Inflation

AQA A-Level Economics

CPI · RPI · Demand-Pull · Cost-Push · Effects · Deflation · Policy Responses

What is Inflation?

Definition:

Inflation is a sustained rise in the general price level over time. It erodes the purchasing power of money — the same nominal income buys fewer goods and services.

Key distinctions:

Inflation

A positive rate of change in the general price level — prices are rising. The UK target is 2% CPI per year, managed by the Bank of England.

e.g. UK Oct 2022: CPI = 11.1% — prices 11.1% higher than 12 months earlier. A household spending £2,000/month effectively lost £222/month of purchasing power.

Disinflation

A falling rate of inflation — prices are still rising, but more slowly. Not the same as deflation. E.g. inflation falling from 10% to 5% is disinflation.

e.g. UK 2023: CPI fell from 11% to 4% through the year — disinflation as energy prices normalised and rate rises took effect. Prices were still rising, just more slowly.

Deflation

A negative rate of inflation — the general price level is falling. Can be harmful: consumers delay spending (expecting lower prices), output falls, debt burdens rise in real terms.

e.g. Japan 1990s–2010s: chronic deflation after asset bubble burst. Consumers and firms hoarded cash, investment collapsed — the 'Lost Decade(s)' of near-zero growth.

Measuring Inflation: CPI

Consumer Prices Index (CPI):

The UK's official inflation measure. Compiled monthly by the ONS. Tracks price changes in a representative 'basket' of ~700 goods and services, weighted by household spending patterns.

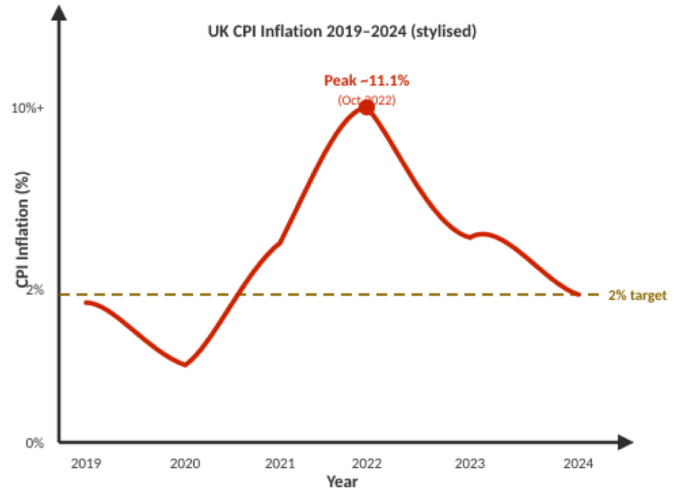
How CPI is calculated:

1. A basket of goods is selected — updated annually to reflect changing spending habits.
2. Each item is weighted by its share of household expenditure (e.g. housing costs carry more weight than postage stamps).
3. Prices are surveyed across the UK each month — ~180,000 price quotes from ~140 locations.
4. A weighted average price change is calculated relative to the base year (index = 100).

UK inflation target:

CPI = 2% per year. Set by the government; the Bank of England's MPC uses interest rates to achieve it. If CPI deviates by more than 1 percentage point from target, the Governor must write an open letter to the Chancellor explaining why.

CPI vs CPIH: CPIH includes owner-occupier housing costs (a measure of the cost of living in your own home). Increasingly used by the ONS as the preferred measure.



Real-World Example

ONS basket 2024 additions: electric vehicle charging, meat-free sausages, and espresso martinis — reflecting changing spending habits. Items removed included coal and men's suits. The basket evolves to stay representative of modern consumer spending.

CPI vs RPI: Key Differences

Two main inflation measures — they differ in coverage and methodology, and are used for different purposes:

Consumer Prices Index (CPI)

Official UK inflation measure since 2003. Internationally comparable — used by most EU countries. Geometric mean formula for averaging prices within categories.

Does NOT include: mortgage interest payments, council tax, or house depreciation.

Used for: Bank of England inflation target (2%), many private sector pay deals, inflation-linked financial instruments.

Generally LOWER than RPI because it excludes housing costs and uses a different averaging formula.

e.g. UK 2022: CPI peaked at 11.1%; RPI peaked at 14.2% — housing costs drove the large gap.

Retail Prices Index (RPI)

Older measure — published since 1947. Arithmetic mean formula (tends to give higher results than geometric mean). No longer classified as a National Statistic since 2013.

INCLUDES: mortgage interest payments, council tax, house depreciation costs — making it more sensitive to interest rate changes.

Used for: indexing rail fares, some index-linked gilts, student loan interest rates, some private sector wage agreements.

Generally HIGHER than CPI — the 'RPI-CPI wedge' averages around 0.5–1 percentage point.

e.g. Rail fares are typically linked to July RPI — using RPI rather than CPI means commuters pay higher annual increases.

Demand-Pull Inflation

Definition:

Caused by excessive growth in aggregate demand — 'too much money chasing too few goods'. Occurs when AD grows faster than productive capacity, particularly near full employment.

Triggers of demand-pull inflation:

Falling interest rates — cheaper credit boosts C and I. Rising consumer confidence — households spend more of their income. Fiscal stimulus — government spending or tax cuts raise disposable income. Rising export demand — stronger world growth or weaker exchange rate.

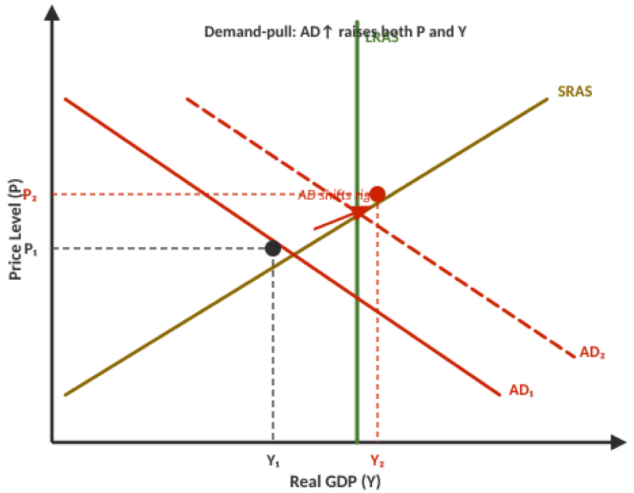
AD/AS analysis:

AD shifts right. If the economy is near full employment (LRAS), the increase in demand mainly raises the price level with little real output gain. Further right of LRAS, the impact is almost entirely inflationary.

Policy response:

Raise interest rates (contractionary monetary policy) — increases cost of borrowing, reduces C and I, shifts AD left. Alternatively, tighten fiscal policy (G↓ or T↑).

Demand-pull inflation is generally seen as a 'good problem' — it implies a growing economy. Cost-push inflation is more problematic as it causes both rising prices and falling output.



Real-World Example

UK 2021: pent-up post-COVID consumer demand, record household savings being spent, low interest rates, and government stimulus all boosted AD simultaneously. Consumer spending surged — demand-pull pressures began building before the energy price shock hit.

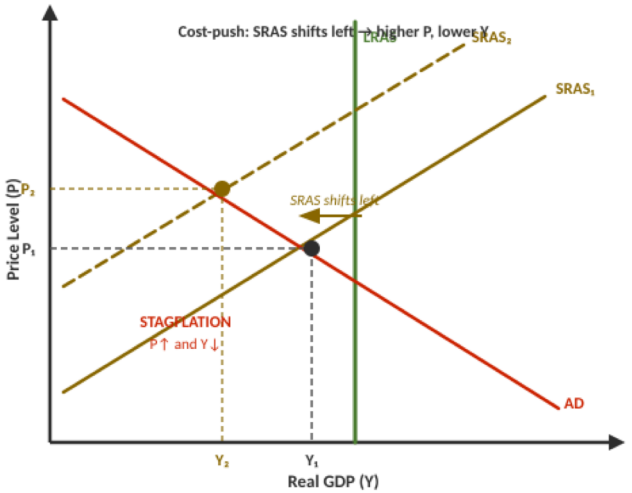
Cost-Push Inflation

Definition:
Caused by a rise in production costs — shifting SRAS leftward. The price level rises and real output falls simultaneously, creating stagflation. Unlike demand-pull, it does not imply a booming economy.

Triggers of cost-push inflation:
Rising commodity prices — oil, gas, food, raw materials. Rising wages above productivity growth — higher unit labour costs. Supply chain disruption — shortages raise input prices. Depreciation of the exchange rate — imports become more expensive.

The policy dilemma:
Policymakers face a dilemma — tightening policy (raising interest rates) reduces inflation but deepens the output fall. Loosening policy supports output but worsens inflation. There is no 'good' policy response.

Wage-price spiral:
Higher prices → workers demand higher nominal wages to maintain real wages → higher wages raise unit costs → firms raise prices further → cycle repeats. Anchoring inflation expectations is crucial to prevent this.



Real-World Example

UK 2022: Russia's invasion of Ukraine cut gas and food supplies — energy bills tripled. Classic cost-push: SRAS shifted left, CPI hit 11.1%. The BoE faced the dilemma: raise rates (worsen recession) or tolerate inflation. It raised to 5.25% — prioritising price stability.

Effects & Consequences of Inflation (1/2)

The effects of inflation depend on whether it is anticipated, its level, and the structure of the economy:

Erosion of Real Incomes

If wages don't keep pace with inflation, real wages fall. Fixed-income groups (pensioners on non-indexed pensions, people on benefits) are hardest hit — their purchasing power falls.

e.g. UK 2022: wage growth lagged CPI by ~4 percentage points — the biggest fall in real wages since records began. Workers' living standards fell sharply.

Reduced International Competitiveness

Higher domestic prices make exports more expensive relative to foreign competitors and imports relatively cheaper. Current account deficit worsens. Over time, may trigger exchange rate depreciation.

e.g. UK 1970s: UK inflation above trading partners throughout decade — exports became uncompetitive, current account deteriorated, pound fell repeatedly.

Redistribution of Income and Wealth

Debtors gain: the real value of their debt is eroded. Creditors and savers lose: the real value of savings falls. Asset holders (property, equities) may gain if asset prices rise with inflation.

e.g. UK 2022–23: homeowners with fixed-rate mortgages were temporarily insulated, while those with savings accounts lost significantly in real terms as savings rates lagged CPI.

Effects & Consequences of Inflation (2/2)

Further effects — and why a low, stable rate of inflation is the policy goal:

Uncertainty Reduces Investment

High or volatile inflation makes business planning harder. Firms cannot predict future costs and revenues reliably — investment falls. Menu costs (repricing products) and shoe-leather costs (more frequent bank visits) arise.

e.g. UK 2022–23 survey evidence: business investment intentions fell sharply as inflation spiked — uncertainty about energy and input costs made long-term planning impossible.

Hyperinflation — The Extreme Case

When inflation becomes self-reinforcing and extremely rapid, the currency loses value so fast it becomes worthless. Barter replaces money, economic activity collapses. Caused by excessive money printing.

e.g. Zimbabwe 2007–09: inflation reached 89.7 sextillion percent per month. Germany 1923: workers were paid twice daily and spent wages immediately before prices rose further.

Low Stable Inflation Can Be Beneficial

A moderate inflation rate (~2%) lubricates the economy: allows real wage cuts without nominal cuts (useful in downturns), encourages spending over saving, reduces real debt burdens, gives monetary policy room to cut rates.

e.g. The 2% target reflects this — zero inflation risks deflation (damaging), while high inflation causes the problems above. A small positive rate is the optimal trade-off.

Limitations of CPI as an Inflation Measure

CPI is widely used but has important limitations — it may not accurately reflect inflation as experienced by different households:

Not Representative for All Households

The basket reflects average spending. Low-income households spend proportionally more on food and energy — their experienced inflation is often higher than the CPI headline rate. Pensioners and students face different price pressures.

Excludes Housing Costs (CPI)

CPI excludes mortgage interest payments and owner-occupier housing costs — a major and volatile expenditure for millions of households. CPIH and RPI attempt to address this, but imperfectly.

Quality Improvements Overstated

A £1,000 laptop in 2024 is far more powerful than a £1,000 laptop in 2014. If prices are unchanged but quality improves, CPI overstates true inflation. Hedonic adjustment attempts to correct this but is imperfect.

Cannot Capture Substitution

When one good becomes expensive, consumers switch to cheaper alternatives. CPI using a fixed basket cannot fully capture this substitution behaviour — tending to overstate the true cost of living rise.

New Goods Enter the Basket Late

New products (e.g. smartphones, streaming services) only enter the basket once they are widespread. Their typically falling prices in early years are initially missed — CPI may overstate true inflation.

Regional Variation Ignored

A single national CPI cannot capture price differences between London, rural Wales, and Northern cities. The cost of living varies enormously across the UK — a national average may be misleading for many regions.

Policies to Control Inflation

The appropriate policy depends on whether inflation is demand-pull or cost-push in origin:

Monetary Policy — Raise Interest Rates

BoE raises Bank Rate → mortgage and loan costs rise → C and I fall → AD shifts left → inflation falls. The primary tool for demand-pull inflation. UK: rates raised from 0.1% to 5.25% (2021–23). Time lag: 12–24 months.

Contractionary Fiscal Policy

Government raises taxes or cuts spending → disposable income falls → C falls → AD falls → inflation eases. Used alongside monetary policy. Risk: slows growth and raises unemployment. UK 2010–19 austerity aimed partly at reducing inflationary pressure.

Supply-Side Policies

Shift LRAS right — increase productive capacity so same AD generates less inflationary pressure. Education, training, deregulation, infrastructure investment. Long-run solution but takes years. Addresses cost-push inflation if it improves efficiency.

Exchange Rate Appreciation

A stronger £ reduces import prices — directly lowers CPI via cheaper imported goods and raw materials. Central bank can raise rates to attract capital inflows and appreciate the currency. Risk: damages export competitiveness.

Key limitation for cost-push inflation: Raising interest rates to fight cost-push inflation reduces demand but does NOT fix the underlying supply problem. It may reduce inflation at the cost of significantly higher unemployment — a painful policy trade-off.

★ Bonus: The Quantity Theory of Money

The Fisher Equation:

MV = PQ (also written MV = PT)

Where: M = Money supply, V = Velocity of circulation (how many times money changes hands), P = Price level, Q (or T) = Real output (or transactions).

The Monetarist argument:

If V is stable and Q is fixed at the natural rate of output (full employment), then any increase in M must cause a proportional increase in P — inflation is always and everywhere a monetary phenomenon (Friedman).

Policy implication:

Control the money supply growth rate to control inflation. The UK targeted M3 money supply growth in the early 1980s under Thatcher's Medium-Term Financial Strategy.

Evaluation:

Explains hyperinflation well — all hyperinflation cases involve rapid money expansion. QE concerns consistent with theory. ✗ V is NOT stable — 2009–21 QE created vast money growth without proportional inflation as banks hoarded reserves. ✗ Causation may run P to M, not just M to P.

The Fisher Equation

MV = PQ
M = money supply · V = velocity
P = price level · Q = real output
If V and Q constant: M↑ → P↑ (inflation)

UK Money Supply (QE)

2009–2021: BoE created £895bn via QE. Money supply rose dramatically. Yet inflation remained low — velocity fell as banks held reserves. The equation held but V changed, undermining the simple monetarist prediction.

Real-World Example

Zimbabwe 2007–09: government printed money to finance spending — M grew at extraordinary rates. With V roughly stable and Q falling (economy collapsing), P exploded: 89.7 sextillion % monthly inflation. The strongest real-world confirmation of MV=PQ — excessive money creation destroyed the currency entirely.

Summary: Key Terms & Relationships

Key Term	Meaning
Inflation	A sustained rise in the general price level. Measured by % change in CPI.
Disinflation	A falling rate of inflation — prices still rising, but more slowly. Not the same as deflation.
Deflation	A falling general price level (negative inflation rate). Can be harmful — encourages spending delays.
CPI	Consumer Prices Index — ~700 item weighted basket. Official UK measure. UK target: 2%.
RPI	Retail Prices Index — older measure including mortgage interest and council tax. Generally higher than CPI.
CPIH	CPI including owner-occupier housing costs. Increasingly preferred by ONS.
Demand-pull inflation	AD grows faster than supply — 'too much money chasing too few goods'. Near full employment.
Cost-push inflation	Rising production costs shift SRAS left → stagflation: P↑ and Y↓ simultaneously.
Stagflation	Simultaneous high inflation and falling output — from a leftward shift in SRAS.
Wage-price spiral	Higher prices → higher wage demands → higher costs → higher prices → repeats.
Shoe-leather costs	Costs of more frequent trips to the bank/financial management as people try to minimise cash holdings.
Menu costs	Costs of updating prices — reprinting menus, relabelling products. Rise with inflation frequency.
MV = PQ	Quantity Theory: Money × Velocity = Price Level × Output. Monetarist basis for inflation control.