A-LEVEL BUSINESS • EXERCISE SHEET

10.3 Investment appraisal

Name: _____ Class: _____ Date: _____ **Total: 27 marks**

KEY WORDS payback period 回收期 • accounting rate of return 会计回报率 • net present value 净现值 • discounting 折现 • investment appraisal 投资评估

Objective

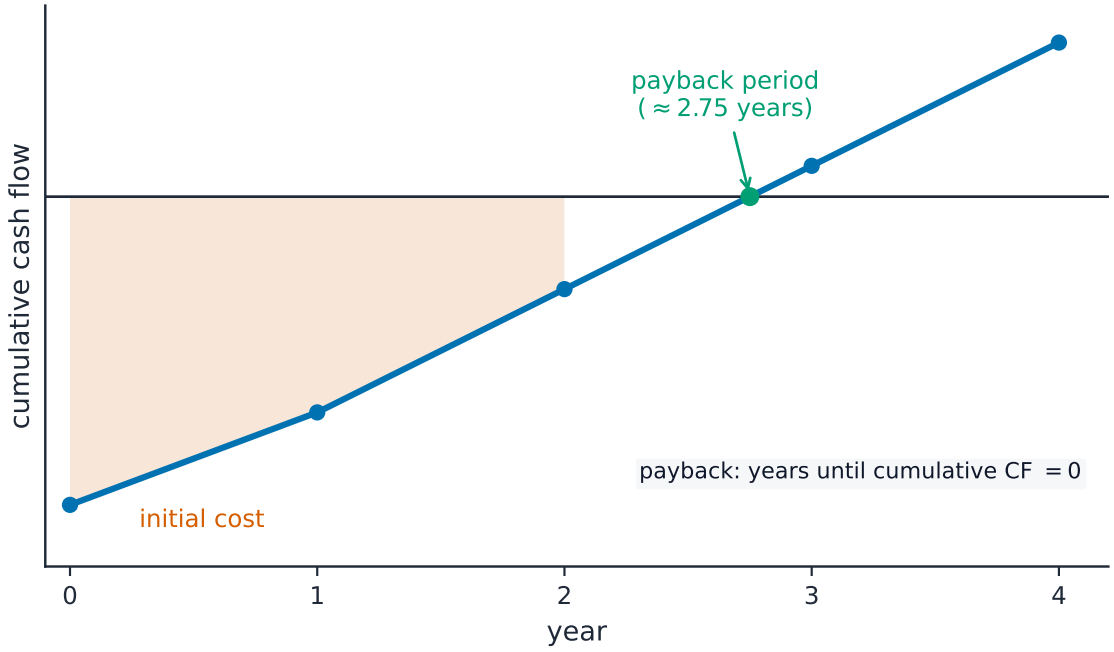
Build the skills to answer exam questions on **investment appraisal** 投资评估 — the **payback period** 回收期, the **accounting rate of return** 会计回报率 (ARR), and **net present value** 净现值 (NPV).

You must be able to:

- calculate the payback period and the ARR
- explain what NPV and discounting recognise
- analyse and evaluate which appraisal method a business should use

1 Worked examples

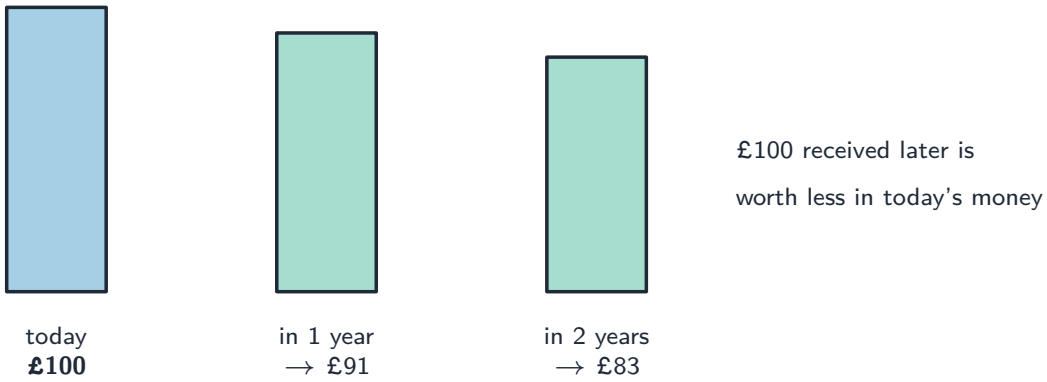
■ Appraising an investment



Payback = the time for inflows to repay the initial cost

$$\text{ARR} = \frac{\text{average annual profit}}{\text{initial investment}} \times 100\%$$

- **Worked ARR:** machine costs \$100,000, average annual profit \$25,000 $\rightarrow \frac{25000}{100000} \times 100 = 25\%$.
- **Payback:** count years until cumulative inflows repay the cost; a shorter payback is safer.
- **NPV:** future money is worth less than money today, so **discounting** shrinks future cash flows; a positive NPV adds value.



Discounting (the idea behind NPV): money is worth less the longer you wait for it

Answer shapes: AO1 + AO2 + AO3 (reasoning chain) + AO4 (a supported judgement *in context*).

2 Practice

2.1 Define the term *payback period*. [2]

2.2 A machine costs $80,000 and earns an average annual profit of $16,000. Calculate the ARR. [2]

2.3 State what **net present value (NPV)** recognises about future money. [2]

3 Exam-style questions

3.1 Explain one benefit to a business of using the **payback** method. [3]

3.2 A project costs $120,000 and is expected to earn cash inflows of $50,000 each year.

(a) Calculate the payback period. [3]

(b) Analyse one limitation of using payback alone to judge this project. [3]

3.3 A firm is appraising a major investment. Evaluate which investment appraisal method it should rely on. [12]