**Breakeven point – Handout**

**Break even**

**Breakeven** - a point in a business venture when the profits are equal to the costs.



To gain an understanding of calculating break-even we will use the example of a young entrepreneur wishing to start up a business delivering packages of fruit and veg.

He knows that the last local shop in his area closed last year. Sensibly, he has carried out market research which indicates that there will be a good level of demand, but before he begins he needs to know how profitable the business might be. He has also fully researched the costs of starting up as a deliveryman and the costs of purchasing supplies.

Calculating break-even point using the contribution method. Once we have calculated costs, the next step in calculating break-even output or sales is finding out how much contribution each item sold produces for the business.

**Contribution per unit**

Every product made has a variable cost and a selling price (which must obviously be higher). The difference between the selling price per unit and the variable cost per unit is known as the CONTRIBUTION towards covering the business’s fixed costs.

**Break even formula**

There is a simple formula for calculating break-even output.

Break-even output = Fixed costs

 Contribution per unit.

Contribution per unit = Selling price – Variable costs (per unit)

**Profit and loss**

Break-even analysis also allows us to calculate the profit or loss a business will make at different levels of output. This will always be important – after all our grocery seller may wish to go into business only if his profits are likely to be at a certain level.

**Breakeven – Fruit and Veg example**

**The costs he has researched are as follows:**

• cost of delivery van purchase £6000;

• insurance and road tax £100 per month;

• petrol £10.00 per day;

• average cost of fruit and veg box £5.00;

• Salaries - £1150 per month;

• loan repayment £500 per month for twelve months.

His market research indicates that the fruit and veg boxes will have an average sales price of £9.00. The question then is how many boxes will he need to sell to cover all his costs, i.e. to break even. He decides to calculate break-even on a monthly basis.

**Break even calculation**

**Fixed costs**

Loan - £500 per month

Petrol costs - £250 per month

Insurance/road tax - £100 per month

Salaries - £1150 per month

**Total fixed costs - £2000 per month**

**Variable costs**

£5.00 per box

**Sales revenue**

£9.00 per box

**Break-even output = Fixed costs**

 **Contribution per unit.**

**Contribution per unit = Selling price – Variable costs (per unit)**

Break even in units = £2,000

 £9 - £5

Break even in units = £2,000 / 5

**Break even in units = 500 boxes**

**Profit and loss**

We can now see that to break even our deliveryman must sell 500 fruit and veg boxes per month. If he sells more than 500 boxes he will make a profit. If he sells less than 500 boxes he will make a loss.

At break-even point the total contribution equals the total fixed costs. First of all, calculate the break-even output, in the above case we know it is 500 boxes per month. As a result of his market research he believes that he can sell 650 boxes a month. He now wants to know what his profit will be at that level of sales. To find out how much profit will be made, we again use the idea of contribution.

**Profit per sales**

In this case predicted sales are 650. Break-even sales are 500.

**Profit per sales = Predicted sales – Break even sales x Contribution per unit**

Profit per sales = 650 – 500 x £4

Profit per sales = 150 x £4

Profit per sales = £600

His profits per month on sales of 650 boxes will be £600.