



*Rural Women's
Network*

START YOUR OWN BUSINESS

WORK BOOK 4

BUSINESS VIABILITY

BUSINESS VIABILITY

- What costs do I need to consider – and what's the difference between start-up, fixed and variable costs?
- How much do I need to sell to cover my costs and draw a living from the business?
- Is my business likely to be profitable in the future?
- How much should I be charging for my product/service?

SETTING YOUR PRICE

Having looked at the idea of PRICE from a marketing perspective, it is also necessary to consider price from a financial or costing perspective.

Some businesses make the mistake of looking at what price is being charged by others and simply setting their price at the same value. After some time it becomes apparent that the product or service is being provided at a loss and this puts the new business venture in difficulties.

Below are some notes on how to cost your product or service. Firstly a distinction between two different types of cost; Fixed and Variable.

UNDERSTANDING FIXED, VARIABLE & START UP COSTS

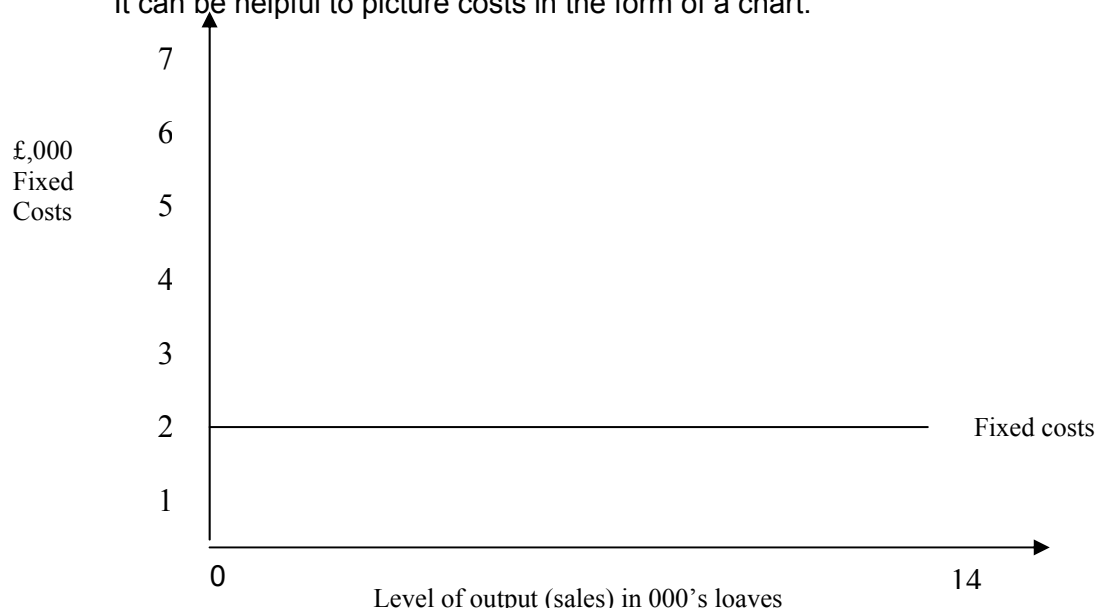
FIXED COSTS

The definition of a fixed cost is one which does not vary in total when the level of output by the business does vary. In other words, when the Sales level within a business increases, fixed costs in total, would not increase. It also follows that when the Sales level in a business decreases, the fixed costs would not decrease.

An example of a fixed cost for a business making a product such as a bakery would be the business rates. For a business producing a service such as massage therapy would be any costs associated with the rent or ownership of premises, insurance, and costs associated with the ownership of equipment.

As fixed costs are not dependent upon the level of output (sales), they are often expressed as being per period of time, for example annually, weekly or monthly.

It can be helpful to picture costs in the form of a chart.



VARIABLE COSTS

Variable costs are those which DO vary as a total cost to the organisation when output (number of items or services produced) varies. In fact a true variable cost will vary in exactly the same proportion as the output.

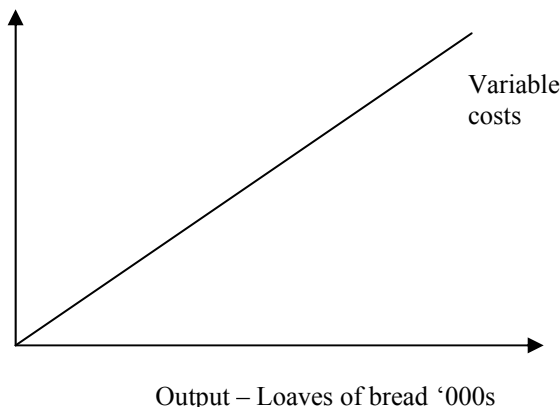
In other words, as sales increase the variable costs increase.

An example of a variable cost for a bakery would be the cost of flour.

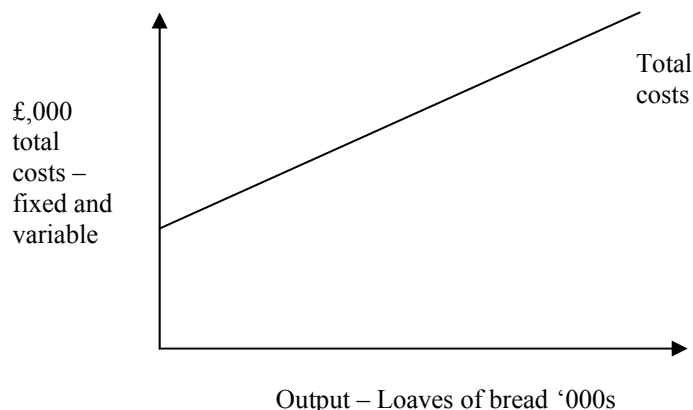
In a service business, there are often fewer variable costs. Often the main variable cost in providing a service is the cost of wages for an employee working directly in providing the service. Other variable costs in a service business would be anything directly 'used up' during the provision of the service. For example with massage therapy, oil may be used and there may be the cost of laundering one or two towels.

Variable costs should be able to be expressed per item of output or sales. If this proves to be very difficult, you may need to classify such costs as fixed.

The chart below shows the total cost of flour for the bakery when its sales range between 0 and 10000 loaves of bread assuming that the cost of flour is £1 per loaf.



Some costs have both fixed and variable elements. These are semi variable costs. If we added all the costs for a business together they would be likely to fall into this pattern of behaviour shown in the chart below.



WHAT ABOUT WAGES/LABOUR?

If you are employing someone, this is obviously a cost to the business. Whether it is fixed or variable will depend on the nature of their terms of employment. Consider the following scenarios;

Employee paid a basic wage for 37hours per week

Fixed or variable cost?

Employee paid a set amount per item produced (e.g. per therapy treatment or per floral wreath)

Fixed or variable cost?

Employee paid for number of hours worked but no minimum hours guaranteed (e.g. housekeeping staff paid to service holiday accommodation only when let)

Fixed or variable cost?

WHAT ABOUT YOUR OWN 'WAGES'/LABOUR?

If you are a sole trader or trading as a partnership, your own earnings are not a cost, they are a withdrawal from the profit, and are called 'drawings'. However, when looking at variable costs in order to price your product or service, you should include a realistic figure for any direct labour involved to make sure that you are costing and pricing your product realistically.

Your price to the customer must obviously be higher than the variable cost of producing it!

Consider what would be the 'going rate' for direct labour in your business.

In determining your price to the customer, it is useful to include an element for direct labour, however, when calculating break even, you need to consider your earning needs separately.

Consider your own income needs from the business.

One of these Tables should help you to set out the costs for your product or service. Some businesses produce either one single or a small number of products which are fairly standard. In other words each product or service produced is not an individual or customised item.

For example someone making 2 or 3 different types and sizes of loaf or carrying out a standard half hour therapy treatment.

In this case you should be able to list the quantity and cost of each item being used in production. This together with any costs of labour will give you the variable cost of producing each item. You could still include a realistic cost of labour per hour at this stage, even if it is work that you will be doing yourself.

Item	Qty used per item	£ per unit	Total £
Total			

If you produce goods or services to order which are **not standard** and have already produced some items, try the following method for a short period of time.

Step 1 - estimate the value of materials you had in stock before you started e.g. Material and Thread for an upholsterer

Step 2 - add up all the amounts you have spent on materials during the period and note how many hours have been spent in producing the good or services during the period.

Step 3 – estimate the value of materials you have left in stock at the end of the period.

Step 4 – insert the figures into the table below to calculate the cost of materials used during the period.

Step 5 - Note down how many and what type of items have been produced during the period.

	£
Value of stock at start of period	
Add Stock bought during period	
Less Stock left at end of period	
= Cost of materials for goods produced during period	
Labour used on production during period	
Total cost of goods produced during period	
<i>Remember to note the type and quantity of goods or services produced during the period.</i>	

If you have not yet produced any items, you could use the method above in the future as you start producing, OR you could make some 'prototype' samples and keep records of price and quantity of materials used.

Services also have fixed and variable costs, but often they do not involve the use of materials or ingredients. Services still have variable costs but labour is likely to be a much greater part of the cost.

It may be more useful to consider your service PER HOUR or per other standardised unit such as SQUARE METERAGE. Your costing needs to relate to your charging basis, so that if you intend to charge PER HOUR it would be most helpful to cost PER HOUR.

The amount of the Variable Cost needs to be entered into 'Setting Your Price' Section under the column marked 'Cost of Provision/Producing' on the Business Plan. In the case of non-standard products and/or services, you may need to complete this table PER HOUR or PER UNIT (e.g. per sq m) as appropriate.

START UP COSTS

This term really relates to those expenses incurred prior to the business starting to trade. Examples would be the initial stock, membership of a trade organisation, purchase of a patent, company registration, or purchase of equipment needed to start.

They are not really costs distinct from fixed or variable, but just expenses occurring in Month 0 before trading starts in Month 1. They would be shown as such on a cash flow forecast.

UNDERSTANDING BREAK EVEN ANALYSIS

The difference between the Sales in a business and the variable costs is known as the '**Gross Profit**' (or the 'Contribution to Fixed Cost '). A simple example of gross profit would be in a shop where the gross profit is the difference between the sales price and the cost of an item.

A gross profit percentage is used to show this difference as a percentage of sales.

For example:

A shop has sales of £7,000 during a month. The cost of buying the goods for resale is £2,450. This means that the gross profit is

	£	%
Sales	7,000	
Less variable costs	2,450	
= Gross Profit	4,550	

To calculate the gross profit as a percentage of sales, we use the formula

$$\frac{\text{Gross profit } \pounds}{\text{Sales } \pounds} \times 100$$

$$\frac{\pounds 4,550}{\pounds 7,000} \times 100 = 65\%$$

The same calculation is used for a business making a product. For example A chair maker sells a particular type of chair for £180. The variable costs of producing that chair (timber, glue etc) is £54. What would be the gross profit and the gross profit %?

	£	%
Sales		
Less variable costs		
= Gross Profit		

$$\frac{\text{Gross profit } \pounds}{\text{Sales } \pounds} \times 100$$

Break even occurs when

Total Sales Income = Total Costs (both fixed and variable)

This means that neither a profit nor a loss has been made. This is useful in looking at how realistic the possibility of covering the costs is – any sales above this figure will start to provide a net profit.

Net profit (or loss) is what results when **Fixed Costs** are deducted from the **Gross Profit**.

	£
Sales	
Less variable costs	
= Gross Profit	
Less fixed costs	
= Net Profit	

The method used to calculate the break even level of sales is as follows:

Step 1 - Note down an example of a sales figure or anticipated selling price (per hour or per sq m or however you will price based on your knowledge of the market).

Step 2 - Note down the variable costs of producing that sales value (including any employed direct labour, if truly variable, but excluding your own labour).

Step 3 – Calculate your GROSS PROFIT

£

Sales
Less Variable Costs
= Gross Profit

Step 4 – Calculate your GROSS PROFIT PERCENTAGE using the formula

$$\frac{\text{Gross Profit } \pounds \quad \quad}{\text{Sales } \pounds} \times 100$$

Step 5 – Calculate the break even level of sales using the formula below

$$\text{Break Even Level of Sales} = \frac{\text{Fixed Costs } \pounds}{\text{GP}\%} \times 100$$

EXAMPLE

A therapist offers many different treatments, and charges between £25 and £30 per hour. She finds it difficult to estimate her variable costs per hour because each treatment varies. However, she has managed to estimate from typical treatments that when her sales are £600, her variable costs (for laundering towels, use of oils and lotions and disposable items) are £60.

Following the steps below, calculate the break even level of sales if her fixed costs (for rent, insurance and subscriptions) are £900 per year.

Step 1 - Note down sales figure

Step 2 - Note down the variable costs of producing that sales value

Step 3 – Calculate GROSS PROFIT

Sales	£
Less Variable Costs	£
= Gross Profit	£

Step 4 – Calculate GROSS PROFIT PERCENTAGE

$$\frac{\text{Gross Profit } \pounds}{\text{Sales } \pounds} \times 100$$

Step 5 – Calculate the break even level of sales using the formula below

$$\text{Break Even Level of Sales} = \frac{\text{Fixed Costs } \pounds}{\text{GP}\%} \times 100$$

Use the table below to check out your calculation. The net profit should be zero.

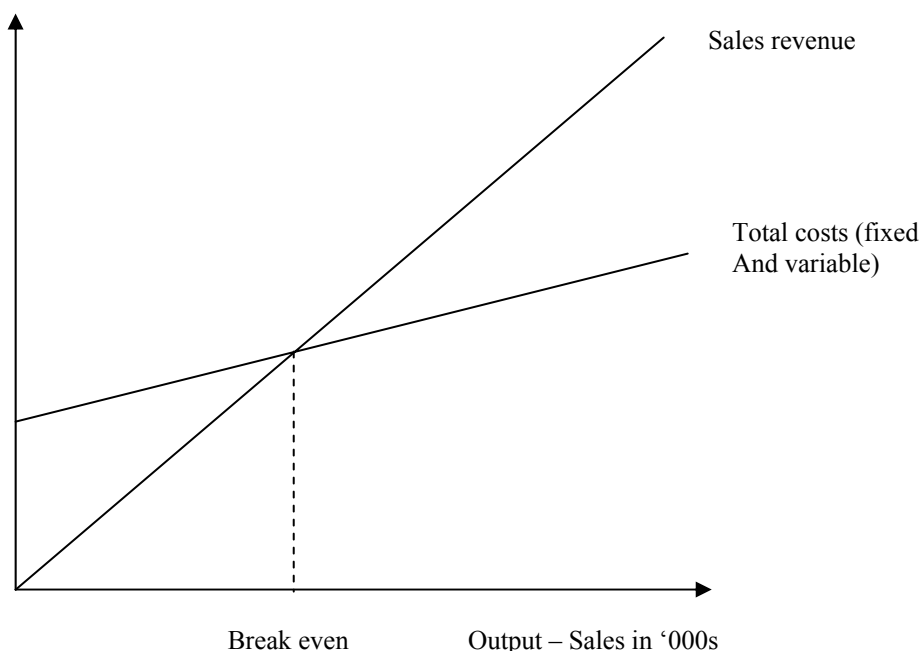
	£
Sales	
Less variable costs	
= Gross Profit	
Less fixed costs	
= Net Profit	

Note that although only she only needs to turnover £1,000 per year to cover her costs, this would not include any income for her.

This information might also be useful to view on a chart. To draw a chart, you will need to work out the total costs for two levels of output, say 0 output and £50,000. The total cost lines and sales lines can then be plotted. The lines will cross at the break even level of output.

The break even point should be the same as on your calculation.

Example of Break Even Chart



Supposing the therapist needs an income of £18,000 to replace her existing job, we can calculate the amount of sales needed to provide this level of income (net profit) by adding her income needs to the fixed costs. The formula in Step 5 would be amended to

$$\text{Level of Sales to provide income needs} = \frac{\text{Fixed Costs } \pounds + \text{Income Needs}}{\text{GP}\%} \times 100$$

Check your calculations by completing the table below:

	£
Sales	
Less variable costs	
= Gross Profit	
Less fixed costs	
= Net Profit	

EXERCISE

An upholsterer carries out customised work. She estimates each job based on the cost of materials to complete the work. To find the amount to be charged out to the customer, she multiplies the amount it costs by 2.5 (two and a half). So that when her material costs are £100, her sales price to the customer is £250.

The upholsterer's fixed costs are £1,800 per year. Calculate the level of sales turnover needed for her to break even.

Step 1 - Note down sales figure

Step 2 - Note down the variable costs of producing that sales value

Step 3 – Calculate GROSS PROFIT

Sales	£
Less Variable Costs	£
= Gross Profit	£

Step 4 – Calculate GROSS PROFIT PERCENTAGE

$$\frac{\text{Gross Profit } \pounds}{\text{Sales } \pounds} \times 100$$

Step 5 – Calculate the break even level of sales using the formula below

$$\text{Break Even Level of Sales} = \frac{\text{Fixed Costs } \pounds}{\text{GP}\%} \times 100$$

Check your calculations by completing the table below:

	£
Sales	
Less variable costs	
= Gross Profit	
Less fixed costs	
= Net Profit	

What level of turnover would be needed to provide a profit of £6,000?

$$\text{Level of Sales to provide income needs} = \frac{\text{Fixed Costs } \pounds + \text{Income Needs}}{\text{GP}\%} \times 100$$

Check your calculations by completing the table below:

	£
Sales	
Less variable costs	
= Gross Profit	
Less fixed costs	
= Net Profit	

EXERCISE

A Bakery has the following costs for a loaf of bread. Flour £0.20, yeast £0.05, butter £0.05, oven power £0.10. The bakery needs to pay £2,000 per year for rates, £3,000 per year for rent and £1,000 per year for depreciation. If the price of a loaf of bread is £1.60, calculate the sales figure needed to break even.

Step 1 - Note down sales figure

Step 2 - Note down the variable costs of producing that sales value

Step 3 – Calculate GROSS PROFIT

Sales	£
Less Variable Costs	£
= Gross Profit	£

Step 4 – Calculate GROSS PROFIT PERCENTAGE

$$\frac{\text{Gross Profit } \pounds}{\text{Sales } \pounds} \times 100$$

Step 5 – Calculate the break even level of sales using the formula below

$$\text{Break Even Level of Sales} = \frac{\text{Fixed Costs } \pounds}{\text{GP}\%} \times 100$$

Then use the table below to check out your calculation. The profit/loss figure should be zero.

	£
Sales	
Less variable costs	
= Gross Profit	
Less fixed costs	
= Net Profit	

What would the turnover need to be to provide a net profit of £30,000?

$$\text{Level of Sales to provide income needs} = \frac{\text{Fixed Costs } \pounds + \text{Income Needs}}{\text{GP}\%} \times 100$$

	£
Sales	
Less variable costs	
= Gross Profit	
Less fixed costs	
= Net Profit	

SUMMARISING BREAK EVEN ANALYSIS

Break even is the level of sales income at which;

Sales income = Total costs (both fixed and variable)

There is a 5 step method to gather information and then to calculate this.

Break Even Level of Sales = $\frac{\text{Fixed Costs } \pounds}{\text{GP}\%} \times 100$

This can be adapted to calculate level of turnover required to provide a specific amount of profit by adding that figure to the fixed costs.

Level of Sales to provide income needs = $\frac{\text{Fixed Costs } \pounds + \text{Income Needs}}{\text{GP}\%} \times 100$

YOUR BUSINESS

When you have your variable and fixed costs figures you can insert these figures into your formula to calculate your break even below.

Break even analysis should give you a tool allowing you to experiment with different prices and costs.

Try increasing and decreasing the price of your product or service. How does this affect your break even?

How does your projected break even point compare with your anticipated sales level? When will you start to 'break-even'?

BUSINESS VIABILITY & COSTS

Recall the example worked for the upholsterer's business. This business had fixed costs of £1800 per year. The variable costs were 40% of sales, giving a gross profit of 60%. We used the formula to calculate the level of sales needed to break even.

Break Even Level = $\frac{\text{Total Fixed Costs}}{\text{GP}\%} \times 100 = \frac{\pounds 1,800}{60} \times 100$

Supposing the entrepreneur planning to run this business had a family member who owned a large successful interior design shop. They offer the entrepreneur a NEW DEAL whereby they can use a small area of the shop for a rent of £180 per year but will want 54% commission on any sales.

This means that fixed costs have now reduced to £180, but variable costs are 94% of sales (i.e. 40% materials and 54% commission) meaning that Gross Profit is only 6% of sales.

Recalculate the break even level of output under the new deal.

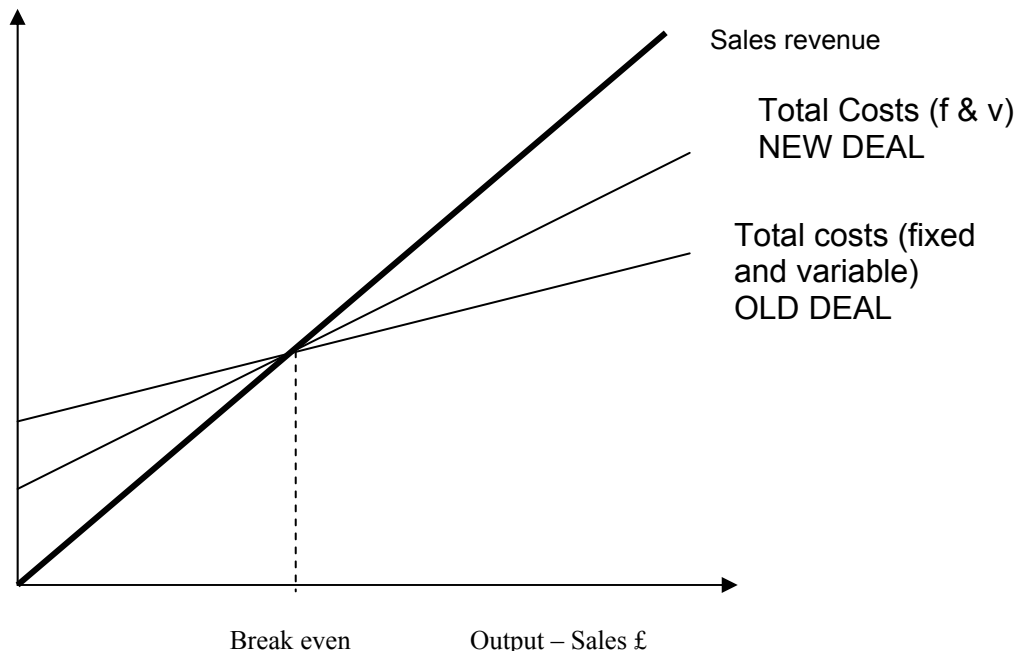
Break Even Level = $\frac{\text{Total Fixed Costs}}{\text{GP}\%} \times 100 =$

These figures have been set deliberately to give the same break even level, but if we look at different levels of output, either side of the break even, there are differences in the performance of the business.

These are best shown on the chart below:

BREAK EVEN CHART COMPARING

'OLD DEAL' & 'NEW DEAL'



What conclusions can we draw from this, and how would this impact on a 'fledgling' business?

Lower fixed costs means LOSS when operating BELOW break even level but

..... PROFIT when operating ABOVE break even

GLOSSARY OF TERMS

These terms help to develop an understanding of some of the terminology used when talking about money and business.

Fixed Assets

Items of significant cost purchased for **use by the business in the course of trade** which are expected to be used for more than current accounting period. For example, equipment and vehicles. This would exclude items bought for resale e.g. Stock.

Depreciation

The cost of owning a fixed asset apportioned over the period of ownership.

Drawings

Amounts withdrawn from the business by the owner(s) for personal use. This would include private expenses e.g. credit card bill, regular weekly cash, proportions of expenses for private use e.g. 50% motoring costs, payments to Inland Revenue for Tax and NIC.

Gross Profit

The difference between Sales and Cost of Goods Sold as a percentage of Sales

Mark Up

The difference between Sales and Cost of Goods Sold as a percentage of Cost

MARK UP & GROSS PROFIT

A 100% mark up gives 50% gross profit

Net Profit

Gross Profit less (fixed) business expenses

	£
Sales	
Less variable costs	
= Gross Profit	
Less fixed costs	
= Net Profit	