

# Break-even analysis: simple and complex

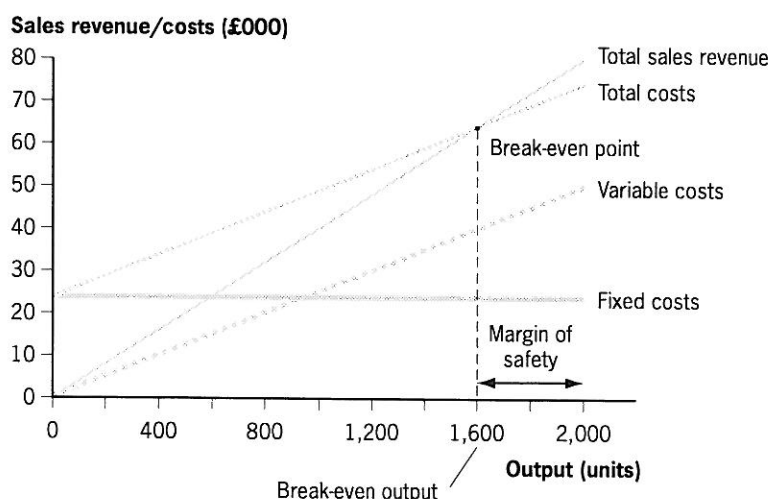
## Simple break-even analysis

### Exercise 1

$$(a) \text{ Break-even output} = \frac{\text{Fixed costs}}{\text{Selling price} - \text{Variable costs per unit}}$$

$$= \frac{\pounds 24,000}{\pounds 40 - \pounds 25} = \frac{\pounds 24,000}{\pounds 15} = 1,600 \text{ units} \quad (3 \text{ marks})$$

(b) and (c)



(9 marks and 2 marks)

$$(d) \text{ Margin of safety at full capacity} = 2,000 \text{ units} - 1,600 \text{ units} = 400 \text{ units} \quad (2 \text{ marks})$$

### Exercise 2

#### Strengths

- It is easy to understand.
- It is good for studying the impact of changes in fixed costs, variable costs and selling price.
- It is helpful in making a case for finance.
- It can link to market research on probable sales in order to predict profit.

#### Weaknesses

- The assumption that changes in price do not influence demand can be challenged.
- Fixed costs may not stay the same.
- Variable costs may not stay the same per unit.
- Static analysis limits its usefulness.
- It assumes that all output is sold.
- Data are based on estimates.

*Overall:* The technique is a useful starting point for analysis, but conclusions should be dealt with cautiously, especially in the light of the quality of the research and the assumptions made. (9 marks)

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