

Part 2: Macroeconomics

Chapter 9: The measurement of macroeconomic performance

Application of economics in the real world

Application of economics in the real world 9.1: The Great Depression in the 1930s

- 1 Negative economic growth occurs when real GDP falls.
- 2 In the USA, the National Bureau of Economic Research (NBER) defines a recession as ‘a significant decline in activity spread across the economy, lasting more than a few months, visible in industrial production, employment, real income, and wholesale-retail trade’.
- 3 Between 1992 and the second quarter of 2008, the UK economy grew bigger every quarter. But in April to June 2008, UK output began to fall. The economy kept getting smaller for five successive quarters. In the UK, two or more consecutive quarters of falling gross domestic product (GDP) is called a recession.

Economic recovery (growing national output) began after the second quarter of 2009. Having shrunk by more than 6% between the first quarter of 2008 and the second quarter of 2009, the UK economy took five years to get back to the size it was before the recession. Output continued to grow until the second quarter of 2019. At the time of writing, in early 2023, the UK economy appeared to be entering a recession. Growth in late 2022 was boosted slightly by the extra spending generated by the football World Cup, but this was felt not to be enough to stop the economy entering recession. The recession was expected to last most of 2023.

- 4 Economic recovery is continuously growing output or real GDP after the end of a recession. Alternatively, it is an increase in the rate of growth of real GDP following a preceding period of very slow growth. As the answer to the previous question indicates, at the time of writing in early 2023, it is likely the UK economy is entering recession. Recovery may follow in late 2023 or early 2024.

Application of economics in the real world 9.2: UK economy: unemployment figures explained by the ONS

- 1 Unemployment had reached just over 5% of the workforce in 2020 but gradually began to fall over 2021 and into 2022 as the economy began to recover from the Covid pandemic. In late 2022 unemployment began to rise from a low of around 3.5% and it was rising towards 4% in early 2023 – likely caused by the slowdown in UK economic growth.
- 2 Described by the ONS, the Labour Force Survey (LFS) is a large-scale, nationwide survey of households in the United Kingdom. It is designed to produce quarterly labour force estimates that include the official measure of employment and unemployment in the state (International Labour Organisation classification).

The unemployment figures use an internationally agreed definition. To count as unemployed, people have to say they are not working, are available for work and have either looked for work in the past four weeks or are waiting to start a new job they have already obtained. Someone who is out of work but does not meet these criteria counts as ‘economically inactive’. Each quarter the LFS covers 100,000 people in 40,000 households chosen randomly by postcode: that is, about one in 600 of the total population.

The results are then weighted to give an estimate that reflects the entire population. The survey has a very large sample size compared, for example, with opinion polls, which often sample around 1,000 people.

Even so, in any survey there is always a margin of uncertainty, in this case around plus or minus 3% for the unemployment level.

- 3 The claimant unemployment rate (as a proportion of the population aged 16 to 64) in February 2019 was 3.1%. This rate had fallen by 1.5 percentage points compared to February 2014 (4.6%). Data on this statistic have no longer been widely available since then.
- 4 You should use the ONS website to look up regional data on unemployment to discover what has happened to unemployment in your region.

Application of economics in the real world 9.3: David Smith's skip index and other confidence indicators

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Street	Number of houses	Number of skips
Street A	80	8
Street B	72	6
Street C	102	12

We constructed the skip index shown above for three streets in south Richmond and north Kingston in the area in which we both live in southwest London.

Street A is a street of large detached houses in a prosperous part of south Richmond on Thames. Each house has a substantial amount of land adjacent to the dwelling on which an extension could be built. However, the houses are in a conservation area, which means that planning permission might not be easy to get, particularly for loft extensions. Most of the properties showed evidence of previously constructed ground floor or loft extensions, built any time in the last 200 years. Most of the houses in Street A were built in the eighteenth or nineteenth century.

All the houses in Street B were originally council houses/social housing built in the 1940s. All the houses which are having extensions built switched to private owner occupancy in the 1990s under the 'right-to-buy' scheme introduced by the Conservative government of the day. The houses which continue to be council houses are in a fairly run-down state. There were no builders' skips outside these properties and no evidence of building work in the last two decades. These properties come on to the market when the tenant dies. Having bought the property cheaply, the new owners hire a builder to renovate the dwelling with the aid of at least one builder's skip.

Street C is in the middle of the Tudor Estate in north Kingston on Thames. This is a complex of small owner-occupied terrace houses built in the 1930s. The properties are quite cramped, but garden space is limited and the lofts are too confined for the building of attractive loft extensions. However, in recent years the relaxing of previously restrictive planning regulations has led to a significant number of loft extensions.

Some conclusions:

- Low interest rates and the ease of obtaining a cheap loan have led to an increase in the number of home extensions, particularly in Streets A and B.
- For the expensive houses in Street A, further factors encouraging the building of house extensions, and therefore resulting in the need to hire a building skip, have been the wish to avoid having to pay stamp duty on moving to a larger house, and the greater availability of land space in the large gardens in the street.

- Before the recent growth in uncertainty associated with Brexit, consumer confidence was high, which encouraged both investing in a house extension and selling up and trading up to a larger property.
- 2 Taking out larger mortgages or home loans; spending on ‘big-ticket’ consumer durables such as new cars and large-screen TVs; advance booking of holidays.
 - 3 The people answering questionnaires give answers which they think the person asking the questions wants to hear; the person asking the questions is too selective in the people who are asked to answer the questions, e.g. only asking people who ‘look nice’.
 - 4 The BMBI report for January 2023 referred to the following issues via the ONS website:

The Office for National Statistics has published estimates of construction output for November 2022.

- *Monthly construction output is estimated to have flat growth (0.0%) in volume terms in November 2022; this follows a downwardly revised increase of 0.4% in October 2022 (revised down from growth of 0.8% in our previous publication).*
- *The flat growth in monthly construction output in November 2022 came from a decrease in new work (0.4% fall), offset by an increase in repair and maintenance (0.6%) on the month.*
- *At the sector level, the main positive contributors to the flat growth were seen in infrastructure new work and non-housing repair and maintenance, which increased by 4.2% and 2.4%, respectively; the main negative contributors were seen in private new housing and private housing repair and maintenance, falling 4.8% and 1.7%, respectively.*
- *The level of construction output volume in November 2022 was 3.1% (£452 million) above the February 2020 pre-coronavirus (COVID-19) pandemic level; new work was 3.4% (£327 million) below its February 2020 level, while repair and maintenance work was 15.5% (£778 million) above the February 2020 level.*

Construction output saw an increase of 0.3% in the three months to November 2022; the increase came solely from growth in new work (1.3%) as repair and maintenance saw a decrease (1.2% fall).

Application of economics in the real world 9.4: The construction of the consumer prices index (CPI)

- 1 The price level is the general level of prices for goods and services in an economy. The rate of inflation is the rate of change of the price level, usually measured over a year.
- 2 The consumer prices index (CPI) is usually calculated as a weighted average of the price change of the goods and services covered by the index. The weights are meant to reflect the relative importance of the goods and services as measured by their shares in the total consumption of households. The weights are reviewed and updated every year to ensure they remain representative of household expenditure patterns. For example, a large rise in the price of tea may cause consumer spending to switch towards coffee, thus requiring a shift in the relative weights the following year. Changes also reflect the fact that spending on new goods and services replaces spending on older items.
- 3 Different groups in society have different inflation rates. Old people have a higher inflation rate than the national average. For example, rising electricity and gas prices affect pensioners more than young people. This is important if pensions are index linked to the CPI because pensioners’ cost of living rises faster than prices in general, causing a decrease in their living standards.

- 4 The Governor of the Bank of England has told Parliament that the RPI has ‘known errors’ and that it should not be embedded in government contracts. For this reason, the state old age pension now rises each year in line with changes in the CPI rather than the RPI. Cynics might say that this favours the government because in recent years the RPI has risen faster than the CPI. Meanwhile, the annual rise in rail prices is still linked to changes in the RPI, which favours rail companies rather than train passengers.

Application of economics in the real world 9.5: Spending by the average UK family

- 1 It is impossible to answer this question without considerable guesswork or prior knowledge. The chart includes data from just a single year, so we are not able to make a comparison over time. For example, we would expect spending on items such as restaurants and hotels and recreation and culture to increase as employment (and income) rise, but we are unable to draw this conclusion from the data in the chart.
- 2 In the United Kingdom, the household saving ratio estimates the amount of money households and non-profit institutions serving households have available to save (known as gross saving) as a percentage of their total disposable income (known as total available resources).
If the household saving ratio falls, the consumer spending ratio rises, either because households reduce their consumption or because they increase their borrowing by taking out loans.
- 3 In the UK over 90% of children attend state schools rather than private schools. These schools are free, so the state (or rather, local authorities) rather than parents pays for education of school children.

Application of economics in the real world 9.6: Market exchange rate versus purchasing power parity (PPP) exchange rates: which measurement should we use?

- 1 To do this exercise, you will need to upload the relevant web page, then access the data for the United Kingdom.
- 2 The PPP exchange rate for the dollar against the dollar was 1 for every year in the data series. This is because we are comparing the dollar against itself! The dollar is acting as a base for calculating the PPP exchange rates of all other world currencies.
- 3 On 17 January 2023, the market exchange rate of the UK pound against the US dollar was 1.22 US dollars to the pound.
- 4 You will need to compare the market value you obtained for question 3 with the PPP rate you discovered for question 1. This will tell you whether the pound is overvalued or undervalued against the dollar.

Application of economics in the real world 9.7: The Economist’s Big Mac index

- 1 According to Don Sillers, a self-styled ‘econo-geezer’, who contributed to the website Quora on 28 May 2018:

The market exchange rate is the market price of one currency in terms of another currency; usually that ‘other currency’ is the US dollar. Thus, the market exchange rate for Indian rupees as of May 28, 2018 is 67.45 rupees per US dollar. The market exchange rate emerges as the result of the interaction between the global supply and demand for these currencies. In general, the global supply of a currency is determined by past monetary policy decisions by

the central bank of the country that issues that currency. In contrast, the demand for a particular currency depends on a wide range of factors: the availability and attractiveness of financial assets issued in that currency; the size, structure, and sophistication of the economy of the issuing country; expected inflation in that country; and a whole range of others. Together, these factors affect people's willingness to hold their wealth in different currencies, and to accept those currencies in payment for goods and services sold abroad. But at the risk of restating the obvious, the market exchange rate is an observable price, determined in foreign exchange markets.

In contrast, the Purchasing Power Parity (PPP) exchange rate is not directly observable — there is no market where you can buy or sell currencies at PPP exchange rates. Rather, PPP exchange rates measure the relative purchasing power of different currencies in their respective domestic markets. Thus, while the market exchange rate tells you how many rupees you can buy for \$1,000, the PPP exchange rate tells you how many rupees you would need in India to maintain the same standard of living you could achieve in the United States for, say, \$1,000 per month. The answer depends on the relative price levels in the two countries, including both the prices of goods that are traded internationally, but also the prices of the many services that are not traded across country borders — non-tradables. The classic example is haircuts, but non-tradables also include taxi rides, restaurant meals, personal services, construction services, and many others, which together make up a large share of GDP and a large share of consumer spending.

- 2 The Big Mac burger is a particularly suitable commodity for measuring a PPP exchange rate because a Big Mac burger is a standardised product with much the same ingredients and manufacturing processes in every country in which it is sold.
- 3 For the same reasons that the Big Mac burger is a suitable measure, Burger King's Double Quarter Pound King burger would be a suitable measure. A half-litre bottle of still water might also be a suitable measure. Both these are uniform or standardised goods.
- 4 According to Patrick Hoskins, writing in the *Sunday Times* on 11 July 2019, 'The Big Mac is a good yardstick for comparing currencies because its recipe of two beef patties, lettuce, cheese, onion, special sauce and gherkin in a three-deck bun is almost identical across the world. The pound has become more of a bargain for international investors, according to one of the longest-running studies into currency value for money, which uses the price of a burger as its yardstick. The dollar is 19.4 per cent overvalued against the pound, up from 17 per cent in January, according to the latest Big Mac Index.' You can search for the latest value online — *The Economist* regularly updates this index.

End-of-chapter questions

- 1 Economic growth is defined as the increase in the *potential* level of *real* output the economy can produce over a period of time, such as a year. Strictly, this is *long-run* economic growth, which is not the same as *short-run* economic growth. Long-run and short-run economic growth are both illustrated in Figure A9.1.

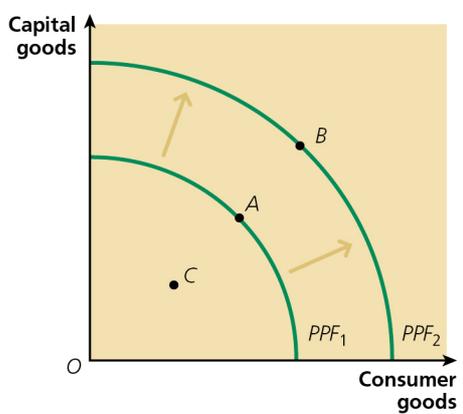


Figure A9.1 Short-run and long-run economic growth

If initially the economy's production possibility frontier is PPF_1 , short-run economic growth is shown by the movement from point C inside the frontier to point A on the frontier. Long-run economic growth is shown by the outward movement of the frontier to PPF_2 . The movement from point A to point B depicts long-run economic growth. Short-run growth makes use of spare capacity and takes up the slack in the economy, whereas long-run growth increases total productive capacity.

- 2 A policy objective is a target or goal that a government wishes to achieve or 'hit'. By contrast, a policy instrument is a tool, or set of tools, that the government uses to try to hit one or more of its policy objectives. Two macroeconomic policy objectives are:
 - create and maintain full employment or low unemployment
 - achieve economic growth and improved living standards and levels of economic welfare
- 3 Before the recent success in combining high employment with low inflation, many economists, particularly those of a Keynesian persuasion, argued that it was difficult, if not impossible, for governments to 'hit' all five macroeconomic objectives at the same time. Believing they could not achieve the impossible, policy-makers generally settled for the lesser goal of 'trading off' between policy objectives. A trade-off exists when two or more desirable objectives are mutually exclusive. Two important trade-offs are shown in Figure A9.2. The second of these is often called the Phillips curve trade-off.

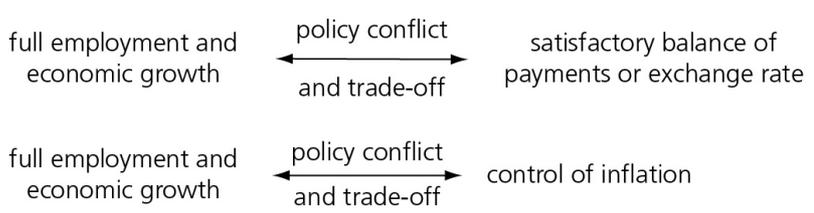


Figure A9.2 Two macroeconomic policy objective trade-offs

- 4 Inflation is a persistent tendency for the average price level to rise, while deflation is the opposite: namely, a persistent tendency for the average price level to fall. Disinflation, which many students confuse with deflation, is a slowing down in the rate of (positive) inflation, say from 4% to 2%.

When measured by a fall in the retail prices index (RPI), the last time deflation occurred for several months was during the so-called 'Great Recession' in 2008 and 2009, but this was not picked up by the consumer prices index (CPI), which recorded the rate of inflation falling, but remaining positive. According to the CPI, the last deflation was in 1960, about 60 years ago.

- 5 The current account of the balance of payments contains the balance of trade in goods and services, primary income flows and secondary income flows. If, when taken together, these items are in credit, there is a balance of payments surplus on current account. If they are in debit, there is a balance of payments deficit on current account.

Based on the latest version of the ONS's Pink Book, which shows balance of payments data, the UK current account deficit in 2021 was £45.6 billion or 2.0% of gross domestic product (GDP), narrowing from £67.5 billion or 3.2% of GDP in the previous year. The trade balance returned to a deficit of £17.6 billion or 0.8% of GDP in 2021, following a surplus of £7.6 billion or 0.4% of GDP in 2020, as global supply chains started to stabilise, but imports and exports remained below pre-Covid-19 pandemic levels.

The primary income balance was in deficit by £9.9 billion or 0.4% of GDP in 2021, narrowing from £47.4 billion or 2.2% of GDP in 2020, as UK earnings on investment abroad increased by more than foreign earnings on investment in the UK.

- 6 To construct a price index, start by selecting a base year. Then take a representative sample of goods and services and calculate their value in the base year and at current prices. The ratio of the expenditure on the basket of goods at current prices to the expenditure at base year prices is taken as the price index.
- 7 A purchasing power parity (PPP) exchange rate is a theoretical exchange rate that allows one to buy the same amount of goods and services in every country. It is a theoretical rate because no country actually uses it for exchange. But government agencies use it to compare the output of countries that use different exchange rates.

The purchasing power parity calculation measures how much things would cost if all countries used the US dollar. In other words, it describes what anything bought throughout the world would cost if it were sold in the USA. GDP calculated at PPP exchange rates eliminates the differences in price levels caused by the different purchasing powers of individual currencies.

Test yourself answers

TEST YOURSELF 9.1

The generally agreed definition of a recession in the UK is two quarters of negative economic growth (or falling real GDP). According to this definition, between January 1990 and July 2009, there were two recessions in the UK. The first recession started in Quarter 3 1990 and finished a year later at the end of Quarter 3 1991. The second recession, often called the Great Recession, was also five quarters long. The recession started in Quarter 2 2008 and finished at the end of Quarter 2 2009. In terms of lost output, this recession was deeper than the 1990 recession, hence its nickname, but fewer jobs were lost in the 2008 recession, which mostly affected financial service industries. In 2020, the UK entered a new recession caused by economic uncertainty resulting partly from the decision to leave the European Union in 2021, but mostly by the Covid-19 health pandemic. It remains to be seen whether the current recession is V-shaped, U-shaped or L-shaped. The UK may have entered another recession in late 2022/early 2023 – which, based on initial thoughts, is likely to be a shallow U shape.

TEST YOURSELF 9.2

Unemployment levels and rates are published each month by the Office for National Statistics in the *Labour Market Statistical Bulletin*. The figures are compiled through the Labour Force Survey.

TEST YOURSELF 9.3

Deflation refers to falling prices; or in other words, it is the opposite of inflation (rising prices). Disinflation doesn't refer to the direction of prices (as inflation and deflation do), but rather to the rate of change: it's a slowdown in the rate of inflation.

TEST YOURSELF 9.4

The data show an inverse relationship between unemployment and inflation: when the unemployment rate falls, the inflation rate increases. This is consistent with the short-run Phillips curve, which is explained in Chapter 11.

TEST YOURSELF 9.5

Nominal values, sometimes called current price values, measure the current price value of a product at the time it was produced. Real prices are adjusted for general price level changes over time, i.e. for the rate of inflation or deflation.

TEST YOURSELF 9.6

The balance of payments on current account is the balance of four items, namely the balance of trade in goods, the balance of trade in services, the balance of primary income and the balance of secondary income. The balance of trade, which is the balance of only the first two of these items, is thus nested within the overall current account.

TEST YOURSELF 9.7

People booking exotic foreign holidays for the summer ahead would be a lead indicator of what might happen to the economy in the year or so ahead. It indicates people's confidence in the period ahead. For example, in late 2018 and through 2019, the fall-off in foreign holiday bookings indicated consumer uncertainty related to Brexit.

TEST YOURSELF 9.8

Estimates of inflation are produced by using price indices. A price index works by combining two types of data: the increase or decrease in the price of certain goods and services over a given period, and the proportion of household expenditure that is spent on those goods and services. The most accurate way of measuring inflation would be to measure the change in price of every item that is purchased by every household. As this is impractical, it is usual to track the prices of a selection of consumer goods and services which are believed to be representative of purchases by households. This is referred to as the 'inflation basket'. The present basket used in the UK to estimate the rate of consumer price inflation contains around 700 goods and services. The contents of the basket are updated every year to reflect changing spending patterns.

TEST YOURSELF 9.9

Positive economic growth occurs when there is an increase in real GDP. Negative economic growth occurs when there is a fall in real GDP. If real GDP falls for six months or more, the UK economy enters recession.

TEST YOURSELF 9.10

Investment is a component of aggregate demand. A fall in gross investment causes the *AD* curve to shift leftward, which means that the equilibrium level of national income falls. This might be exacerbated by multiplier and accelerator effects. Also, in the long run, the economy will fail to renew its capital stock, which could reduce the country's international competitiveness in world markets.

TEST YOURSELF 9.11

Because market exchange rates do not always reflect the different price levels in different countries, economists prefer to use a PPP exchange rate. They create a hypothetical currency, called 'international dollars', and use this as a common unit of measure. The idea is that a given amount of international dollars should buy roughly the same amount — and quality — of goods and services in any country.

A sudden rise in the pound's market exchange rate, caused by a large capital inflow into the pound, may indicate that UK living standards have risen. In this situation, the pound's PPP exchange rate provides a better indicator of whether this has been the case.