

Unit 3 – Investigating Financial Control Assignment

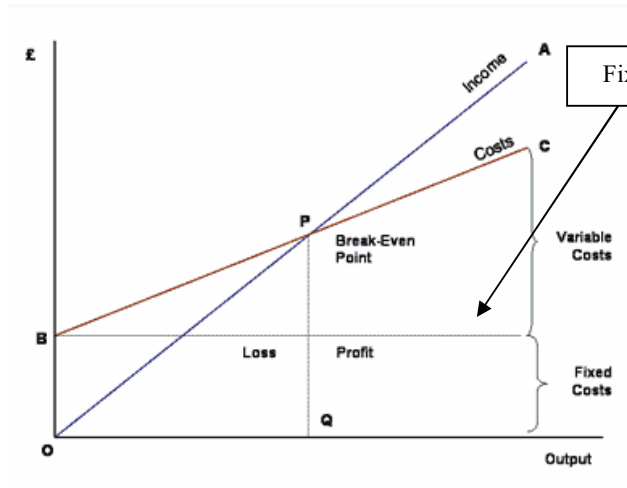
a)

What is break even?

Break even occurs when income is equal to expenditure. It is the point of sales where the company sells enough products to cover all of the variable and fixed costs associated with producing a product. The next unit sold will start to generate profit for the company.

In order to calculate the break-even point, it is necessary to know the following:

- Fixed costs - These costs have to be paid, no matter how much is being produced e.g. rent, rates, heating and most staff wages.
- Variable costs per unit - These costs are directly affected by the amount produced or sold e.g. raw materials, stock for resale, staff commission on sales and overtime payments.
- Selling price per unit - The amount of money charged to the customer for each unit of a product or service.
- Expected unit sales - The number of units of the product projected to be sold over a specific period of time.
- Income/revenue – These both mean the same thing. They are the total amount of money a business receives from their customers.
- Expenditure/costs – These are the total amount of money spent, e.g. to suppliers, on staff (wages) and for other requirements.
- Profit – A business makes a profit when income is higher than expenditure.



This is an example of a break even chart and the way it should look. As you can see the lines 0A represent the variation of income of different levels of production activity. The lines OB represent the fixed costs in the business. As the output increases, the variable costs are incurred, this means that the total costs also increase.

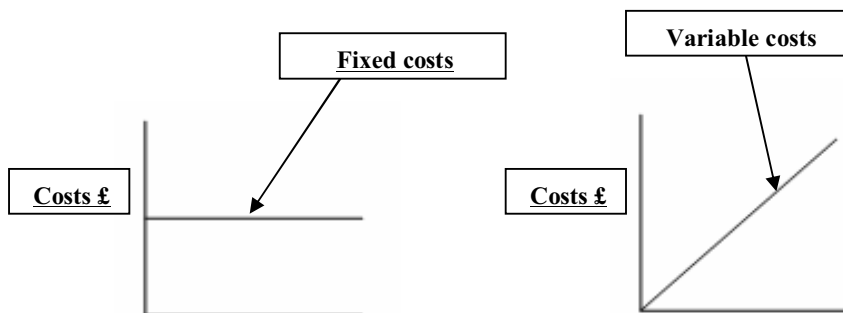
Fixed costs:

Fixed costs are business costs which are not directly related to the level of production or output. Therefore if the fixed costs of producing 100 items are £100, the costs of producing 150 items are also £100.

Nearly all expenses of running a business are fixed and do not alter when production levels change. If the rent of a factory is £5000 a year, it does not matter how many items are produced, the rent will not change and will always stay the same.

Example of fixed costs:

- Rent
- Wages
- Heating
- Electricity
- Insurance
- Advertising



How break even can be calculated:

The break even point can be calculated by means of a formula and also by the construction of a break even chart.

Sales for break even = fixed costs / selling price per unit – variable cost per unit

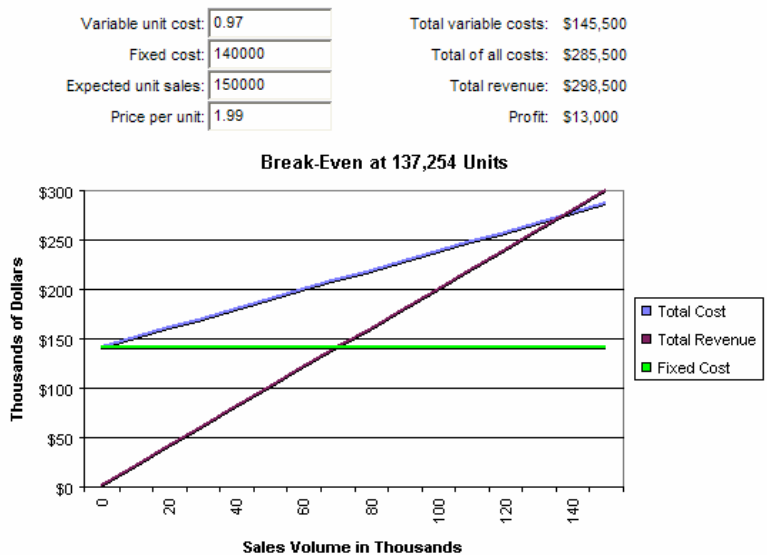
Example of break even:

The variable cost for making one burger is £0.97

The fixed costs of making burgers for 18 months will be a total of: £140,000

The expected unit sales of 150,000 burgers for 18 months

The unit price of the product is £1.99



With expected unit sales of 150000, £13,000 profit is made.

b)

E.g. 1 – Numerical example of break even

Lawnmower business

The figures used for both selling price and variable cost are both per unit.

Lawnmowers are brought for £50 (Variable cost) and are to be sold at £80 each.

The fixed costs for the business are 2,000.

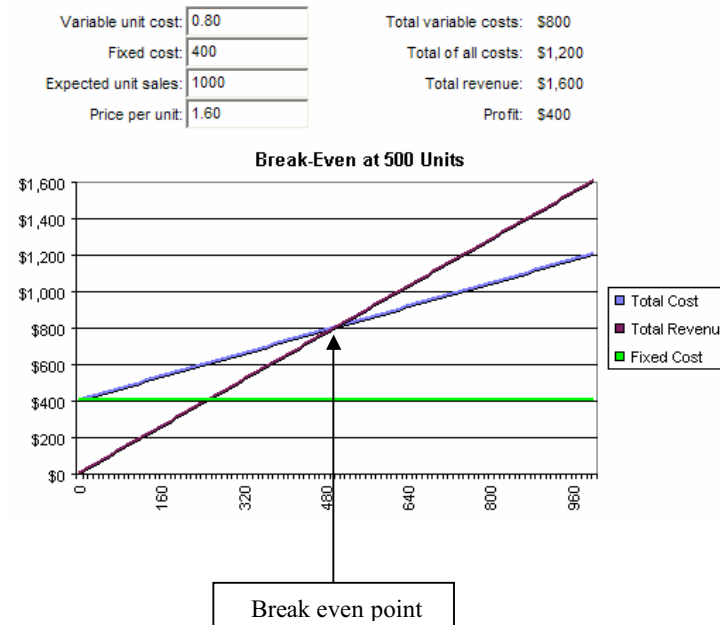
So these figures would go into the formula as follows:

Sales for break even = £2,000/£50 - £20 = £2,000/£30 = 66.666 (67 units)

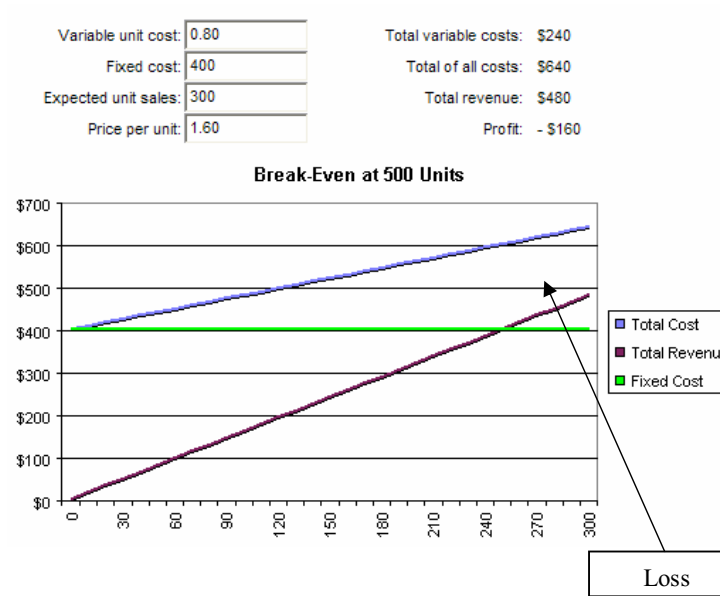
c)

A break even chart for Mr Hatzis kebab van:

Mr Hatzis says his fixed costs are £400 per month, his variable cost per kebab is 80p, his selling price is £1.60, and he thinks on average he should sell 1000 kebabs per month. Below I am showing Mr Hatzis what his break even point is:

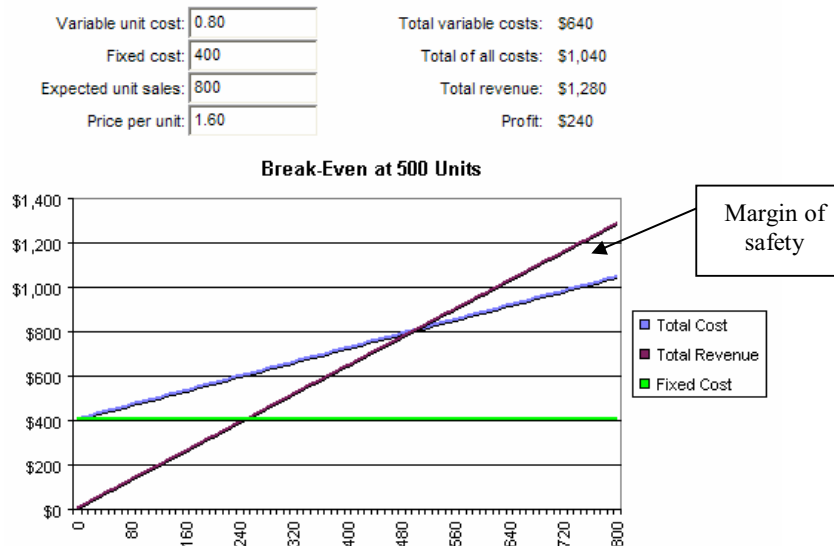


i) I have changed the expected unit sales to 300, to show Mr Hatzis what his break even point would be and also the profit and the loss he would make:



Mr Hatzis break even point is at 500 units. He has also made a loss of £160

ii) I have changed the expected unit sales to 800, to show Mr Hatzis what his break even point would be and also the profit and the loss he would make:



Mr Hatzis break even point is at x 500 units. He has also made a profit of £240 at 800 units sold.

Margin of Safety:

This is sometimes called the safety margin. This can be measured when the level of sales is above the break even point, basically when the business is profitable. The margin of safety is the number by which sales would have to fall before the break even point is reached.

Going back to my example of the lawnmower business I have mentioned, if the sales were 85 then the margin of safety would be:

$$85 - 67 = 18$$

If Mr Hatzis was to sell 1000 kebabs, his margin of safety would be:

$$1000 - 500 = 500 \text{ units}$$

d)

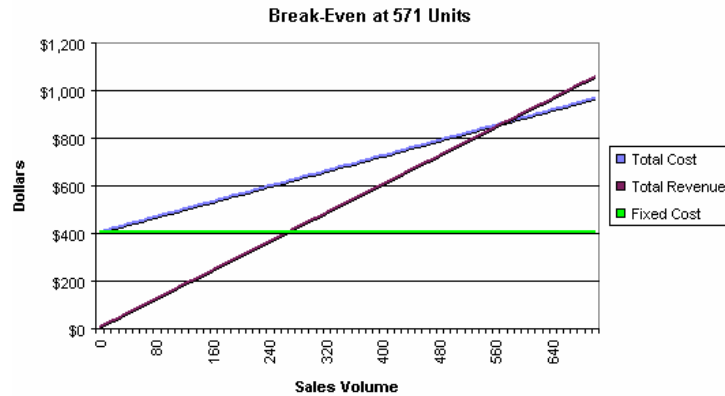
I am carrying out the same calculation of break even, but using the formula method instead of the chart to show Mr Hatzis how this is done:

$$\text{Sales for break even} = \text{£}400 / 0.80 = 500 \text{ units}$$

e) I am going to use actual sales figures from Mr Hatzis's first month of trading, with sales of 700 kebabs.

i) [Reduced the selling price to £1.50 per kebab.](#)

Variable unit cost:	0.80	Total variable costs:	\$560
Fixed cost:	400	Total of all costs:	\$960
Expected unit sales:	700	Total revenue:	\$1,050
Price per unit:	1.50	Profit:	\$90



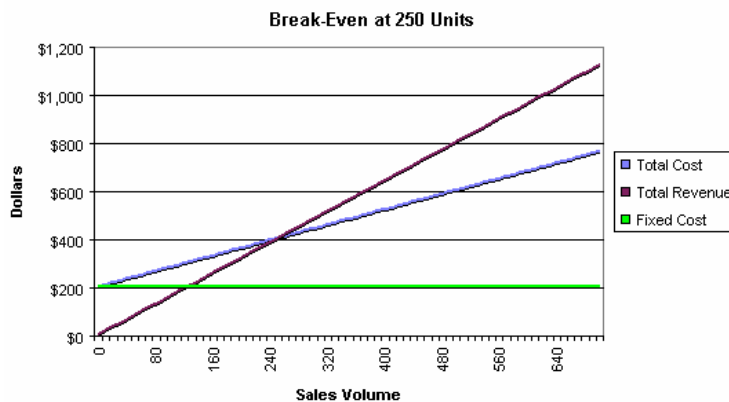
Total revenue = £1050

Total cost = £960

Profit = £90

ii) [Cut overheads down to £200](#)

Variable unit cost:	0.80	Total variable costs:	\$560
Fixed cost:	200	Total of all costs:	\$760
Expected unit sales:	700	Total revenue:	\$1,120
Price per unit:	1.60	Profit:	\$360



Total revenue = £1120

Total cost = £760

Profit = £360

