

Break-even analysis



Progress questions

(see p. 104 of student text)

1 State two reasons why a business might carry out a break-even analysis. **(2 marks)**

- To discover the level of sales necessary to make a profit.
- To calculate the profit/loss likely at a given level of sales.
- In support of an application for a loan or other financial support.

2 Carefully distinguish between contribution and profits. **(5 marks)**

- A number of types of profit exist. However, in their simplest form, profits are the difference between total costs and total revenues. Contribution is sales revenue less variable costs. Thus contribution is used to pay fixed costs; any contribution remaining after this represents profits.

3 Outdoor Ltd manufactures jackets. It has annual fixed costs of £100 000, sells its jackets at £50 each and estimates the variable cost of producing a single jacket to be £30. Calculate the level of contribution made from the sale of a single jacket. **(4 marks)**

- A jacket sells for £50 and has a variable cost of £30. Thus contribution is £20 per jacket (£50 - £30).

4 Using the above example, calculate the annual break-even output for Outdoor Ltd. **(4 marks)**

- Break-even = Fixed costs divided by the contribution from a single product. In this case it is £100 000 divided by £20 = 5000 jackets. (NB break-even is a level of output and not a value!)

5 If Outdoor Ltd manufactured 7500 jackets during the year, what would be its margin of safety? Why might

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this be important information to the managers of the business?

(10 marks)

- The margin of safety is the difference between current and break-even output. In this case it is (7500 - 5000) = 2500. It tells the managers the amount by which sales can fall before the business incurs a loss.

6 Norris Newspapers produce a local newspaper. They face fixed costs amounting to £20 000 a month, sell their newspapers at £0.50 each and the variable cost of printing a single newspaper is £0.25. At full capacity, they can print 150 000 newspapers each month. Construct a break-even chart and illustrate Norris Newspapers' break-even point. **(10 marks)**

(10 marks)



7 Using the chart you have drawn in answer to question 6, indicate Norris Newspapers' level of profit or loss if:

a) They print and sell 50 000 newspapers per month. **(3 marks)**

b) They print and sell 100 000 newspapers monthly. **(3 marks)**

- See chart above.

8 Outline two reasons why a small business such as Norris Newspapers might make use of break-even analysis. **(4 marks)**

- Reasons might include: to set sales targets; to assess effects on profits of increasing circulation; to support an application for a loan; because it is a cheap and simple technique.

9 A firm's break-even analysis has been shown to be inaccurate. Explain three factors that might have caused this outcome. **(6 marks)**

- Relevant factors might include: inaccurate forecasts of variable costs; unexpected change in fixed costs (e.g.

rise in rates); all output not sold; achievement of economies of scale. The chart could be accurate but the business's position on it may be wrongly forecast due to poor (or no) market research.

10 Explain the benefits that a small business might gain from the use of break-even analysis. **(7 marks)**

- Benefits might include: a simple technique that is easy to use with minimal training; improved chance of raising finance; some indication of likely levels of profit (or losses) at various levels of output; can assist in deciding whether a particular project is profitable.