

6.3

PROFIT AND LOSS AND BALANCE SHEETS

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SIMPLE FINANCIAL CALCULATIONS

- Your books tell you what's happened in the past.
- Your cash flow forecast is about what **may** happen in the future.
- **What about now?** How are we doing right now?
- Wouldn't it be nice to know if you were making a profit?

For every single bit of goods or services you supply to others, there will be costs to pay (money going out) and money coming in from the sales you make. If there's more coming in than going out, then you should be making a profit. Let's look at working that out:

Sales

This includes everything you've supplied, even if not paid for yet! It is your usual trade. It does **not** include sale of assets.

If you supply goods, you need to know how much stock you've purchased, and how much stock is left. (In a service trade, you won't.) This is known as the '**cost of sales**'.

Cost of sales is:

$$\begin{array}{r}
 \text{Value of stock at start of time period} \\
 + \\
 \text{Value of stock bought in this period} \\
 = \\
 \text{Total stock available to be sold} \\
 - \\
 \text{Value of stock left at end of period} \\
 = \\
 \text{Cost of sales for the time period}
 \end{array}$$

This works for retail businesses. But for manufacturing, you need to think about 'cost of production', and that means taking off completed products (ready to be sold) and incomplete (work in progress).

Cost of sales is:
Value of stock (raw materials)
+
Materials bought in this time
-
Value of stock at end of time
+
Direct costs related to production (wages, power etc)
+
Work in progress
+
Value of products at start of period
-
Value of products at end of period
=
Costs of production/cost of sales for period

Don't forget: your stock of raw materials is valued at what you paid for them, even if that is more or less than what you could get for them.

Calculating Gross Profits

$$\text{Sales} - \text{Cost of sales} = \text{Gross profit}$$

$$\text{Opening stock} + \text{Purchases} - \text{Closing stock} = \text{Costs of sales}$$

$$\frac{\text{Gross profit}}{\text{Sales}} \times 100 = \text{Gross profit margin (\%)}$$

Calculating Depreciation

Equipment wears out and has to be replaced. That costs the business money. You should allow for that. For instance, you may buy a computer for £1,000 and have to replace it in 5 years. To get the same amount of money ready for that, you'll have to put aside £200 per year.

Also, how much is that computer worth right now? If it's only going to last a few years, it will be worth less each year.

How Do You Work Out Depreciation?

1: The Straight Line Method

It's the original cost or value of the computer divided by its life in years. A computer with a value of £1000 and a life of five years loses $\text{£}1000 / 5 = \text{£}200$ per year. That's how much it depreciates.

2: Or, we could allow 20% off the (decreasing) value each year. That means it's 20% off £1,000 this year, and 20% off £800 next year...

Accruals And Pre-payments

Looking at your bank balance now, you'll know that you may have paid for things in advance - for instance, the insurance policy you took out in January will last clear through to December.

That's a **pre-payment**.

Also, you'll be receiving goods or services **now** that you haven't paid for yet - for instance, heat and light used in January may not have to be paid for until the end of March. That's an **accrual**.

To get a fair picture of your finances, you need to **add in** pre-payments to your assets and **take away** accruals.

Profit And Loss Account

Using all the totals you can get from the above calculations:

Sales take away **cost of sales** equals **gross profit**

Take away running costs and expenditure in this period (allowing for pre-payments and accruals) equals **net profit**

Now you can answer that question, 'Are we making a profit?'

You look at the amounts coming in, and going out, in this time period, and you've got the answer. If you do this **regularly**, you will be informed as to the health of the project.

Are things getting better?

Are things getting worse?

Combined with information in your cash flow forecast, you can check on progress and have time to act, if things are going wrong.

ANALYSING PERFORMANCE - THE BALANCE SHEET

The balance sheet for your business gives you a 'snapshot' view of what the business is worth, its assets and liabilities, at one particular moment in time. Usually this is at the end of the financial year and allows you to compare the situation of the business from one year to the next but you can also draw up quarterly or even monthly balance sheets. The balance sheet should be produced once your trading profit and loss account has been drawn up.

The Balance Sheet

A balance sheet shows:

- The financial situation of the organisation at a particular time
- The change from one period (usually a year) to the next
- How much money is in the business
- The balance of assets Vs liabilities and fixed assets Vs liquid assets

A balance sheet is concerned with 3 things:

- Assets
- Liabilities
- Capital

It will include:

1 : Assets

All assets must be given a value.

They include:

Fixed Assets : Land, property, plant, machinery, fixtures and fittings, equipment, vehicles

Current Assets : Stock, work in progress, unpaid invoices (debtors), cash

Fixed Assets - Valuable Items Not Easily Turned Into Cash

The balance sheet should include all fixed assets - the value of buildings, land, large machinery and so on - minus any depreciation that period that you have already allowed for in your profit and loss account. For fixed assets this must be what the asset could be sold for - its 'book value'. Land and property often has an increasing book value because the value of such things generally rises. Other assets are valued at what they could be sold for and usually have a decreasing value as they are used and wear out. This is called 'depreciation'.

Current Assets - Cash Or Things Whose Value Can Be Realised More Easily

The value of fixed assets is usually estimated but can be very accurate. Not so 'current assets'. Their value is only partly 'real'.

The main kinds of current assets are:

- Cash
- Debtors
- Stock
- Work In Progress

Cash : The figure for your cash should be the final balance in your cashbook at the end of the period. If you are preparing a forecast balance sheet then the cash figure will be the closing balance from your cash flow forecast.

Debtors : Debtors are the value of money or debts owed by your customers at the end of the period (although you may have to write off a proportion of old or bad debts that you expect will never be paid).

Stock : This figure will be the value of the stock that you have at the end of the year, not yet sold. Usually this is based on what you paid for it but in some situations the

stock will either have gained (appreciated) or lost (depreciated) in value, for instance if there's a shortage and you could sell it for a much higher price?

Work In Progress : This is the price of stock plus the value of work so far; but suppose a customer has cancelled an order?

2 : Liabilities - The Value Of Debts Owed By The Business

Examples of kinds of liabilities are:

- Loans - only count the residual amount owing not the original amount
- Bank overdrafts - this will either be the amount you are overdrawn or the closing balance of your cash flow forecast (if negative)
- Creditors - money you owe which you will have to pay
- Tax payable - your accountant can calculate the tax liability based on the year's performance and change in the value of your assets and liabilities.

Liabilities are either 'long-term' or 'short-term'.

- Long Term Liabilities - Loans (the remaining amount), bank overdraft
- Short Term Liabilities - Money you owe on bills not paid (creditors) or accruals*

* Accruals are the value of things that you have received but not yet paid for. It could be the value of power from the power company, or materials that have yet to be invoiced for or rent on the building which you pay in arrears.

3 : Capital

Capital is the money raised so far from 'start-up' finance and 'profits' on trading year after year.

Drawing Up A Balance Sheet

- 1 : Add up the (depreciated) value of all fixed assets (premises, machinery, equipment) and enter the figure on the balance sheet. As part of this procedure, you may want to list the fixed assets owned by the organisation and enter their individual values on an 'asset register'.
- 2 : You may wish to enter the value of these assets at the start of the year and deduct depreciation to create a 'net asset value'.
- 3 : Add up the value of all current assets (cash, stock, work in progress and debtors) and enter the figure on the balance sheet.
- 4 : Add up the value of all liabilities (loans, overdraft, creditors). Don't forget to include any tax owed.
- 5 : Subtract the value of liabilities from current assets. This gives you a figure for 'net current assets' which is a useful measure of just how secure the organisation is financially. If all your debts fell due immediately, could you raise enough money by using your current assets.
- 6 : Add the fixed assets to net current assets to create a figure for 'total net assets'. If the final figure is positive, the organisation is 'solvent'. If negative, the organisation is 'insolvent'.
- 7 : Now draw up a statement of where the total net assets have come from.
This would include:
 - Money invested at the start of the business
 - Grants and loans made when the business started (their full value)
 - Reserves (profits kept in the organisation year after year)
 - Profit (or loss) this year

What Can The Balance Sheet Tell You?

A balance sheet can tell you how much the business or organisation is worth. For community-based organisations it also can tell you how much the community has increased the assets under its control and therefore how powerful or healthy it is.

This can only ever be a 'general' figure, showing the underlying value of the funds in the organisation at that particular time. No-one can safely predict the future. But compared with previous years it is a simple measure of performance.

Example Of A Balance Sheet

	This Year	Last Year
	£	£
Fixed Assets		
Property	12,000	14,000
Plant and machinery	10,000	12,000
Motor vehicles	6,000	9,000
Office equipment	3,000	4,000
Total fixed assets	31,000	39,000
Current Assets		
Stock	8,000	6,000
Debtors/Work in progress	2,000	4,000
Cash	1,000	800
Total current assets	11,000	10,800
Total assets (fixed + current assets)	42,000	49,800
Current Liabilities		
Creditors	3,000	13,000
Overdraft	4,000	8,000
Loan	1,500	5,000
Total liabilities	8,500	26,000
Net assets (total assets - total liabilities)	33,500	23,800
Represented By		
Grants invested	20,000	20,000
Accumulated	13,500	3,800
Total	33,500	23,800

1 : How much profit did the business make this year?

2 : What are the main positive things that have changed about the business?

3 : What are the main negative things that have changed about the business?

The net assets should always balance off against the value of the funds invested originally and the accumulating profits.

If the value of the net assets is positive the business is 'solvent' and can carry on trading. If it is negative the business may be 'technically insolvent'; in this case it can carry on trading but may have to cease trading if there are no sound prospects for recovery.

Answers can be found in the appendix on page 423

ANALYSING PERFORMANCE

The Profit And Loss Account

The profit and loss account (also called the 'income and expenditure account' or the 'trading account') is the basic measure of the financial performance of an organisation. It tells you:

- What the value of the work done was
- What the value of goods, labour and services used to do that work was
- Whether the value of the work done was more or less than the value of what was put in to it i.e. whether you made a profit or a loss.

The profit and loss account **does not** tell you how much money the organisation received and how much money was spent since at a given point in time money will be owed by the organisation to its creditors and by debtors to the organisation.

Include in the profit and loss account:

- All money paid out (wages incl. tax and national insurance, overheads, etc.)
- All money received (sales, rents, grants etc.)
- All unpaid invoices generated in the period covered
- All unpaid invoices received in the period covered
- Depreciation of equipment

Do not include in the profit and loss account:

- Loans (either loans received or loan repayments), but do include interest
- VAT

Setting Out A Profit And Loss Account

The profit and loss account should show the period covered, the sales (and other income), and the directly attributable cost of the sales. For instance, a restaurant would show the sales from meals and the cost of the food purchased to make the meals.

$$\begin{aligned} \text{Sales} &- \text{Cost of sales} \\ &= \text{Gross profit} \end{aligned}$$

The profit and loss account should then list all other items of expenditure.

$$\begin{aligned} \text{Gross profit} &- \text{Expenditure} \\ &= \text{Net profit} \end{aligned}$$

If the organisation has more than one division, then the profitability of each could be measured by drawing up separate profit and loss accounts.

The profit and loss account is most useful when **comparing** departments or periods and so spotting trends, or assessing the impact of changes made to the way the organisation operates.

The Profit And Loss Account

A profit and loss account always covers a particular period. This may be a day, week, month, quarter, half-year or yearly period. To prepare a profit and loss account you need to know the following information:

- Opening stock at the start of the period (valued at cost price)
- Total value of purchase invoices you receive for the period.
- The cost price of stock in hand at the end of the period.
- The rate of depreciation of equipment.
- The value of all **pre-payments** (things you have paid but not received full value of, like insurance paid in advance) and **accruals** (things you have received but not paid for (like telephone use or heating)).

Terminology

Cost of sales is the cost of selling goods or services. It will include the cost of materials and may also include direct wages costs or power costs.

$$\begin{aligned} \text{Cost of sales} &= \\ &\text{Stock at start} + \text{Purchases} \\ &- \text{Stock left at end} \end{aligned}$$

Gross profit is the profit made by selling goods or services **before** deducting the other (fixed) costs of the business.

$$\begin{aligned} \text{Gross profit} &= \\ &\text{Income from sales} - \text{Cost of sales} \end{aligned}$$

Percentage cost of sales measures the ability of the business to cover its costs. Many businesses are expected to have a higher or lower '% cost of sales' and people appraising them will judge a business proposal by these expectations.

$$\frac{\text{Gross profit}}{\text{Income from sales}} \times 100 = \text{Percentage cost of sales}$$

Stock turnover is another way in which bank managers (for instance) or other financial experts analyse business performance. It's the rate at which goods are being sold. It is calculated by:

$$\begin{aligned} &\frac{\text{Cost of sales}}{(\text{Opening stock} + \text{closing stock}) / 2} \\ &= \text{Rate at which stock has turned} \end{aligned}$$

ANALYSING FINANCIAL PERFORMANCE

Analysing financial performance and comparing it with previous performance can help identify weaknesses in an organisation's performance and suggest solutions. Generally this is done by calculating what are called 'ratios' in three key areas: profitability, efficiency and finance. In each case, you are aiming for a higher figure each year.

Profitability Ratios

$$\text{Gross margin} = \frac{\text{Gross profit}}{\text{Sales}} \times 100$$

$$\text{Net profit margin} = \frac{\text{Net profit before tax}}{\text{Sales}} \times 100$$

$$\text{Return on net assets} = \frac{\text{Net profit before tax}}{\text{Assets - current liabilities}} \times 100$$

Efficiency Ratios

$$\text{Net asset turnover} = \frac{\text{Sales}}{\text{Net assets}}$$

$$\text{Stock turnover} = \frac{\text{Sales}}{\text{Stock}} \quad \text{or} \quad \frac{\text{Stock} \times 365}{\text{Sales}}$$

Finance Ratios

$$\text{Current ratio} = \frac{\text{Current assets}}{\text{Current liabilities}}$$

$$\text{The acid test} = \frac{\text{Liquid assets (debtors and cash)}}{\text{Current liabilities}}$$

$$\text{Net worth} = \text{Total assets} - \text{Liabilities to outsiders}$$

PROFIT AND LOSS FORECAST

A profit forecast should show what level of profit you expect your business to produce at the end of the period.

A profit and loss forecast or account is not based on money or cash alone but rather on the value (positive or negative) of what's been going on in the business during a particular period. For instance, a quarterly profit and loss account would include the value of a sale or an order undertaken in the period even if the customer had not paid for it. Similarly, the costs of running the business should include (for instance) a calculation of your power costs even if the business hasn't paid its utility bill.

The profit and loss calculation is fairly simple at heart, though can be complex for large businesses. It's based on the following formula:

Total income	100
-	-
Direct expenditure	20
=	=
Gross profit	80
-	-
Overhead expenditure	50
=	=
Net profit before tax	30

A forecast will obviously be a 'guesstimate' but the figures used should be based on real information and hard facts about costs, processes, production levels and so on.

A profit and loss account will use actual figures, apportioning costs to particular periods and particular activities. You should always keep notes on how you have worked out the profit and loss statement.

Notes On Producing A Profit And Loss Forecast

- Estimate the amount of income and expenditure you expect to generate this month. VAT should be excluded from these figures if you are, or expect to be, VAT registered.
- When estimating sales take into account seasonal variations such as Christmas, bad weather and holiday periods etc. You should analyse your sales by product groups as they may have different markets and therefore different sales patterns. Sales usually will build up slowly. Be realistic rather than optimistic.
- Show any other business income expected e.g. grants etc. If you're aiming for full financial viability, calculate the profit and loss before receiving any grant revenue - it shows you how far you have to go or whether the business will ever be financially sustainable.

- Calculate the total of all the income expected but don't include loans.
- Show all significant expenditure items separately. Items such as rent may be paid quarterly or half yearly, but the figures should be spread over the months involved. In this forecast you are concerned with when the income or expenditure is generated, not when it is paid.
- Unless you're producing a forecast covering all income and expenditure (for instance an annual forecast) remember that you may be spending a lot of money on stock or materials in one period that you won't be using until later. For, say, quarterly profit and loss forecasts or accounts, only count the value of the sales and expenditure related to the activity of the business in that quarter.
- Include an estimate of the wear-and-tear on equipment and premises caused by the business activity. This is usually calculated as the 'depreciation', the loss of value of an asset over time - if you estimate that a piece of machinery may last five years before it is worn out and needs replacing, then the depreciation per year is 1/5th of its value.
- Calculate the total of all expenditure expected but don't include loan repayments, only the interest paid on the loan that period: it's a cost of the business like all the others.
- Calculate the difference between the monthly income and expenditure. Where expenditure exceeds income (i.e. a loss) these figures are usually shown in brackets.

Depreciation Of Fixed Assets

Fixed assets are those with a long life expectancy and which would have a value in the open market. Those can include:

- Equipment
- Pictures and fittings
- Premises
- Land
- Machinery
- Motor vehicles etc.

The total cost of these assets should not be put in the profit and loss account. The cost should be spread over the number of years you expect the assets to last for. This process of spreading the cost is known as 'depreciation', or in some cases capital allowances.

Profitability Forecast Year 1

		Total 12 Months Forecast
	Sales:	
1	Cash sales	
2	Credit sales	
A	Total sales (1 + 2)	£
B	Materials/Stock bought	
C	Gross profit (A - B)	£
	Overheads:	
3	Heating and lighting	
4	Printing, stationery and postage	
5	Insurance (excl. vehicles)	
6	Telephone	
7	Advertising and promotions	
8	Transport costs : licence/insurance	
9	Transport costs : petrol	
10	Transport costs : repairs/other	
11	Professional fees	
12		
13		
14		
D	Total overheads (lines 3 - 14)	£
E	Net profit before drawings and National Insurance (C - D)	£

PROFIT AND LOSS CALCULATIONS

Exercise 1 : Debtor And Creditors

The first step in drawing up a profit and loss account for a particular period is to work out the **value of sales** in that period. Costs and bills incurred in other periods are excluded as are advance payments for future work.

When a business makes use of goods and services in a trading period but has not yet paid for them, the value of these goods (which they have used to add value to their products) must be deducted from the value of any sales made. People or organisations you owe money to are known as **creditors**.

When a business has sold goods or services but not yet received payment, then the value of these goods can be added to any sales made. People or organisations that owe you money are known as **debtors**.

Calculating the **value of sales** is complicated by the fact that not all payments, either from the business to its **creditors** or to the business from its debtors, will have been made in a trading or accounting period. Some invoices for work done will be sent out at the end of the month and will not yet have been paid. Some bills will have been received for goods or services used to run the business but payment will not have been made.

$$\text{Value of sales (turnover)} = \text{Value of sales} + \text{Debtors} - \text{Creditors}$$

Try this exercise.

ABC Engineering manufactures metal pipes for the water industry. It had apparent sales, shown in its ledger, of £25,000 in the quarter. It owes £900 for power, £2,000 for materials and £3,000 rent. It has recently invoiced three customers for the supply of pipes with the invoices valued at £2,500, £1,700 and £2,200.

1 : What was the actual value of ABC Engineering's sales?

Suppose it owed an additional £1,200 rates and £900 to a packaging company and that an outstanding invoice from the previous quarter of £5,000 had finally been paid in this quarter.

2 : What is the new value of ABC Engineering's sales?

Answers can be found in the appendix on page 424

Exercise 2 : Sales And The Cost Of Sales

Once you have calculated the **sales** for the period you then need to calculate the cost of generating the sales. This tells you the real value of the business' activities in the period. It is common when drawing up a profit and loss account to calculate the **gross profit** on selling goods or services before going on to calculate the **net profit** or **pre-tax profit**.

The first step in calculating **gross profit** is to calculate the **cost of sales**. This is calculated as follows:

$$\text{Cost of sales} = \text{Stock at the start of the period} + \text{Purchases} - \text{Stock at end}$$

Note that when calculating the **cost of sales** we use the **cost** value of stock. We may also wish to add in **direct costs** of making and selling goods such as labour, marketing, packaging and power.

Gross profit is calculated as follows:

$$\text{Gross profit} = \text{Value of sales in the period} - \text{The cost of sales}$$

Try this exercise.

ABC Engineering manufactures metal pipes for the water industry. At the start of the trading period it had stock of metal valued at £10,000. It bought extra stock valued at £5,500 and had stock of £3,000 at the end of the period. The value of its sales was £35,000. ABC Engineering includes power and direct labour costs in its **cost of sales**. These were £1,000 for power and £8,000 for labour.

1 : What was ABC Engineering's gross profit?

Suppose ABC Engineering had bought and used additional stock worth £12,000 in the period.

2 : What would its gross profit have been?

Answers can be found in the appendix on page 424

Exercise 3 : Loans And Depreciation

A profit and loss account measures changes to the **value** of things as a result of trading or carrying out other activities. It does not measure just how much money was earned and how much was paid. It also measures hidden costs (like **depreciation** of equipment) and additional costs (like **loan charges**).

Try this exercise.

ABC Engineering makes pipes for the water industry. It owns 4 machines each valued at £5,000. It's gross profit in the current quarter was £3,000 but now depreciation of the machinery must be deducted. It is estimated that each of the machines will last another 10 years.

1 : How much depreciation was there and how does this affect the gross profit?

$$\text{Depreciation} = \frac{\text{Value of machinery now}}{\text{Number of periods of life left}}$$

2 : Therefore gross profit = £3,000 - ?

Suppose ABC Engineering's equipment was calculated to have 15 years of life.

3 : What would be the new figure for depreciation and gross profit?

Suppose it was proposed that an increase in production would mean extra gross profits of £3,000. But the oldest machine would have to be scrapped and a machine costing £15,000 with a life expectancy of 15 years would have to be bought.

4 : Would ABC Engineering make a profit this quarter?

Answers can be found in the appendix on page 425

Exercise 4 : Dealing With Loans In A Profit And Loss Account

It is very easy to treat loan repayments as part of the cost of the business. After all, money is going out of the bank account, isn't it?

In fact, a loan is **not** treated as part of the profit and loss account. But the **cost** of a loan (interest and service charges) is. This is because making a monthly repayment hasn't really affected the **value** of your activities. But paying interest (which is a cost to the business) does.

Try this exercise.

ABC Engineering makes pipes for the water industry. It's **gross profit** in the current quarter was £3,000 but now it must make a loan repayment. It currently has loans worth £15,000 and must repay £625 per month and pay interest and service charges of £175 per month.

1 : What would ABC Engineering's net profit be after deducting these costs?

Suppose ABC Engineering renegotiated its loan so that it was repaying £15,000 over 5 years instead of 3 years. Repayments would now be £417 and interest and service charges £183 per month.

2 : What would ABC Engineering's net profit be after deducting these costs?

Suppose a machine had to be bought with a new loan of £15,000 over 5 years. ABC Engineering now has loans of £15,000 costing £625 in repayments and £175 in interest per month and a loan costing £417 in repayments and £183 in interest per month. The new machine increases gross profit to £6,000 gross profits of £3,000.

3 : What would ABC Engineering's net profit be after deducting these costs?

Answers can be found in the appendix on page 425

THE BALANCE SHEET EXERCISE

Wood 'N' Tops a community-based organisation is preparing a balance sheet for the Local Authority. The following financial information is available:

Fixed Assets

There are fixed assets of £19,960 (mostly wood-working equipment and fixtures) and these are to be depreciated over 5 years by the 'straight-line method'.

Current Assets

There is currently £4,917 in the organisation's bank account. The Local Authority owes £1,700 from this year's grant and there is stock of £500 unsold furniture and furniture undergoing construction valued at £600.

Current Liabilities

Wood 'N' Tops owes the following bills: £708 to an equipment supplier, £280 to the electricity company, £400 rent to the Local Authority and £300 wages. The last quarter's gas bill was £205 but no invoice has been received. There is a loan of £2,055 outstanding.

Reserves

As well as cash in the organisation's current account, it holds £13,182 in a deposit account as a general reserve.

Profits

The organisation made a profit on the year's trading activities of £7,005.

Note: You may wish to substitute real information from a community-based organisation or enterprise you are involved with for the purpose of these exercises.

The Balance Sheet

Balance Sheet Of _____	For The Period Up To 31/03/20__
	£
Fixed Assets	
Capital equipment	
Depreciation	
Total fixed assets	£
Current Assets	
Stock	
Debtors/work in progress	
Cash	
Total current assets	£
Total assets (fixed + current assets)	£
Current Liabilities	
Creditors	
Accruals	
Loans outstanding	
Total liabilities	£
Net assets (total assets - total liabilities)	£
Represented By	
Members loans	
Reserves brought forward	
Profit/loss	
Total	£

Answers can be found in the appendix on page 426