI weighting for recreation and culture and restaurants.

**Extension question:** Why did some trends in weightings between 1988 and 2007 reverse between 2007 and 2011?

## Differences between RPI and CPI

- **International comparisons:** CPI used in all EU countries so good for country comparisons, whereas RPI is traditional UK measure.
- **Calculation method:** RPI uses an arithmetic mean (called Carli Index) to average out different prices, this tends to give a higher value than the geometric mean used for the CPI.
- **Housing costs:** CPI excludes some items related to housing which are included in the RPI e.g. mortgage interest rate payments & council tax.
- **Population covered:** CPI covers all households, whereas RPI excludes top 4% of income earners and low income pensioners, on the basis that they are not typical households.

Arithmetic Mean  
Geometric Mean



## Limitations of CPI in measuring rate of inflation

- **Housing costs:** CPI excludes some items related to housing which are included in the RPI (e.g. mortgage interest rate payments and council tax) though they may be very important in household budgets.

### HOWEVER, CPIH includes housing costs

- **Non-typical households:** The weightings used are based on the spending patterns of the average household, however some households (e.g. pensioner or one-parent household) may have different spending patterns e.g. spending a larger proportion of income on food.
- **Changes in quality of goods & services over time:** Quality of goods tends to improve over time, e.g. a car in the 1950s was less comfortable/reliable, therefore inflation indices may overestimate inflation, as in reality part of price rise may be due to increased quality.
- **New products available/invented:** Products such as mobile phone/takeaways not available in 1950 so difficult to accurately estimate long term changes in price level as 'basket' changes so much over time.



## What are the key measures of inflation? SUMMARY

### CPI

- Has been the ONS headline measure of inflation since 2003
- The measure targeted by the Bank of England's rate-setters
- Calculated based on collecting the prices for a basket of goods
- Goods are bunched into categories and then weighted based on how often they are bought

### CPIH

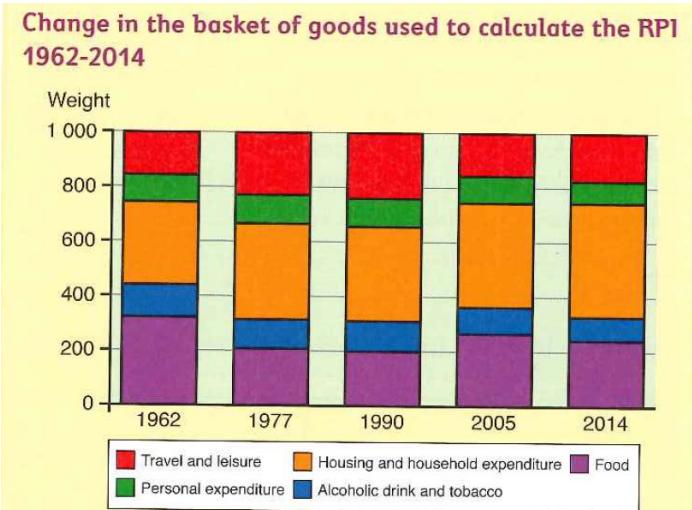
- Adds owner-occupier housing costs\* and council tax to CPI
  - \* uses a measure known as **rental equivalence**. This values the 'housing services' you get from your house by looking at what it would cost to rent an equivalent property. This is based on the idea that if you did not own a house, you would need to rent one. Or alternatively, by living in the house I own, I am forgoing the rent I could charge and therefore spend on goods & services. Therefore the equivalent rent is a good proxy for the costs of housing for owner occupiers.
- Otherwise calculated in the same way and with the same basket as CPI
- Has been published since 2013 but ONS has calculated it back to 2006

### RPI

- Was the headline measure of inflation until 2003
- Uses a different basket of goods and different formulae to CPI
- Includes mortgage interest payments and council tax
- The formulae used are no longer considered best practice so RPI is not a National Statistic
- The ONS discourages its use



## Over to you!



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

1. Describe changes in the weights given to different areas of expenditure between 1962 and 2014.

2. Suggest possible reasons for these changes.

## Calculation of price index

3. Calculate the rate of inflation for years 1-8 and the price index in years 2-8 if the price index was 100 in year 1

Year	Weights			% annual increase in prices		Rate of inflation (%)	Price index
	Food	All others	Total	Food	All others		
1	300	700		10	10		100
2	250	750		5	10		
3	200	800		4	6		
4	150	850		3	2		
5	125	875		4	4		
6	120	880		6	4		
7	120	880		5	7		
8	110	890		8	10		

HINT: In year 1 inflation =  $(0.3 \times 10) + (0.7 \times 10)$  i.e. weight (as a decimal) x price increase

## 2.1.2 (e) Causes of inflation:

- **demand pull**
- **cost push**
- **growth of the money supply**

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

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

[https://www.youtube.com/watch?v=WZ\\_OyrolQc0&list=PLslyOrpjJ0z2duArbcMKan\\_xjl4lt07WW](https://www.youtube.com/watch?v=WZ_OyrolQc0&list=PLslyOrpjJ0z2duArbcMKan_xjl4lt07WW)  
Bank of England clip: Take notes on the causes of inflation described in the clip:

### The Main Causes of Inflation

#### Demand Pull inflation

- Caused by excess aggregate demand
- Often linked to money and credit boom
- Economy close to full capacity (inelastic AS)
- Positive output gap ( $AD >$  potential GDP)

#### Cost Push Inflation

- Rising wage costs in labour market
- Increasing raw material and component costs from domestic and overseas suppliers
- Rising import prices due to a falling exchange rate – this increases import costs

#### Administered Prices

- Changes in regulated prices e.g. Water bills
- Changes in indirect taxes and subsidies

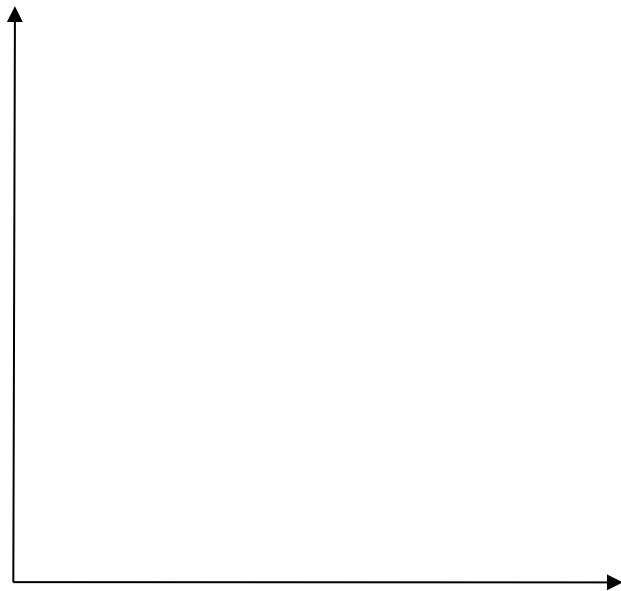
#### Inflation Expectations

Once inflation becomes established in an economy it can be difficult to remove.

Most agents in the economy (workers, businesses, leaders) will raise their inflation expectations and build it into their calculations and decisions

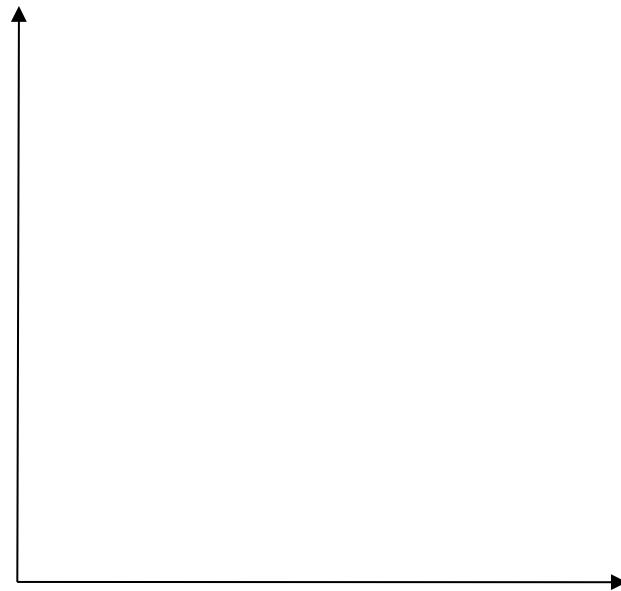
# Causes of inflation:

## (1) Demand-pull inflation



- AD shifts right when AS inelastic
- Caused by increase in components of AD e.g. consumption (e.g. positive wealth effect caused by housing boom), higher government spending

## (2) Cost-push inflation



An increase in production costs will shift the AS curve left e.g. higher wages, oil price rise or exchange rate fall.

### (3) Growth of the money supply

According to the monetarist school of thought (Milton Friedman *et al*), inflationary pressures can be put down to growth in the money supply alone, as individuals and firms may spend their excess money on goods and services, raising aggregate demand. More specifically, this will occur when the money supply is increasing *faster than* the growth in real output. The reason is that there is **more money chasing the same number of goods**. Therefore, the increase in monetary demand causes firms to put up prices. If the money supply increases at the same rate as real output, then prices will stay the same.

Take the following example:

Year	number of widgets	Money supply	average price	inflation rate
2000	20,000	10,000	0.5	
2001	24,000	12,000	0.5	0%
2002	28,000	14,000	0.5	0%
2003	32,000	20,000	0.625	25%
2004	36,000	30,000	0.833	33%

- In 2001, the output of widgets increases 20%. The Money supply increases 20%. Therefore, the average price of a widget stays at £0.50 (zero inflation)
- In 2002, the output of widgets increases 16.6% and money supply also increases 16.6%. Prices stay the same and the inflation rate is 0%
- However, in 2003, the output of widgets increases 14% but the money supply increases 42%. With the money supply increasing faster than output, there is a rise in nominal demand. In response to this rise in demand, firms put up prices and we get inflation.

#### Examples of increased money supply causing inflation

This link between the money supply and inflation can be seen in many historical cases:

**US Confederacy 1862-65.** During the Civil war, the Confederacy of southern states found itself short of finance (it could only raise 46% of the cost of war from taxes and bonds) so it increased the printing of money to pay for materials and soldiers. However, with economic output falling, this caused inflation of 700% in the first two years of war and reaching a peak of over 5000% by the end.

**German Hyperinflation 1923.** In the aftermath of the First World War, Germany faced high reparation payments. To meet these demands, the government started printing more money – so that firms could continue to pay workers. This led to an explosion in the inflation rate. By the end of 1923, printing money had got out of hand, and the economy experienced hyperinflation.

**Zimbabwe 2008.** Zimbabwe found itself in a similar situation. High government debt, falling output and a need to print money to stave off a short-term crisis. This printing of money led to hyperinflation of an estimated 79,600,000,000% in Nov 2008. A daily inflation rate of 98%

## 'Sweet spot' of pay rises and falling inflation set to offer households rare respite (Telegraph 17.2.2018)

Food is rotting in the fields as farmers struggle to attract the seasonal migrants they need to pick the crops. Lidl has hiked pay well above the minimum wage to keep its staff happy. Disgruntled McDonald's workers have pushed bosses into giving an inflation-busting raise too.

They are part of a bigger trend – employers across the country were forced to give much bigger wage hikes than they expected last year. Pay rises in the private sector are expected to hit 3.1pc, a Bank of England survey indicates, the fastest growth in a decade. As inflation is thought to have peaked, this means earnings should outstrip prices soon.

This raises the novel prospect of workers having more money left over at the end of the month. It could mean a return to "normal" conditions where growth stabilises and interest rates can be scraped off the floor, as the economy comes off life support. But returning to this world is not necessarily a simple process.

Rising pay is largely driven by a shortage of workers. Unemployment is at its lowest level since the Seventies. Recruiters across swathes of industry find it increasingly hard to fill vacancies. Migrants are less keen on the UK, too – the long overdue recovery in the eurozone gives them more options, while the weak pound makes Britain less attractive.

The result: companies have to pay more. Firms are raising pay beyond even the increasing minimum wage, the Bank of England has found, "due to competitive pressures". The driving factor behind the recent surge in inflation was the pound's fall through 2016, pushing up import prices. That should have run its course

So far price pressures have shifted very slowly, with the consumer prices index holding steady at 3pc in January. The Bank of England expects CPI to fall back gradually, remaining at 2.1pc – just above target – in 2021. Brian Hilliard, at Societe Generale, thinks this underestimates the pace of the drop, instead predicting inflation will dive to 1.5pc by the end of 2019. Ben May, at Oxford Economics, also expects prices to fall steadily, noting that sterling has risen recently.

By contrast KPMG's Yael Selfin expects a rather slower dip in inflation from the spring onwards. "We do expect inflation to fall relatively quickly towards the end of this quarter, and then to stay a little bit stubborn for the rest of the year," she says, blaming the lagged effect from the rise in oil prices last year. "Then it will moderate a little bit further towards the end of next year."

Indeed, the range of forecasts from economists is substantial. The average analyst surveyed by Bloomberg expects inflation to fall to 2.5pc this year and 2.1pc in 2019. But the range is broad, with 2018's forecasts varying from 1.9pc to 2.9pc, and 2019's from 1.4pc to 2.9pc.

Prices are rising faster than wages – but the Bank of England hopes they will swap over soon



Such a degree of uncertainty is itself a change from the recent norm. After a spell of very predictable price rises, suddenly factors other than the exchange rate are coming into play.

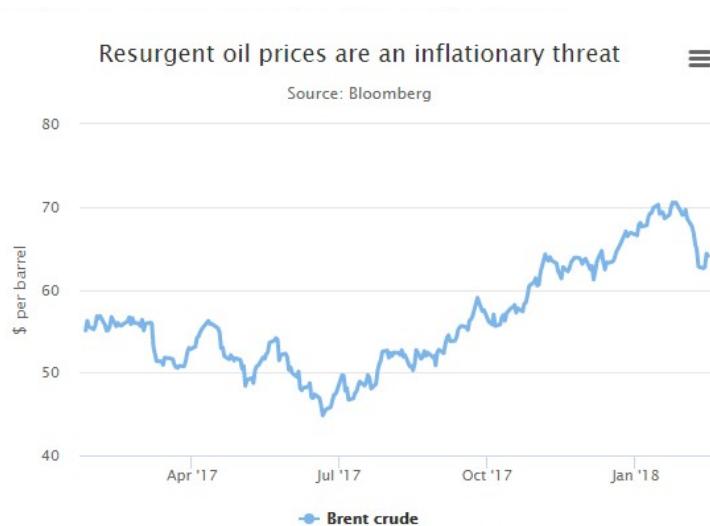
Wage growth itself is one of those. If companies hike pay due to a shortage of workers – rather than because of improved productivity – then they will have to raise prices for consumers. This is the Bank of England's fear.

There are further knock-on effects too as better-paid families will spend more money, using up the economy's supply capacity more quickly and generating more inflation. However, these effects are difficult to predict.

Sam Hill, at RBC Capital Markets, believes it is too soon to count on this: "It is still a big unknown as to how sensitive any pick-up in pay will be in terms of driving inflation higher."

SocGen's Hilliard argues wage growth to date is only having a modest impact, looking at the cost of services, where wages are seen first. "At the beginning of last year it was 2.2pc, now it is 2.8pc – these aren't dramatic numbers," he says. Selfin hopes productivity growth will recover soon – meaning rising pay should not generate much inflation.

"I am optimistic – we are likely to see new technologies become more embedded in overall production and output," she says. As she noted on oil prices, costs from the rest of the world are also having an impact. The global economic recovery has pushed up oil prices.



Commodities such as cotton and dairy products have seen rises too. But the effect is not all one way. Though this will feed into inflation, the global economic recovery is still largely a positive story for Britain as exports rise on the stronger demand. It could even help address the productivity challenges.

"It may be that the global demand story is one factor that supports business investment, and if you do get business investment growth because of the external environment, then your medium-term potential growth rate might get a

little bit of help," says Hill, mitigating the risk that Brexit uncertainty will harm investment.

All of this inflation forecasting is particularly crucial now because the Bank of England has started raising interest rates, and markets are trying to guess what will happen next.

The Bank's Governor Mark Carney last year highlighted the importance of global events in determining UK inflation and interest rates. Global incomes and savings levels, among other global factors, "are the main drivers of domestic long-run real rates", he said. "About 75pc of the movement in UK long-run equilibrium rates is driven by global factors."

- 1. What are the possible causes of a rise in demand-pull and cost-push factors affecting UK inflation?**
- 2. Why do inflation forecasts vary so much?**

## Analysis: Internal and External Causes of Inflation

### Internal causes of inflation



A large surge in property prices



Higher wages / labour costs



Boom in credit / money supply



Rise in business taxes e.g. VAT

### External causes of inflation



Increase in world oil / gas prices



Global inflation in commodity prices



High inflation in other countries

### 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.

## 2.1.2 (f) The effects of inflation on consumers, firms, the government and workers

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

**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.

**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.

### Question



In 2012, the Consumer Price 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) A pensioner on fixed income
  
  
  
  
- (b) A bank deposit saver, given that the rate of interest on a bank deposit savings account was 0.5 per cent in both 2012 and 2013.
  
  
  
  
- (c) A worker whose personal income tax allowance was £8,105 between April 2012 and March 2013 and £9440 between April 2013 and April 2014.
  
  
  
  
- (d) A parent with one child who received £20.30 per week in child benefit in both 2012 and 2013.

**Use the text below (pp23-25) and the table on p26 to analyse and evaluate the impact of INflation on consumers, firms, the government and workers**

## 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.

## The benefits of low inflation

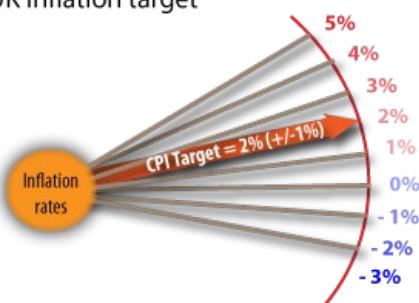
Many central banks today set a target for inflation of around two per cent. This is a very low rate of inflation but it is still a positive increase in prices.

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.



UK Inflation target



## **Impact of Inflation**

	Explain problems	Evaluation: Advantages, extent of problem, possible solutions, depends on...
Consumers		
Firms		
Government		
Workers		



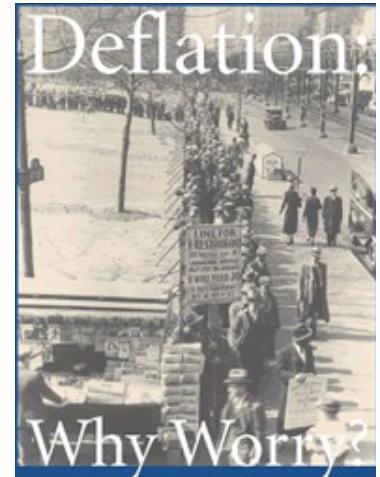
**Use the text below and the table that follows to analyse and evaluate the impact of DEflation on consumers, firms, the government and workers**

## 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.



## Impact of Deflation:

	Explain problems	Evaluation: Advantages, extent of problem, possible solutions, depends on...
Consumers		
Firms		
Government		
Workers		

## Multi-choice questions on inflation

1) Deflation is:

- A** a fall in the external value of the domestic currency
- B** a fall in the rate of inflation
- C** a loss in value of capital stock due to physical wear and tear
- D** a rise in the real value of money over time

2) Which one of the following is most likely to be deflationary? A reduction in:

- A** income tax
- B** interest rates
- C** bank lending
- D** spending on imports

3) Deflation is most likely to:

- A** cause consumers to delay their purchases
- B** lead to a rise in interest rates
- C** lead to a rise in imports
- D** reduce the real value of any money that has been lent