

Exercise walk-through

Real v. Nominal GDP ■ 2.6

eXercise

You must be able to

- distinguish **nominal GDP** 名义 GDP (current prices) from **real GDP** 实际 GDP (constant prices)
- explain why real GDP is preferred for measuring output over time
- calculate real GDP and the **GDP deflator** GDP 平减指数
- convert a nominal value to a real value with $\text{real} = \frac{\text{nominal}}{\text{price index}} \times 100$

Method — Nominal vs real

Nominal GDP uses **current** prices, so it rises when prices rise. **Real GDP** uses **base-year** prices, stripping out inflation, so it reflects true changes in **output**.

Method — The GDP deflator

$$\text{GDP deflator} = \frac{\text{nominal GDP}}{\text{real GDP}} \times 100.$$

Method — Converting

$\text{real} = \frac{\text{nominal}}{\text{price index}} \times 100$. Real GDP is preferred because a rise in nominal GDP could be only higher prices, not more output.

Practice 2.1 ■ 2 marks

State the difference between nominal and real GDP.

Solution 2.1

Worked steps

nominal GDP uses current prices; real GDP uses constant base-year prices to remove the effect of inflation **B1** **B1**.

Practice 2.2 ■ 2 marks

Nominal GDP is \$600 billion and the price index is 120. Find real GDP.

Solution 2.2

Method: Converting

Worked steps

$$\text{real} = \frac{600}{120} \times 100 = \$500 \text{ billion } \text{M1} \text{ A1}.$$

Practice 2.3 ■ 1 mark

State why real GDP is preferred for measuring economic growth.

Solution 2.3

Method: Converting

Worked steps

it removes price changes, so it shows the true change in output **B1**.

Exam-style 3.1 ■ 1 mark

Real GDP is measured using

A current prices

B base-year prices

C future prices

D zero prices

Solution 3.1

A current prices

B base-year prices 

C future prices

D zero prices

Worked steps

B.

Exam-style 3.2 ■ 1 mark

The GDP deflator equals

A $\frac{\text{real}}{\text{nominal}} \times 100$

B $\frac{\text{nominal}}{\text{real}} \times 100$

C nominal – real

D the CPI

Solution 3.2

A $\frac{\text{real}}{\text{nominal}} \times 100$

B $\frac{\text{nominal}}{\text{real}} \times 100$



C nominal – real

D the CPI

Worked steps

B.

Exam-style 3.3 ■ 2 marks

Nominal GDP is \$800 billion and real GDP is \$640 billion.

- (a) Find the GDP deflator.
- (b) State whether prices have risen or fallen since the base year.

Solution 3.3

Method: Nominal vs real

Worked steps

(a) $\frac{800}{640} \times 100 = 125$ **M1** **A1**. (b) risen (the deflator is above 100) **B1**.