

Exercise walk-through

9.3

Employment/unemployment

A-Level Economics

Calculate an output gap before interpreting it

The **output gap** compares actual real output with potential output: the level sustainable with normal use of resources.

Illustrative year	Actual GDP	Potential GDP
A	190	200
B	198	210
C	214	210

All GDP figures are billions at constant prices, measured on the same basis.

Compare levels and changes

Find each gap as a percentage of potential GDP. Between A and B, did actual output grow? Did the negative gap narrow?

Actual output can grow while a negative gap widens

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

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

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

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

Potential output grew by 5%, faster than actual output. Actual growth does not necessarily close an output gap.

A positive gap is pressure on capacity, not a price forecast

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

Output exceeds its estimated sustainable level: overtime and intensive equipment use may temporarily lift actual output above potential.

Demand pressure can raise wages and prices as spare capacity runs out. A negative gap suggests unused capacity and cyclical unemployment; it does not imply zero inflation, and unemployment need not be entirely cyclical.

Potential output is estimated. Revised productivity or labour-force estimates can change the measured gap. A gap's sign alone does not give the inflation rate or establish environmental sustainability.

Distinguish current output, sustainable capacity, the growth rate and the economy's use of resources over time.

Two kinds of growth, and the floor under unemployment

Actual growth

Actual growth : a rise in real output, from using spare capacity or expanding capacity. It need not close an output gap.

Potential growth

Potential growth : a rise in what the economy *could* produce, from more or better resources. It shifts LRAS right.

Economic growth

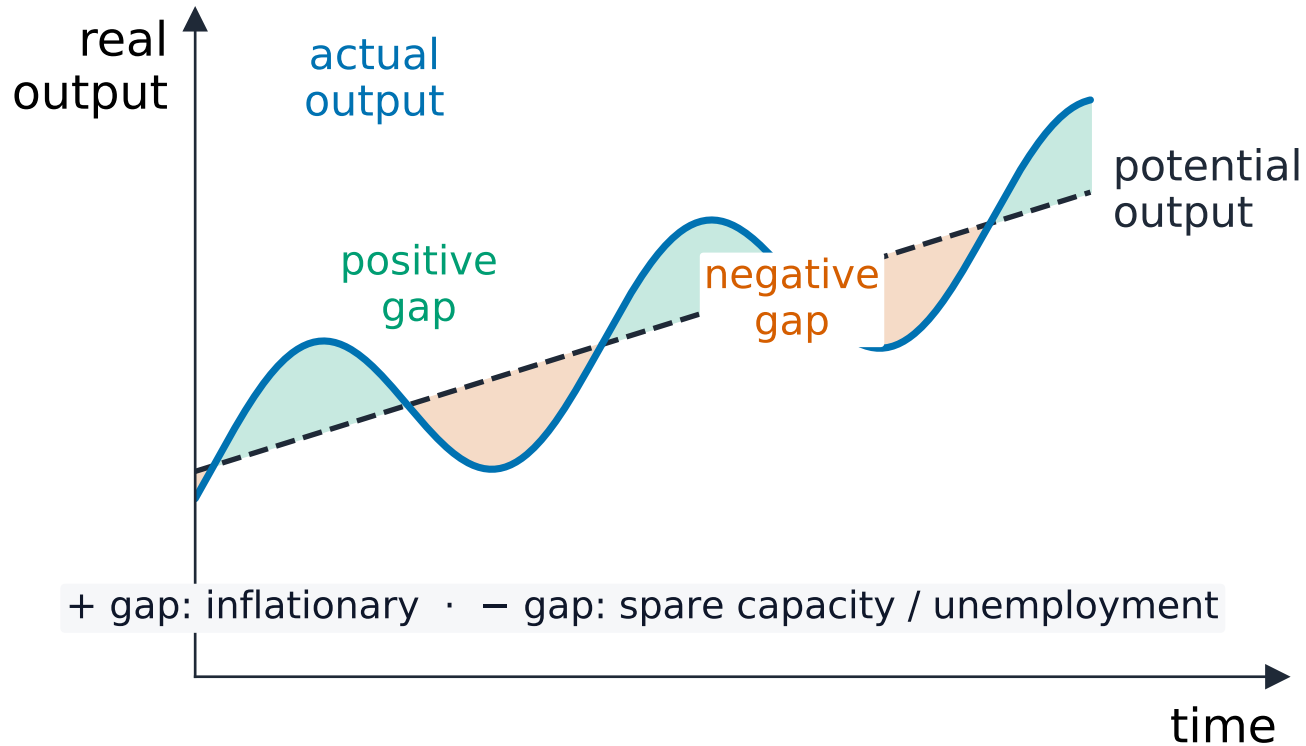
Economic growth in the headlines means the actual kind, measured as the change in real GDP.

The natural rate

The **natural rate of unemployment** : mainly **frictional** and **structural** at full employment. **Seasonal unemployment** varies by season.

In the expectations model, demand expansion may reduce **cyclical unemployment** ; a lasting reduction in the natural rate requires changes to labour-market conditions.

Growth, the output gap and sustainability, in detail



The **output gap** is actual minus potential output.

Exercises 2.1-2.3

2.1 Define the term *natural rate of unemployment*.

[2]

2.2 State what the **short-run** Phillips curve shows.

[2]

2.3 State the shape of the **long-run** Phillips curve.

[1]

Exercises 2.1·2.3

2.1 Define the term *natural rate of unemployment*.

[2]

2.1

- the rate of unemployment that remains when the labour market is in equilibrium – mainly frictional and structural unemployment (2 for a clear definition; 1 for a partial idea)

2.2 State what the **short-run** Phillips curve shows.

[2]

2.2

- an inverse (trade-off) relationship between unemployment and inflation – lower unemployment comes with higher inflation (2 for a clear statement; 1 for a partial idea)

2.3 State the shape of the **long-run** Phillips curve.

[1]

2.3

- vertical (at the natural rate) (1)

Exercises 3.1-3.2

3.1 The long-run Phillips curve is:

[1]

☐

A downward sloping

B upward sloping

C vertical at the natural rate of unemployment

D horizontal

3.2 Explain the short-run trade-off between unemployment and inflation.

[6]

Exercises 3.1-3.2

3.1 The long-run Phillips curve is:

[1]

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A downward sloping

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3.1 C

- The long-run Phillips curve is vertical at the natural rate

3.2 Explain the short-run trade-off between unemployment and inflation.

[6]

3.2

- [6] AO1 1 + AO3 up to 5 – to cut unemployment, a government raises aggregate demand
- firms hire more, but stronger demand pushes up wages and prices
- inflation rises
- so in the short run lower unemployment is bought at the cost of higher inflation (a movement along the short-run Phillips curve)

Exercise 3.3

3.3 Discuss whether a government can permanently reduce unemployment below the natural rate. [12]

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3.3

- [12] AO1/AO2/AO3 up to 8 + AO4 up to 4. **Short run:** raising demand can cut unemployment below the natural rate for a while. **Long run:** once workers expect higher inflation, they demand higher wages
- unemployment returns to the natural rate while inflation stays high
- the long-run Phillips curve is vertical. Judgement: demand policy cannot permanently lower unemployment below the natural rate; only supply-side policies that cut the natural rate (better skills, more flexible labour markets) can – it depends on tackling frictional and structural unemployment