

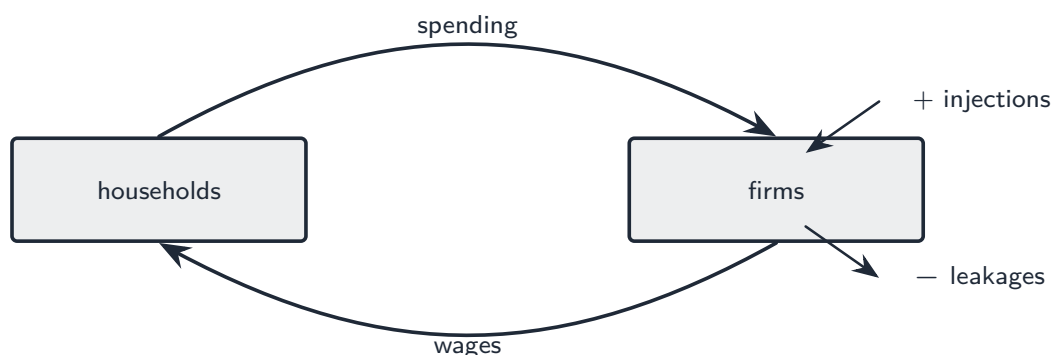
# The macroeconomy (A Level)

## A-Level Economics

This topic studies the wider economy at A Level depth: how spending multiplies, how growth links to the environment, the jobs–prices link, and money.

### The circular flow and the multiplier

The **circular flow of income** shows money passing between households and firms. **injections** add money to the flow (investment, government spending, exports); **leakages** take it out (saving, taxation, imports).



*Income circulates between households and firms, with injections and leakages*

#### ■ The multiplier

An injection raises income by **more** than the first amount. This is the **multiplier**. When a firm builds a factory, the builders earn income, and they spend part of it, which becomes someone else's income, and so on.

How much is spent again depends on the **marginal propensity to consume** (MPC) – the fraction of extra income that people spend on home goods. The rest leaks out. In a simple model:

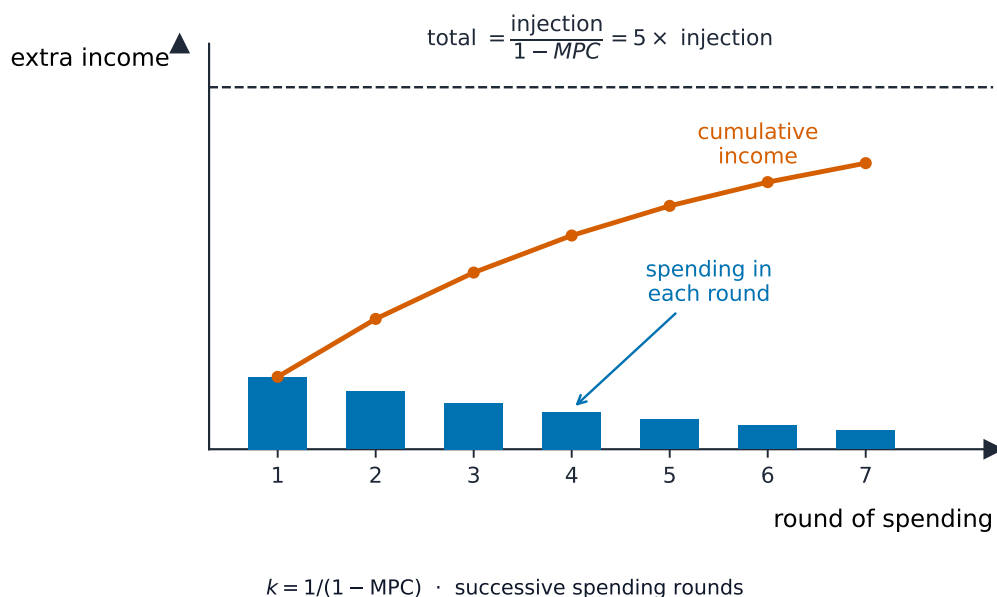
$$\text{multiplier} = \frac{1}{1 - MPC}$$

A bigger MPC (smaller leakages) gives a bigger multiplier. The main leakages are measured by the **marginal propensity to save** (MPS) and the **marginal propensity to import** (MPM).

**Worked example.** In an economy the MPC is 0.8. Find the multiplier, then the effect of a £10 billion rise in investment.

$$\text{multiplier} = \frac{1}{1 - 0.8} = \frac{1}{0.2} = 5.$$

National income therefore rises by  $5 \times \text{£}10 \text{ billion} = \text{£}50 \text{ billion}$  – five times the original injection. (Because all income is either spent or saved,  $\text{MPC} + \text{MPS} = 1$ , so here  $\text{MPS} = 0.2$  and the multiplier is also  $1/\text{MPS}$ .)



*An injection is spent round after round (each smaller by the MPC), so total income rises by a multiple of the first injection.*

## ■ The accelerator

The **accelerator** says that **investment** depends on the **rate of change** of output. When demand is rising quickly, firms need lots of new capital, so investment jumps. When demand merely stays high, investment falls back.

## ■ What drives consumption, saving and investment

- **consumption** and **saving** depend on **disposable income** (income after tax), wealth, interest rates, and confidence.
- investment depends on interest rates, expected profit, technology, and business confidence.

## Economic growth and sustainability

**economic growth** is a rise in real output.



*Investment in new buildings and capital is a key driver of economic growth.*

- **actual growth** is the real rise in output that happens.
- **potential growth** is the rise in the economy's capacity.

The **output gap** compares actual real output with potential output: the level sustainable with normal use of resources. A **positive** gap creates inflationary pressure as spare capacity runs out. A **negative** gap suggests unused capacity and cyclical unemployment; it does not mean inflation must be zero, or that all unemployment is cyclical. Potential output is estimated and can be revised.

**Worked output-gap comparison.** Illustrative real GDP figures, all billions at constant prices on the same basis, are A: actual 190, potential 200; B: actual 198, potential 210; C: actual 214, potential 210. Express each gap relative to potential output:

$$\text{Gap (\%)} = \frac{Y - Y^*}{Y^*} \times 100.$$

$$\text{Gap}_A = \frac{Y_A - Y_A^*}{Y_A^*} \times 100 = \frac{190 - 200}{200} \times 100 = -5\%.$$

$$\text{Gap}_B = \frac{Y_B - Y_B^*}{Y_B^*} \times 100 = \frac{198 - 210}{210} \times 100 \approx -5.71\%.$$

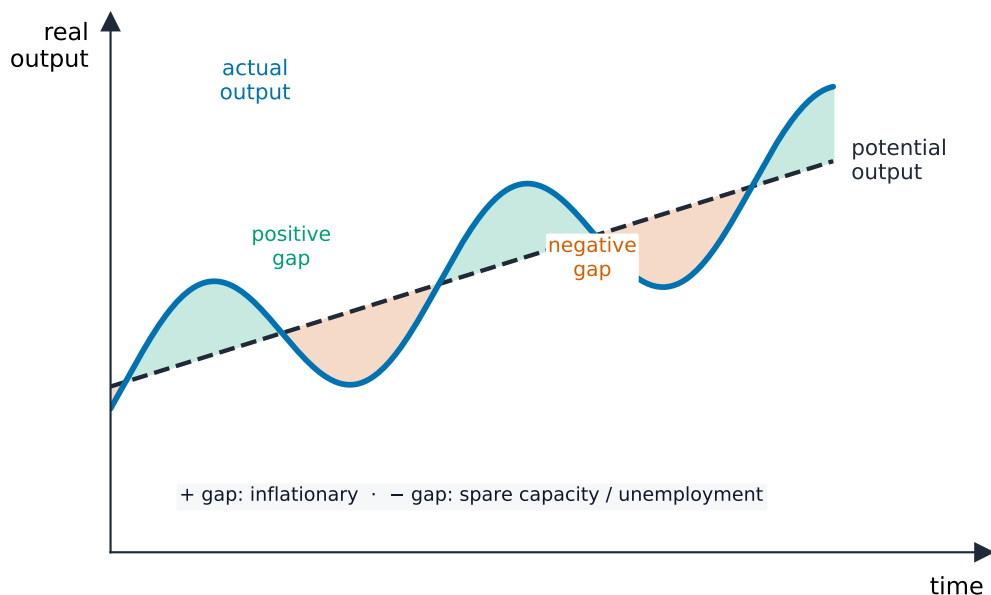
$$\text{Actual growth}_{A \rightarrow B} = \frac{Y_B - Y_A}{Y_A} \times 100 = \frac{198 - 190}{190} \times 100 \approx 4.21\%.$$

$$\text{Potential growth}_{A \rightarrow B} = \frac{Y_B^* - Y_A^*}{Y_A^*} \times 100 = \frac{210 - 200}{200} \times 100 = 5\%.$$

Actual output grew, but capacity grew faster, so the negative percentage gap widened. Actual growth does not necessarily close a gap.

$$\text{Gap}_C = \frac{Y_C - Y_C^*}{Y_C^*} \times 100 = \frac{214 - 210}{210} \times 100 \approx 1.90\%.$$

Temporary overtime and intensive equipment use can lift actual output above its estimated sustainable level. The positive gap suggests demand pressure, not a precise inflation forecast. Neither growth nor a gap's sign alone establishes environmental sustainability.



*Actual output swings around potential output; above it is a positive (inflationary) gap, below it a negative gap with spare capacity.*

## ■ Sustainability

**sustainable growth** is growth that meets today's needs without harming the ability of future generations to meet theirs. Fast growth can use up non-renewable resources and cause pollution, which threatens **sustainability**. So a country must weigh growth today against the environment and resources of tomorrow.



*The wind these turbines use is never used up, and they burn no fuel. Switching output from coal and oil to renewables like this lets an economy keep growing without spending the resources – or filling the air with the pollution – that would rob future generations*

## Employment and unemployment

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**unemployment** is measured in two ways: the **claimant count** (people claiming benefits) and the wider **labour force survey** (a sample asked about work).

**frictional** – between jobs

**cyclical** – low demand in a slump

**structural** – skills no longer fit

**seasonal** – only at certain times

*Four types of unemployment: frictional, structural, cyclical and seasonal*

### ■ Types

- **frictional unemployment** – short spells between jobs.
- **structural unemployment** – skills no longer match the jobs, as industries decline.
- **cyclical unemployment** – caused by low demand in a recession.

- **seasonal unemployment**

– work only at certain times of year.

## ■ The natural rate and the Phillips curve

The **natural rate of unemployment** is the unemployment left when the labour market is in balance (mainly frictional and structural). It cannot be removed just by raising demand.

The **Phillips curve** relates the inflation rate to the unemployment rate. In a short-run demand expansion, lower unemployment may accompany higher inflation, holding expected inflation and supply conditions constant. This is not a universal relation between employment and the price level.

**Worked expectations model.** Use the illustrative equation below. Here  $\pi$  is actual annual inflation (%),  $\pi^e$  is expected inflation (%),  $u$  is unemployment (%), and the assumed natural rate is 5%. The coefficient is illustrative, not an estimated law for every economy.

$$\pi = \pi^e - 0.5(u - 5).$$

At unchanged expected inflation of 2%:

$$\pi_A = \pi^e - 0.5(u_A - 5) = 2 - 0.5(5 - 5) = 2\%.$$

$$\pi_B = \pi^e - 0.5(u_B - 5) = 2 - 0.5(3 - 5) = 3\%.$$

A demand expansion may move A to B along the same short-run curve: unemployment falls by 2 percentage points and inflation rises by 1 percentage point. Inflation of 2% still means prices rise; falling inflation is not necessarily falling prices.

When expected inflation rises to 3%, at unemployment of 5%:

$$\pi_C = \pi^e - 0.5(u_C - 5) = 3 - 0.5(5 - 5) = 3\%.$$

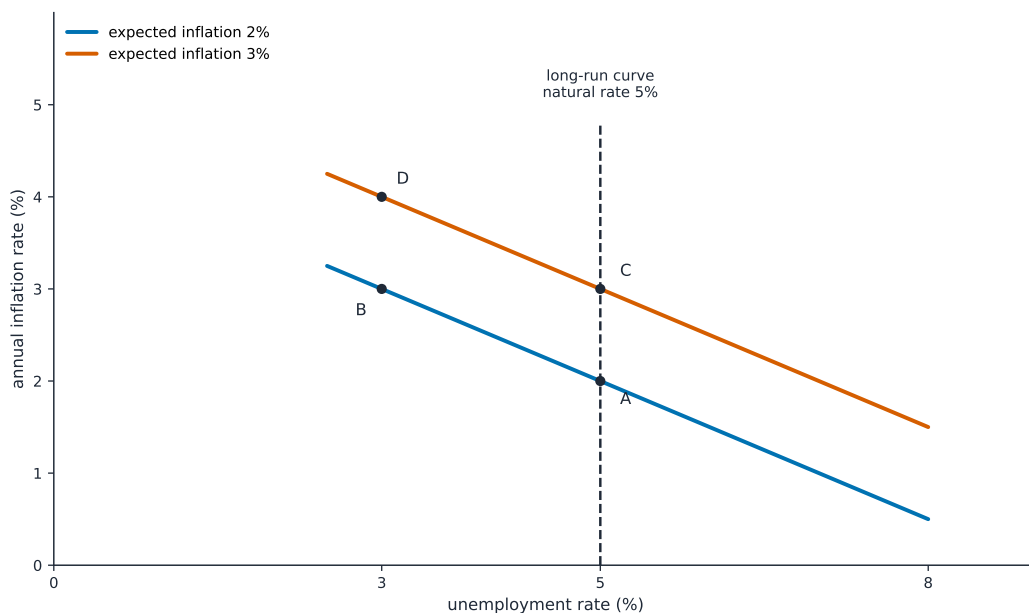
The same unemployment now accompanies higher inflation. The short-run curve shifts up (right), rather than showing a movement along the old curve. Holding unemployment at 3% under the new expectations gives:

$$\pi_D = \pi^e - 0.5(u_D - 5) = 3 - 0.5(3 - 5) = 4\%.$$

In this expectations-augmented model, repeated demand stimulus cannot maintain unemployment below an unchanged natural rate without rising inflation as expectations adjust. When actual and expected inflation are equal:

$$\pi = \pi^e - 0.5(u - 5), \quad \pi = \pi^e \quad \Rightarrow \quad u = 5\%.$$

Different fully expected inflation rates are compatible with the same natural rate. The long-run curve is vertical at 5% in this example; full employment does not mean zero unemployment. Better matching, training or mobility may change the natural rate and shift the long-run curve. An adverse oil-cost shock can raise inflation while reducing output and employment, shifting the short-run relationship instead of tracing a stable demand trade-off. State what is held constant before predicting the effect of a policy. This model also supports the policy-conflict discussion in Topic 10.



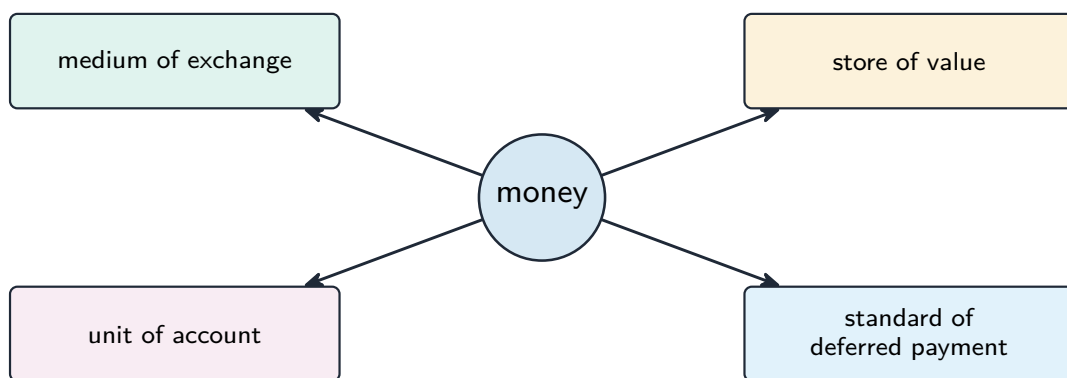
*A to B is a movement at unchanged expected inflation; A to C shows higher expected inflation at the same unemployment. The long-run curve assumes the natural rate stays at 5%.*

## Money and banking

### ■ What money does

**money** is anything widely accepted in payment. It has four jobs:

- a **medium of exchange** – used to buy and sell, avoiding barter.
- a **store of value** – it keeps its worth over time, so you can save it.
- a **unit of account** – a common way to measure and compare prices.
- a **standard of deferred payment** – it lets people borrow and repay later.



*Money does four jobs at once – without it, trade would fall back on slow, awkward barter*

Good money is durable, easy to carry, easy to divide, hard to fake, and limited in supply.

## ■ Banks

- the **central bank** issues notes, runs monetary policy, holds the country's reserves, and acts as **lender of last resort** to banks in trouble.
- **commercial banks** take deposits and make loans. By lending out most of what is deposited, the banking system creates money.

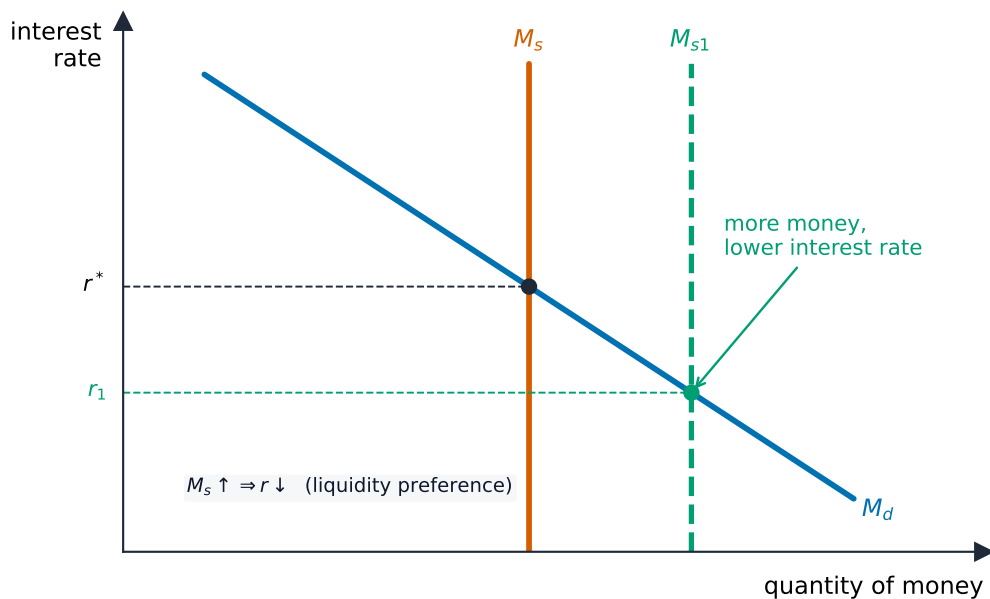


*Commercial banks take deposits and make loans – and by lending, the banking system creates most of the money in the economy.*

## ■ The demand for money and interest rates

People hold money rather than other assets for its **liquidity** (it can be spent at once). The **demand for money** – also called **liquidity preference** – comes from the need to make everyday payments, to keep a safety buffer, and to be ready to buy assets.

The **interest rate** is the price of borrowing money. It is set where the demand for money meets the **money supply**. A larger money supply tends to lower the interest rate.



*The interest rate is set where the demand for money meets the money supply; a larger money supply lowers it.*

## ■ Moral hazard

**moral hazard** is the danger that banks take bigger risks because they expect to be rescued if things go wrong. If a bank believes the government will bail it out, it may lend recklessly – knowing it keeps the gains but passes losses to others.

## Exam tips

- Calculate the **multiplier**  $= 1 \div (1 - MPC) = 1 \div MPS$  and apply it to an injection.
- Distinguish **actual from potential** growth and link sustainability to long-run capacity.
- Explain the **functions of money** and the role of banks and the central bank.
- Explain the **Phillips curve** trade-off (unemployment vs inflation) and why it may not hold in the long run.

Vocabulary card meanings

marginal propensity to import: The fraction of one extra unit of income that is spent on imports. accelerator: The link from a change in the growth of demand to a change in investment, which is not always a larger swing. disposable income: Income left after income tax, free to spend or save. sustainable growth: A rise in output that can continue without exhausting key resources. standard of deferred payment: Money's role in letting a debt be settled at a later date. liquidity preference: The wish to hold wealth as cash rather than as assets that are harder to sell.