

KNOWLEDGE

1. How can the contribution be used to calculate the break-even level of output?
2. How can the break-even level of output calculation be checked?
3. State five things which a break-even chart can show.
4. What effect will a price increase have on the margin?

5. What effect will a fall in fixed costs have on the margin of safety?
6. State three uses of break-even analysis.
7. State three weaknesses of break-even analysis.

Question 2.

Paul Roberts makes Spanish guitars from a rented room in a rural business park. Figure 3 shows a break-even chart for his business.

- What is the total revenue of the business at an output and sales level of (i) 0 (ii) 20 guitars?
- What are the fixed costs of the business?
- What is the break-even level of output? level?
- What is the margin of safety if the business sells (i) 12 guitars; (ii) 20 guitars; (iii) 15 guitars?
- If the business produces and sells 15 guitars, what would be the: (i) total revenue; (ii) total costs; (iii) profit or loss (iiii) total variable costs; (v) variable cost of each guitar?

Case Study: Carl Hurst Batti Pies

After following his football team to an away fixture at Villa Park last year, Carl Hurst discovered Batti pies on sale at half-time at the ground. These are pies, filled with chicken batti, a curry dish for which Birmingham is famous. Carl decided that Batti pies could provide him with a new and successful opportunity. He thought he could make the pies himself and sell them in the north-west.

Carl did some research and found that there were few outlets in the north-west where Batti pies were sold. He made some pies at home and took them to various retailers, pubs and clubs to see whether they would be interested. People who liked curry (an overwhelming majority) loved them. Those that had no taste for curry were uninterested.

But Carl was sure he had a winner. He found a disused kitchen unit in Wigan, previously used for pie-making. A week before he signed a 12 month lease for the unit, Carl put some figures together to help him assess the possible profitability of the venture. Carl planned to produce pies in batches of 100 and sell pies for 50p each. He also prepared a business plan to help in the setting-up process. Some financial information is shown below.

- Calculate the contribution per batch of pies. (4 marks)
- How many batches would Carl need to produce in his first year of trading to break-even? (6 marks)
- How much profit would Carl make if he sold 55,000 pies in his first year? (6 marks)
- In the second year of trading the landlord raised the lease for the kitchen unit to £4,500 per year. Carl responded to this by raising the price of his pies to 70p each. What effect would this have on the break-even level of output? (6 marks)
- To what extent will break-even analysis be useful to Carl Hurst? (18 marks)

Fixed costs	
Lease	£2,500 per year
Other fixed costs	£500 per year
Variable costs	
Food ingredients	£14 per batch
Fuel	£2 per batch
Other variable costs	£4 per batch

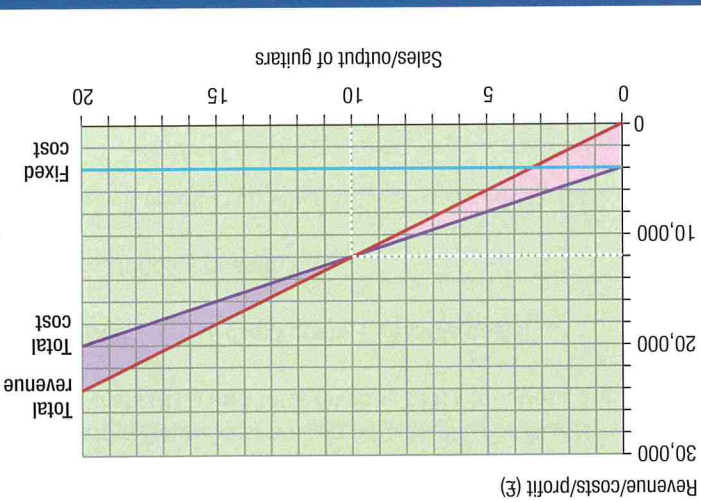


Figure 3: A break-even chart for Paul Roberts' business