

Actual growth and long-run trend growth

Actual growth rate

The **actual growth rate** is the **annual percentage change in real GDP**. It shows how the economy is performing **right now**, so it can rise or fall because of short-run changes in **aggregate demand (AD)** or short-run supply conditions.

Actual growth is often affected by demand shocks (e.g. a fall in confidence, a boom in credit) + supply shocks (e.g. energy price spikes) . More volatile .

Long-run trend growth rate

The **long-run trend growth rate** is the **average sustainable rate** the economy can grow at over time **without causing accelerating inflation**. It depends on the growth of the economy's **productive capacity**, so it is driven by **long-run aggregate supply (LRAS)** shifting right over time.

Trend growth is mainly driven by supply-side factors such as productivity improvements ,(technology, better management) ,growth in the labour force and higher capital investment

Using a trend helps smooth out unusual one off years ("outliers"), so you get a clearer view of underlying performance.

Output gaps

What an output gap is

An **output gap** is the difference between **actual output (real GDP)** and **potential output** (the maximum level of output).

Negative output gap (spare capacity)

A **negative output gap** happens when **actual GDP is below potential GDP** ($Y < YFE$). This means the economy is producing less than it could, so **resources are underused** (spare capacity) .

What it often looks like in the real world:

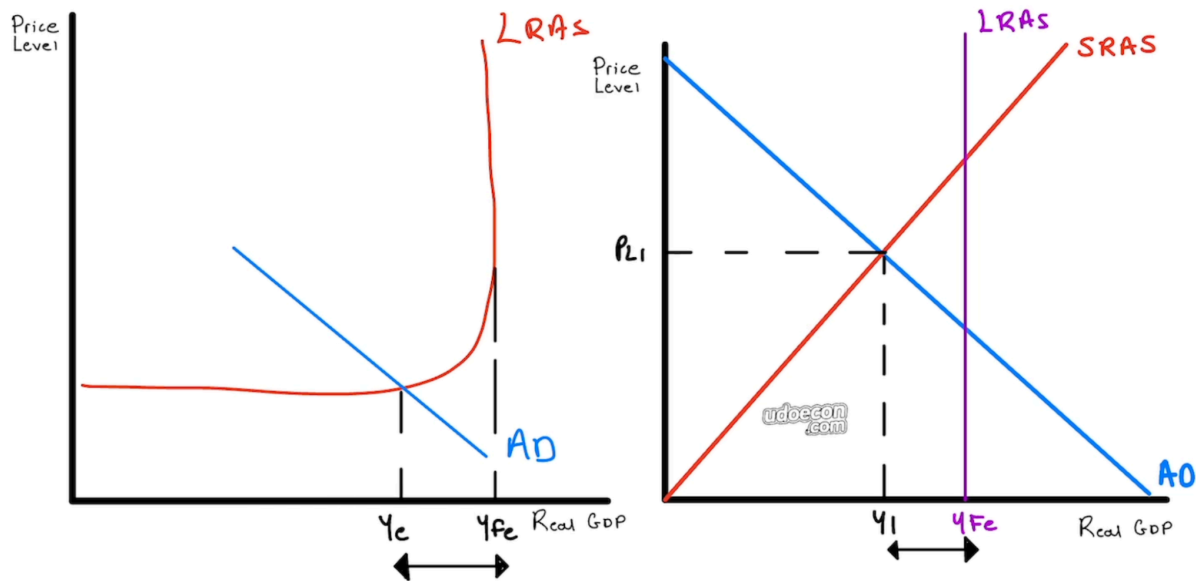
- **Rising unemployment**
- **Weak demand and slow growth**
- **Disinflation** (inflation falling) or **deflation risk**

Negative output gap on the AD/AS diagram

A negative output gap exists when the **short-run equilibrium level of output is to the left of full-employment output** ($Y1 < YFE$).

Diagram analysis :

- The economy is in short-run equilibrium where **AD intersects SRAS** at **Y1** with price level **PL1**.
- **Potential output** is shown by **YFE** (full-employment output).
- The **output gap** is the horizontal distance **YFE – Y1**, showing **spare capacity** (same on the LRAS)



Positive output gap (overheating)

A **positive output gap** happens when **actual GDP is above potential GDP** ($Y_1 > Y_{FE}$). This means the economy is **overheating** and running above its normal capacity, so **inflationary pressure tends to build**.

What it often looks like in the real world:

- **Rising inflation** (especially demand-pull)
- **Labour shortages** and skills bottlenecks
- Firms using **overtime** / pushing machines harder (temporary, not sustainable)

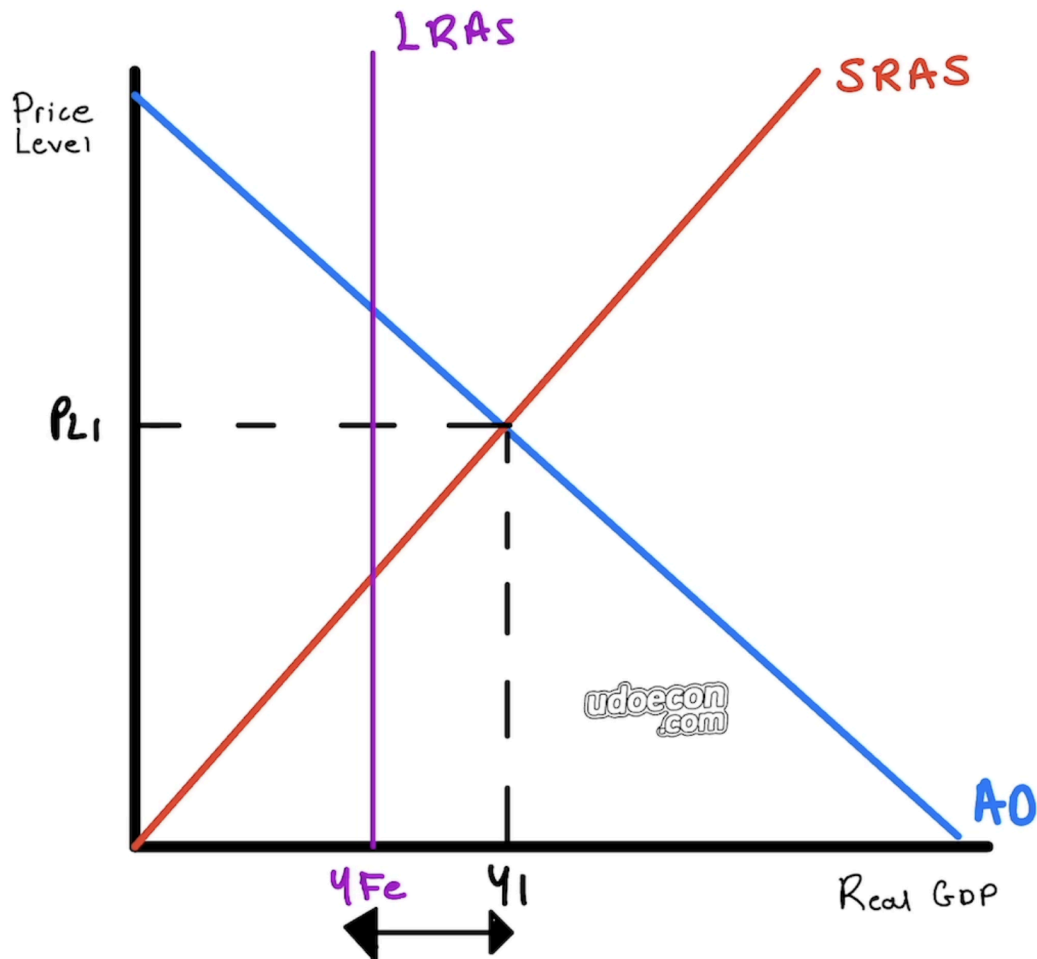
Positive output gap on the AD/AS diagram

A positive gap exists when the **short-run equilibrium is to the right of full-employment output** ($Y_1 > Y_{FE}$).

Diagram analysis :

- **Potential output is Y_{FE}** (full-employment output).
- The economy is in short-run equilibrium where **AD intersects SRAS at Y_1** with price level **PL_1** .

- The **output gap** is the horizontal distance $Y_1 - Y_{FE}$.
- This can happen because firms temporarily push beyond normal capacity (overtime, intensity of work, short-term utilisation), but it **can't last**.



Lastly, you can only show a positive output gap on the neoclassical LRAS , you **cannot** show a positive output gap on a keynesian LRAS .

Why output gaps are difficult to measure

The big issue is that **potential output cannot be observed directly**. It has to be estimated, so any output gap number is partly a judgement/opinion .

Common Measurement Problems

- **Revisions to GDP Data:** Subsequent updates can flip a previously perceived positive output gap to a negative one (or vice versa).
- **Structural Change:** Shifts in technology, demographics, and labor participation alter potential output .

- **Temporary vs. Permanent Effects:** It is difficult to distinguish whether a shock has merely lowered demand or caused lasting damage to productive capacity.