AP MACROECONOMICS • EXERCISE SHEET

2.6 Real v. Nominal GDP

Name: _____ Class: _____ Date: _____ **Total: 10 marks**

Objective

Build the skills to answer exam questions on **real versus nominal GDP**.

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 $\text{real} = \dfrac{\text{nominal}}{\text{price index}} \times 100$

1 Worked examples

Study these first. Each one shows the method for a question type used later.

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**.

The GDP deflator

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

Converting

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

2 Practice

2.1 State the difference between nominal and real GDP. [2]

2.2 Nominal GDP is \$600 billion and the price index is 120. Find real GDP. [2]

2.3 State why real GDP is preferred for measuring economic growth. [1]

3 Exam-style questions

3.1 Real GDP is measured using [1]

- **A** current prices
- **B** base-year prices
- **C** future prices
- **D** zero prices

3.2 The GDP deflator equals [1]

- **A** $\dfrac{\text{real}}{\text{nominal}} \times 100$
- **B** $\dfrac{\text{nominal}}{\text{real}} \times 100$
- **C** nominal $-$ real
- **D** the CPI

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

(a) Find the GDP deflator. [2]

(b) State whether prices have risen or fallen since the base year. [1]

4 Go further

- work through the **2.6 Real v. Nominal GDP** lesson on the **Learn** page;

- read the **Economic Indicators and the Business Cycle** section of the AP Macroeconomics handout on the **Know** page.

Solutions

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

2.2 real $= \dfrac{600}{120} \times 100 = \$500$ billion.

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

3.1 B.

3.2 B.

3.3 (a) $\dfrac{800}{640} \times 100 = 125$. (b) risen (the deflator is above 100).