

Exercise walk-through

9.2

Economic growth and sustainability

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

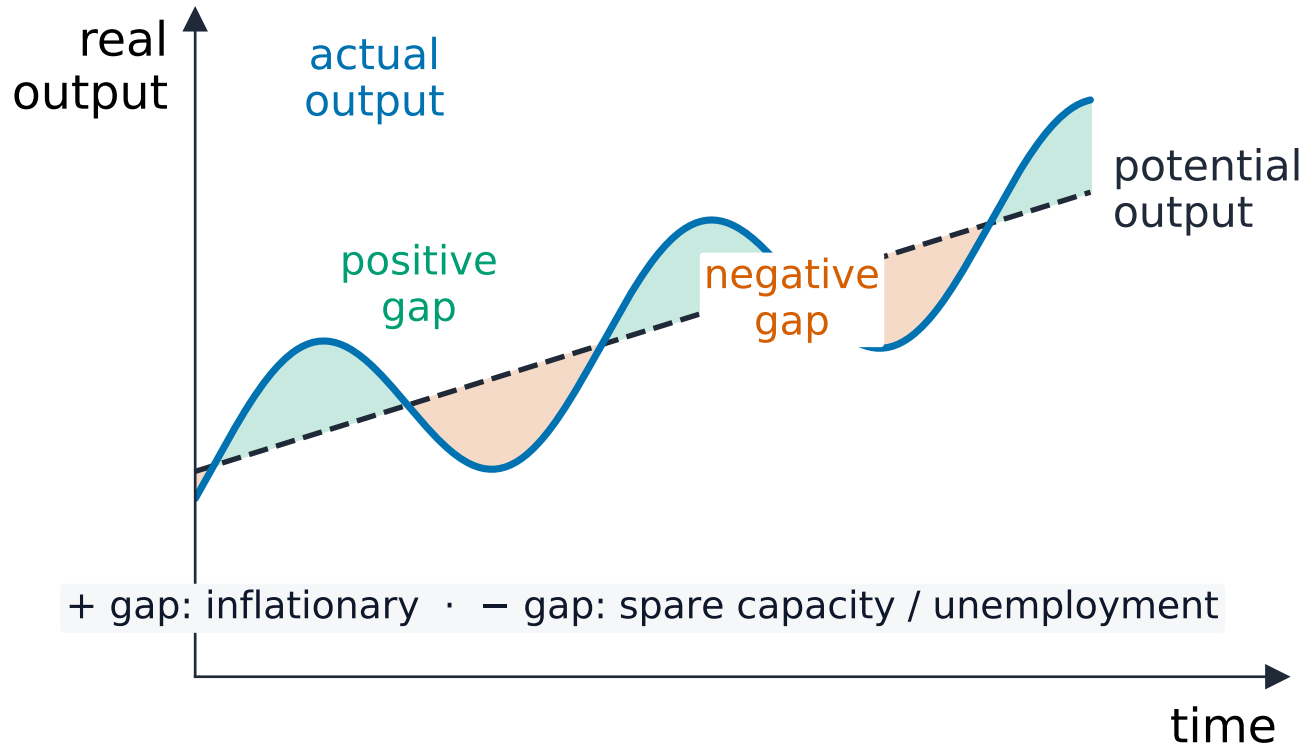
Economic growth in the headlines means the actual kind, measured as the change in real GDP.

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 *output gap*.

[2]

2.2 State what a **positive** output gap tends to cause.

[1]

2.3 Define the term *sustainable growth*.

[2]

Exercises 2.1-2.3

2.1 Define the term *output gap*. [2]

2.1

- the difference between an economy's actual output and its potential (full-capacity) output (2 for a clear definition; 1 for a partial idea)

2.2 State what a **positive** output gap tends to cause. [1]

2.2

- inflationary pressure (1)

2.3 Define the term *sustainable growth*. [2]

2.3

- growth that meets the needs of the present without reducing the ability of future generations to meet their own needs (2 for a clear definition; 1 for a partial idea)

Exercises 3.1-3.2

3.1 A **negative** output gap is associated with:

[1]

- ☐ A rising inflation and full capacity
B spare capacity and unemployment
C an outward shift of the PPC
D a current account surplus

3.2 Explain the difference between actual and potential economic growth.

[6]

Exercises 3.1-3.2

3.1 A **negative** output gap is associated with:

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- A rising inflation and full capacity
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- C an outward shift of the PPC
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3.1 B

- A negative output gap means spare capacity and unemployment

3.2 Explain the difference between actual and potential economic growth.

[6]

3.2

- [6] AO1 2 + AO3 up to 4 – actual growth is the real rise in output that occurs (a movement towards or along the PPC/LRAS); potential growth is a rise in the economy's productive capacity (the PPC/LRAS shifting outward)
- one is what is produced, the other is what *could* be produced

Exercise 3.3

3.3 Discuss whether economic growth can be sustainable.

[12]

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[12]

3.3

- [12] AO1/AO2/AO3 up to 8 + AO4 up to 4. **For:** growth from better technology, education and renewable resources can raise output without exhausting resources or harming the environment. **Against:** fast growth often uses non-renewable resources and causes pollution, threatening future generations. Judgement: growth *can* be sustainable if it is based on productivity, clean technology and renewable resources, but unchecked resource-heavy growth is not – it depends on how growth is achieved