Aggregate Supply

AQA A-Level Economics

SRAS · LRAS · Keynesian vs Classical · Equilibrium · Output Gaps · Supply-Side Policies

Short-Run Aggregate Supply (SRAS)

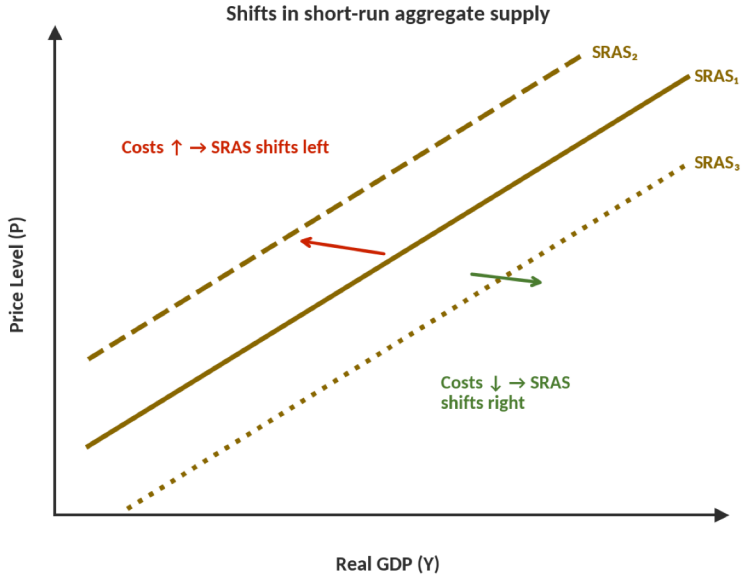
Definition:
Short-run aggregate supply is the total output firms are willing and able to supply at each price level, when the prices of factors of production (e.g. wages) are fixed.

Why does SRAS slope upwards?
In the short run, costs such as wages are fixed by contracts. When the price level rises, firms' revenues rise faster than their costs, so producing more becomes profitable.

Movement vs shift:
A change in the price level causes a movement along SRAS. A change in firms' costs of production shifts the whole SRAS curve.

Shifts:
Higher costs (e.g. wages, energy, raw materials, taxes) shift SRAS left. Lower costs or higher productivity shift SRAS right.

A leftward shift in SRAS causes cost-push inflation and lower output — stagflation.



Real-World Example

2022: Russia's invasion of Ukraine sent gas and oil prices soaring. Firms' energy costs jumped, shifting UK SRAS left — CPI inflation hit 11.1% while growth stalled.

Factors That Shift SRAS

Anything that changes firms' costs of production across the whole economy shifts the SRAS curve:

Wage Costs

Labour is the largest cost for most firms. Higher wages (not matched by productivity) shift SRAS left.

e.g. National Living Wage and employer NIC rises in April 2025.

Commodity & Energy Prices

Rising prices of oil, gas, metals and food raise costs across the economy.

e.g. Oil price shocks in the 1970s caused stagflation.

Exchange Rate

A fall in the pound raises the price of imported raw materials and components — SRAS shifts left.

e.g. Import costs rose after the £ fell following the 2016 referendum.

Taxes & Subsidies

Higher indirect taxes or business taxes raise costs; subsidies reduce them.

e.g. Government energy support for firms in 2022–23 limited cost rises.

Productivity

Higher output per worker lowers unit labour costs, shifting SRAS right.

e.g. New technology and better management raise productivity.

Regulation & Supply Shocks

New regulations, natural disasters or supply chain disruption raise costs.

e.g. Post-COVID supply chain bottlenecks in 2021.

Long-Run Aggregate Supply (LRAS)

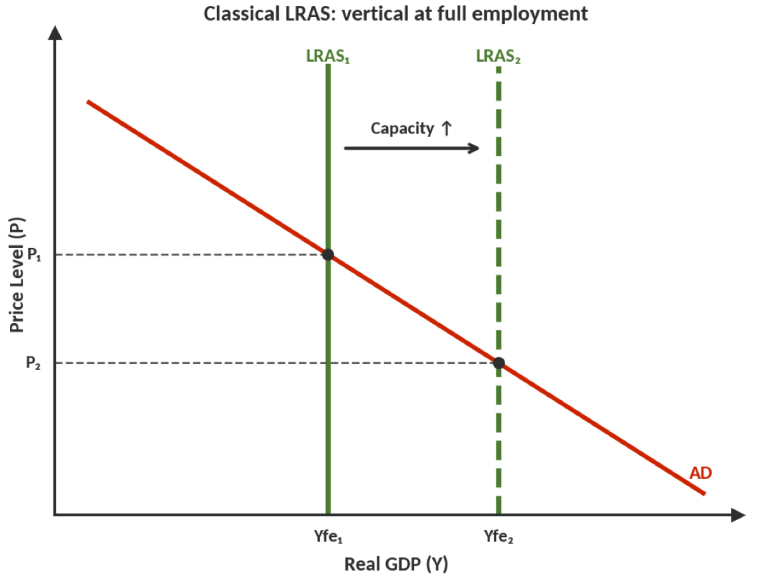
Definition:
Long-run aggregate supply shows the productive capacity of the economy — the maximum output it can produce when all resources are fully and efficiently employed.

The classical view:
In the long run, wages and prices are fully flexible, so the economy returns to full employment. LRAS is vertical at the full employment level of output (Yfe).

Implication:
In the long run, increasing AD only raises the price level — it cannot raise real output. Only increasing LRAS raises long-run output.

Link to the PPF:
An outward shift of LRAS is equivalent to an outward shift of the production possibility frontier — long-run economic growth.

LRAS shifts right when the quantity or quality of factors of production increases.



Real-World Example

The OBR estimates UK potential output grows only around 1.5% a year — held back by weak productivity growth and lower labour force participation since COVID.

Keynesian vs Classical LRAS

The Keynesian view:

Keynes argued the economy can remain below full employment for long periods, because wages are 'sticky' downwards. So the LRAS curve has three sections.

1. Horizontal section:

Lots of spare capacity. AD can rise, increasing real output without any rise in the price level.

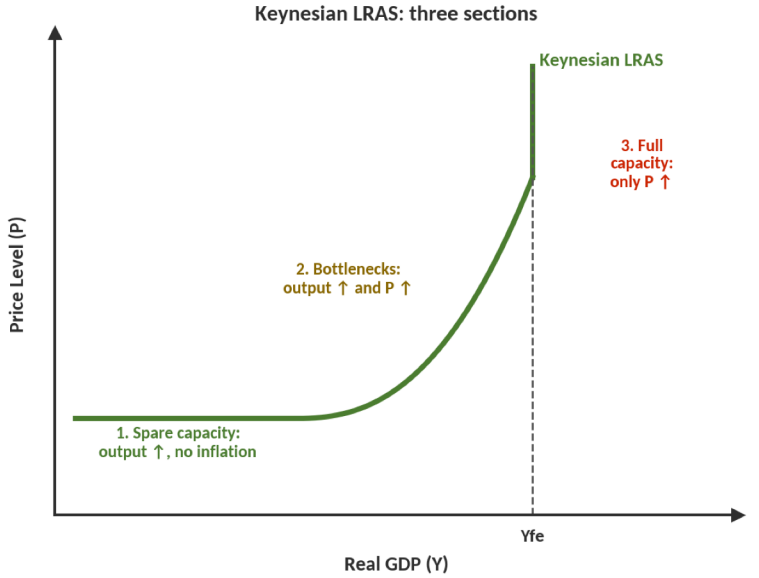
2. Upward-sloping section:

Bottlenecks emerge as some resources become scarce — output rises, but so does the price level.

3. Vertical section:

Full capacity (Yfe). Any further rise in AD only causes inflation.

Key debate: Keynesians favour demand-side policy in recessions; classical economists favour supply-side policy, as markets self-correct.



Real-World Example

After 2008 the UK had large spare capacity. Huge QE and near-zero rates boosted AD for years with inflation mostly low — consistent with the Keynesian horizontal section.

Determinants of LRAS

LRAS depends on the quantity and quality of the factors of production and how efficiently they are used:

Quantity of Labour

Population growth, net migration, the retirement age and labour force participation.

e.g. Net migration has been a major source of UK labour force growth.

Quality of Labour

Education, training and health raise human capital and productivity.

e.g. Apprenticeships, T-levels and university education.

Capital Stock

Investment in machinery, buildings and infrastructure increases productive capacity.

e.g. UK business investment has long been low compared with the G7.

Technology & Innovation

New technology allows more output from the same inputs — a major source of long-run growth.

e.g. AI and automation could significantly raise productivity.

Enterprise & Incentives

Tax rates, regulation and competition affect incentives to work, invest and start businesses.

e.g. Lower corporation tax and less red tape encourage enterprise.

Institutions

Rule of law, property rights, stable government and working financial markets support growth.

e.g. A key reason why some developing countries grow slowly.

Macroeconomic Equilibrium

Short-run equilibrium:

Occurs where AD = SRAS. This determines the equilibrium level of real GDP (Y) and the price level (P).

An increase in AD:

AD shifts right → real GDP and the price level both rise. The closer the economy is to full capacity (LRAS), the more the effect is on prices rather than output.

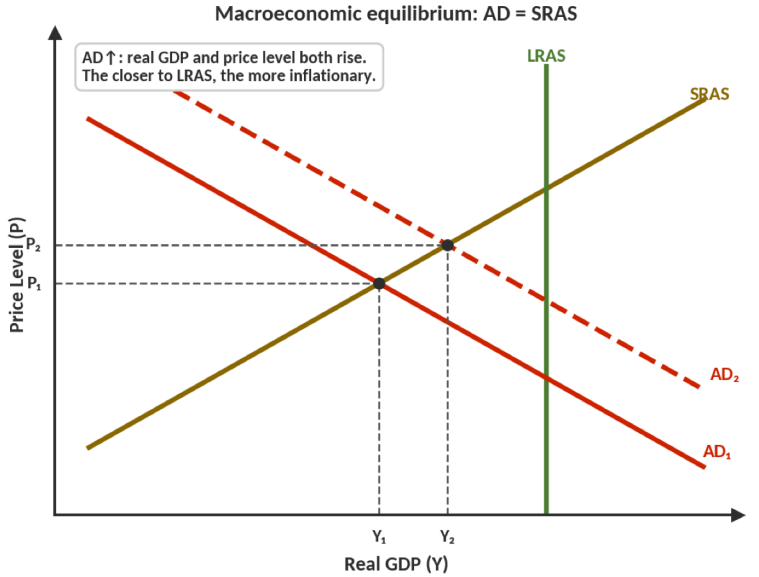
A decrease in SRAS:

SRAS shifts left → the price level rises but real GDP falls (stagflation) — a difficult policy trade-off.

An increase in LRAS:

Productive capacity rises → higher real GDP with lower inflationary pressure — the best outcome.

Long-run equilibrium occurs where AD = SRAS = LRAS — at full employment output.



Real-World Example

COVID-19 (2020): lockdowns cut both AD (spending) and SRAS (firms unable to operate) at the same time. UK real GDP fell by around 10% — the largest fall in 300 years.

Output Gaps

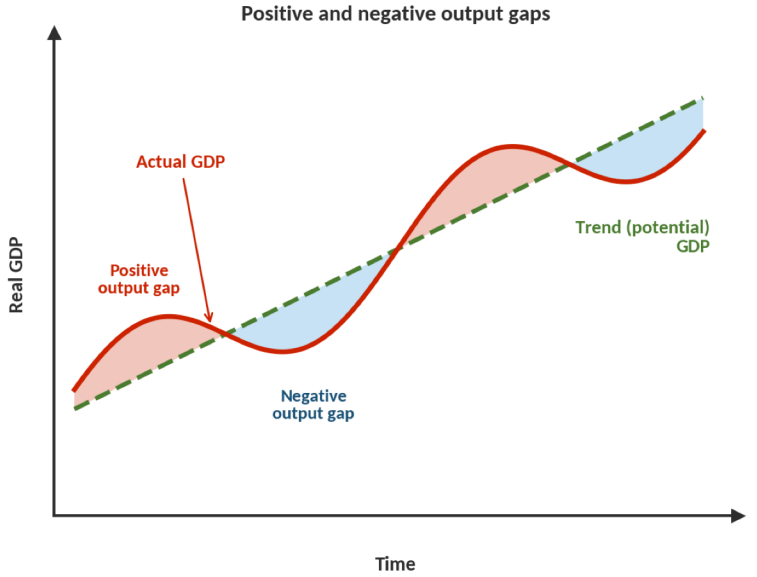
Definition:
An output gap is the difference between actual GDP and potential (trend) GDP — the level of output the economy could produce sustainably.

Negative output gap:
Actual GDP is below potential — there is spare capacity. Unemployment is above its natural rate and there is downward pressure on inflation. Typical of a recession.

Positive output gap:
Actual GDP is above potential — resources are overstretched. Labour shortages and bottlenecks push up wages and prices, causing inflation.

Measurement problems:
Potential output cannot be observed directly — it must be estimated, and estimates are often revised. This makes it hard to set policy.

Trend growth = the average long-run rate of growth of potential output.



Real-World Example

The Bank of England and the OBR regularly produce different estimates of the UK output gap, and both revise them — a key challenge when setting interest rates.

Supply-Side Policies

Supply-side policies aim to increase LRAS — raising productive capacity and long-run growth:

Market-Based Policies

Cutting income tax and corporation tax to increase incentives to work, invest and start firms.

Deregulation and privatisation to increase competition and efficiency.

Reducing trade union power and making labour markets more flexible.

Reducing benefits to increase the incentive to work.

Eval: may increase inequality and job insecurity; tax cuts may not raise work effort much.

e.g. The 1980s Thatcher reforms: tax cuts, privatisation and union reform.

Interventionist Policies

Government spending on education and training to improve labour quality.

Investment in infrastructure — transport, broadband and energy networks.

Subsidies and tax credits for research and development.

Regional policy and industrial strategy to support key sectors.

Eval: expensive and slow to take effect; risk of government failure in 'picking winners'.

e.g. Investment in rail, energy networks and R&D tax relief to raise UK productivity.

★ Bonus: When AD Also Shifts LRAS

The link between demand and supply:
Some types of spending are part of AD in the short run, but also increase productive capacity in the long run — shifting LRAS as well.

Investment:
Spending on new machinery raises AD now (I is a component of AD), and adds to the capital stock, raising LRAS later.

Government spending:
Spending on education, health and infrastructure raises G now, and improves labour quality and capital later.

Why it matters:
If both AD and LRAS shift right, the economy can grow without higher inflation. Cutting investment in a recession can permanently lower potential output (hysteresis).

Short Run

Investment and government spending raise AD → higher real GDP and some upward pressure on prices.

Long Run

A larger, better-quality capital stock and workforce shift LRAS right → sustainable, non-inflationary growth.

Real-World Example

Full expensing, made permanent in 2023, lets firms deduct the full cost of new machinery from taxable profits — aiming to raise investment (AD) and productivity (LRAS).

Summary: Key Terms & Relationships

Key Term	Meaning
SRAS	Total output supplied at each price level when factor prices are fixed.
LRAS	The productive capacity of the economy — maximum sustainable output.
Classical LRAS	Vertical at full employment — AD only affects prices in the long run.
Keynesian LRAS	Horizontal, then upward-sloping, then vertical — spare capacity can persist.
Shift in SRAS	Caused by changes in costs — wages, energy, raw materials, taxes, exchange rate.
Shift in LRAS	Caused by changes in the quantity or quality of factors of production.
Macroeconomic equilibrium	Where AD = SRAS (short run) — or AD = SRAS = LRAS (long run).
Stagflation	Rising prices and falling output — caused by a leftward shift in SRAS.
Potential output	The level of output the economy can produce sustainably at full capacity.
Negative output gap	Actual GDP below potential — spare capacity, unemployment.
Positive output gap	Actual GDP above potential — overheating and inflation.
Supply-side policies	Policies that aim to increase LRAS — market-based or interventionist.
Hysteresis	Short-run falls in output causing lasting damage to productive capacity.