AP MACROECONOMICS • EXERCISE SHEET

4.2 Nominal v. Real Interest Rates

Name: ____________ Class: ________ Date: __________ **Total: 9 marks**

KEY WORDS nominal interest rate 名义利率 • real interest rate 实际利率 • fisher equation 费雪方程

Objective

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

You must be able to:

- distinguish the **nominal interest rate 名义利率** from the **real interest rate 实际利率**
- apply the **Fisher equation 费雪方程**: real rate ≈ nominal rate − expected inflation
- explain how expected inflation affects borrowers and lenders

1 Worked examples

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

■ Nominal vs real

The **nominal** rate is the stated rate; the **real** rate is what is left after allowing for inflation — the true change in purchasing power.

■ The Fisher equation

$$\text{real rate} \approx \text{nominal rate} - \text{expected inflation}.$$

■ Borrowers and lenders

If inflation turns out **higher** than expected, the real rate actually paid is **lower**, so **borrowers gain** and **lenders lose**.

2 Practice

2.1 State the Fisher equation. [1]

2.2 A loan has a nominal rate of 7% and expected inflation is 3%. Find the real rate. [2]

2.3 State the difference between a nominal and a real interest rate. [1]

3 Exam-style questions

3.1 The real interest rate equals the nominal rate [1]

A plus expected inflation
B minus expected inflation
C times inflation
D divided by inflation

3.2 If inflation is higher than expected, the real rate actually paid by a borrower is [1]

A higher
B lower
C unchanged
D zero

3.3 A loan has a nominal rate of 8%; expected inflation is 5%.

(a) Find the expected real interest rate. [2]

(b) If actual inflation turns out to be 9%, state who gains. [1]