Break-Even

Definition: Break-even occurs when an enterprise has made enough money through product sales to cover the cost of making or producing them.

- There is no profit and no loss
- Where revenue and expenditure meet

3 pieces of information to calculate the break-even

- Price per unit
- Variable cost per unit
- Total fixed cost

$$\text{BEP} = \frac{\text{Fixed Cost}}{\text{(selling price per unit - Variable cost per unit)}}$$

The Importance pf break-even

- Tells the owners of the enterprise exactly how many products they must produce and sell before they can start to make a profit
- Allows the owner to answer “what if” questions
- Can we sell an extra 200 units?
- What if the rent went up?

Using the break-even analysis

- Too plan
- How to analyse break-even when figures change
- Enterprises costs may increase – this will increase the BEP
- An enterprise may raise its prices – BEP will fall
- Types of change of figures and their effect on break-even

Margin of safety

The difference between the level of output and the break-even point

It is the amount by which sales would have to fall before the break-even point is reached

Formula

Actual or forecast level of sales – break-even level of sales

Benefits of break- even

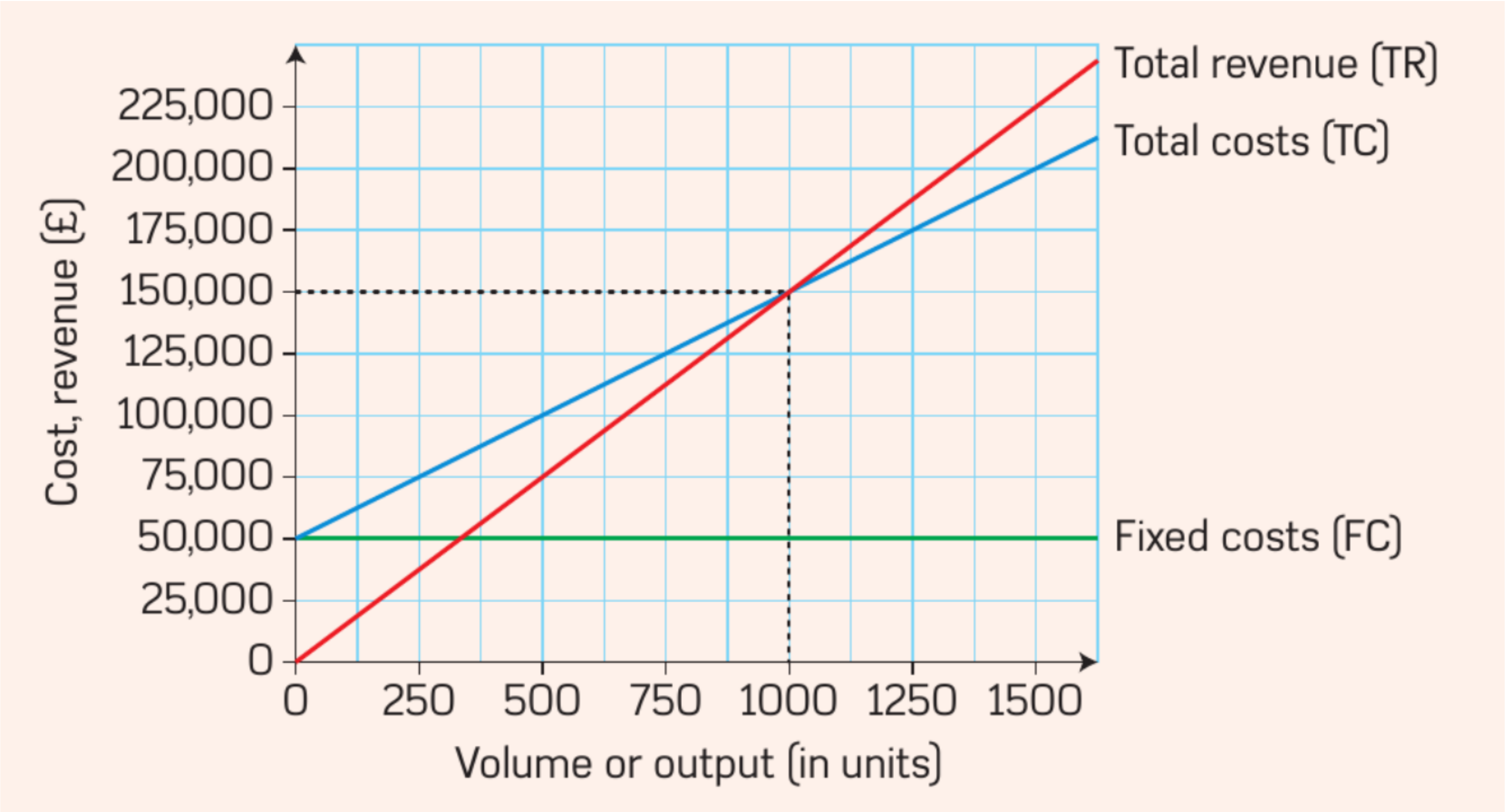
- Both the fixed and variable costs can be identified
- Projected sales revenue is calculated
- The owner knows how many items must be sold to make a profit
- The owner can make adjustments to try to make a profit sooner – for example reduce costs by obtaining cheaper materials or increase selling price
- The margin of safety is known
- The best goods are stocked and sold in order to maximise profit

The risk of not completing break-even analysis

- Costs are not known or are too high
- The selling price is too high or too low
- The owner has no idea how many items need to be sold to make a profit
- The enterprise makes a loss over a long period of time without any action being taken
- The margin of safety is unknown
- Stock costs too much, is sold at the wrong price and the enterprise fails

Limitations of break-even analysis

- It assumes all output is sold
- No stock is held
- Assumes all wages and rent stay the same – not always true – overtime
- Prices of stick can change at different levels of output (bulk buying), the lines wont always be straight.
- Simple when an enterprise sells one product, when enterprises sell more than one product with different costs it gets complicated.
- Depends on the accuracy of information used
- If the calculations for costs and revenue are inaccurate the conclusions drawn from the break-even analysis will be flawed



Total revenue (TR)
Total costs (TC)
Fixed costs (FC)
225,000
200,000
175,000
150,000
125,000
100,000
75,000
50,000
25,000
0
Cost, revenue (£)
0
250
500
750
1000
1250
1500
Volume or output (in units)