# Financial statements

## **Financial accounts - overview**

There are two main forms of accounting information:

(1) Financial Accounts, and

(2) Management Accounts

Financial Accounts - A Definition

Financial accounts are concerned with classifying, measuring and recording the transactions of a business. At the end of a period (typically a year), the following financial statements are prepared to show the performance and position of the business:

|  |  |
| --- | --- |
| [***Profit and Loss Account***](http://tutor2u.net/business/accounts/profit_loss_account.htm) | Also known as the income statement. Describing the trading performance of the business over the accounting period |
| [***Balance Sheet***](http://tutor2u.net/business/accounts/balance_sheet.htm) | Statement of assets and liabilities at the end of the accounting period (a "snapshot") of the business |
| ***Cash Flow Statement*** | Describing the cash inflows and outflows during the accounting period |
| ***Notes to the Accounts*** | Additional details that have to be disclosed to comply with [Accounting Standards](http://tutor2u.net/business/accounts/accounting_conventions_concepts.htm) and the Companies Act |
| ***Directors' Report*** | Description by the Directors of the performance of the business during the accounting period + various additional disclosures, particularly in relation to directors' shareholdings, remuneration etc |

Financial accounts are geared towards external users of accounting information. To answer their needs, financial accountants draw up the profit and loss account, balance sheet and cash flow statement for the company as a whole in order for users to answer questions such as:

- "Should I invest my money in this company?"

- "Should I lend money to this business?"

- "What are the profits on which this company must pay tax?"

Company Law Requirements for Financial Accounts

Every UK company registered under the Companies Act is required to prepare a set of accounts that give a true and fair view of its profit or loss for the year and of its state of affairs at the year end. Annual accounts for Companies Act purposes generally include:

- A directors’ report  
- An audit report  
- A profit and loss account  
- A balance sheet  
- A statement of total recognised gains and losses  
- A cash flow statement  
- Notes to the accounts

If the company is a **"parent company"**, (in other words, the company also owns other companies - subsidiaries) then**"consolidated accounts"**must also be prepared. Again there are exceptions to this requirement (see consolidated accounts).

Comparative figures should also be given for almost all items and analysis given in the year end financial statements. Exceptions to this rule are given individually. For example, there is no requirement to give comparative figures for the notes detailing the movements in the year on fixed asset or reserves balances.

## **Income statement (overview)**

The income statement is **a historical record of the trading of a business over a specific period** (normally one year).  It shows the **profit or loss made by the business** – which is the **difference between the firm’s total income and its total costs.**  
The income statement serves several important purposes:

* Allows shareholders/owners to see how the business has performed and whether it has made an acceptable profit (return)
* Helps identify whether the profit earned by the business is sustainable (“profit quality”)
* Enables comparison with other similar businesses (e.g. competitors) and the industry as a whole
* Allows providers of finance to see whether the business is able to generate sufficient profits to remain viable (in conjunction with the cash flow statement)
* Allows the directors of a company to satisfy their legal requirements to report on the financial record of the business

The structure and format of a typical income statement is illustrated below:

|  |  |  |
| --- | --- | --- |
| Boston Learning Systems plc |  |  |
| Income Statement | **2011** | **2010** |
| Year Ended 31 December | £'000 | £'000 |
|  |  |  |
| Revenue | 21,450 | 19,780 |
| Cost of sales | 13,465 | 12,680 |
| **Gross profit** | **7,985** | **7,100** |
| Distribution costs | 3,210 | 2,985 |
| Administration expenses | 2,180 | 1,905 |
| **Operating profit** | **2,595** | **2,210** |
| Finance costs | 156 | 120 |
| **Profit before tax** | **2,439** | **2,090** |
| Tax expense | 746 | 580 |
| Profit attributable to shareholders | 1,693 | 1,510 |

The lines in the income statement can be briefly described as follows:

|  |  |
| --- | --- |
| **Category** | **Explanation** |
| **Revenue** | The revenues (sales) during the period are recorded here.  Sometimes referred to as the “top line” – revenue shows the total value of sales made to customers |
| **Cost of sales** | The direct costs of generating the recorded revenues go into “cost of sales”.  This would include the cost of raw materials, components, goods bought for resale and the direct labour costs of production. |
| **Gross profit** | The difference between revenue and cost of sales.  A simple but very useful measure of how much profit is generated from every £1 of revenue before overheads and other expenses are taken into account.  Is used to calculate the**gross profit margin** (%) |
| **Distribution & administration expenses** | Operating costs and expenses that are not directly related to producing the goods or services are recorded here.  These would include distribution costs (e.g. marketing, transport) and the wide range of administrative expenses or overheads that a business incurs. |
| **Operating profit** | A key measure of profit.  Operating profit records how much profit has been made in total from the **trading activities of the business** before any account is taken of how the business is financed. |
| **Finance expenses** | Interest paid on bank and other borrowings, less interest income received on cash balances, is shown here.  A useful figure for shareholders to assess how much profit is being used up by the funding structure of the business. |
| **Profit before tax** | Calculated as operating profit less finance expenses |
| **Tax** | An estimate of the amount of **corporation tax** that is likely to be payable on the recorded profit before tax |
| **Profit attributable to shareholders** | The amount of profit that is left after the tax has been accounted for.  The shareholders then decide how much of this is paid out to them in dividends and how much is left in the business (“retained earnings” in the equity section of the balance sheet) |

## **Profit quality**

One of the issues to consider when looking at the income statement is to look at whether the reported profit is **“high quality”** or “**low quality”.** What is the difference?

A high quality profit is one which can be **repeated or sustained**.  In other words the profit does not contain any unusual one-off items of income or profit which shareholders cannot reasonably expect the business achieve in the following year.

A low quality profit is one which it is **difficult to repeat**.  The profit is likely to benefit from one or more “exceptional items” which will not repeat.  Examples of exceptional items include:

* One-off profits on selling major items of property, plant and equipment (e.g. selling a piece of land)
* Income from a significant insurance claim
* Profits from selling business units or brands

## **Balance Sheet (overview)**

A balance sheet is a statement of the total **assets** and **liabilities** of an organisation **at a particular date** - usually the last date of an accounting period.

The balance sheet is split into two parts:

(1) A statement of **fixed assets**, **current assets** and the **liabilities**(sometimes referred to as "**Net Assets**")

(2) A statement showing how the Net Assets have been financed, for example through share capital and retained profits.

The Companies Act requires the balance sheet to be included in the published financial accounts of all limited companies. In reality, all other organisations that need to prepare accounting information for external users (e.g. charities, clubs, partnerships) will also product a balance sheet since it is an important statement of the financial affairs of the organisation.

A balance sheet does not necessary "value" a company, since assets and liabilities are shown at **"historical cost"** and some intangible assets (e.g. brands, quality of management, market leadership) are not included.

**Example Balance Sheet**

The structure of a typical balance sheet is illustrated below:

|  |  |  |
| --- | --- | --- |
| **Boston Learning Systems plc** **Balance Sheet at 31 December** | **2009** | **2008** |
| **£'000** | **£'000** |
| **ASSETS** | | |
| **Non-current assets** | | |
| Goodwill and other intangible assets | 150 | 150 |
| Property, plant & equipment | 2,450 | 2,100 |
|  | **2,600** | **2,250** |
| **Current assets** | | |
| Inventories | 1,325 | 1,475 |
| Trade and other receivables | 4,030 | 3,800 |
| Short-term investments | 250 | 190 |
| Cash and cash equivalents | 1,340 | 780 |
|  | **6,945** | **6,245** |
| **Current liabilities** | | |
| Trade and other payables | 2,310 | 2,225 |
| Short-term borrowings | 350 | 550 |
| Current tax liabilities | 800 | 650 |
| Provisions | 290 | 255 |
|  | **3,750** | **3,680** |
|  | | |
| **Net current assets** | **3,195** | **2,565** |
|  | | |
| **Non-current liabilities** | | |
| Borrowings | 1,200 | 1,450 |
| Provisions | 140 | 140 |
|  | **1,340** | **1,590** |
|  | | |
| **NET ASSETS** | **4,455** | **3,225** |
|  | | |
| **EQUITY** | | |
| Share capital | 500 | 500 |
| Retained earnings | 3,955 | 2,725 |
| **TOTAL EQUITY** | **4,455** | **3,225** |

An asset is any right or thing that is owned by a business. Assets include land, buildings, equipment and anything else a business owns that can be given a value in money terms for the purpose of financial reporting.

**Definition of Liabilities**

To acquire its assets, a business may have to obtain money from various sources in addition to its owners (shareholders) or from retained profits. The various amounts of money owed by a business are called its liabilities.

**Long-term and Current**

To provide additional information to the user, assets and liabilities are usually classified in the balance sheet as:

- Current: those due to be repaid or converted into cash within 12 months of the balance sheet date;

- Long-term: those due to be repaid or converted into cash more than 12 months after the balance sheet date;

**Fixed Assets**

A further classification other than long-term or current is also used for assets. A "fixed asset" is an asset which is intended to be of a permanent nature and which is used by the business to provide the capability to conduct its trade. Examples of**"tangible fixed assets"** include plant & machinery, land & buildings and motor vehicles. **"Intangible fixed assets"**may include goodwill, patents, trademarks and brands - although they may only be included if they have been "acquired". Investments in other companies which are intended to be held for the long-term can also be shown under the fixed asset heading.

**Definition of Capital**

As well as borrowing from banks and other sources, all companies receive finance from their owners. This money is generally available for the life of the business and is normally only repaid when the company is "wound up". To distinguish between the liabilities owed to third parties and to the business owners, the latter is referred to as the **"capital"**or **"equity capital"** of the company.

In addition, undistributed profits are re-invested in company assets (such as stocks, equipment and the bank balance). Although these "retained profits" may be available for distribution to shareholders - and may be paid out as dividends as a future date - they are added to the equity capital of the business in arriving at the total **"equity shareholders' funds"**.

At any time, therefore, the capital of a business is equal to the assets (usually cash) received from the shareholders plus any profits made by the company through trading that remain undistributed.

## **Current assets**

This section of the balance sheet shows the assets a business owns which are either cash, cash equivalents, or are expected to be turned into cash during the next twelve months.

Current assets are, therefore, very important to cash flow management and forecasting, because they are the assets that a business uses to pay its bills, repay borrowings, pay dividends and so on,

**Current assets are listed in order of their liquidity** – or in other words, how easy it is to turn each category of current asset into cash.

The main elements of current assets are:

|  |  |
| --- | --- |
| **Inventories** | Inventories (often also called “stocks”) are the **least liquid kind of current asset**. Inventories include holdings of raw materials, components, finished products ready to sell and also the cost of “work-in-progress” as it passes through the production process.  For the balance sheet, a business will value its inventories at cost.  A profit is only earned and recorded once inventories have been sold.  Not all inventories can eventually be sold.  A common problem is **stock “obsolescence**” – where inventories have to be sold for less than their cost (or thrown away) perhaps because they are damaged or customers no longer demand them.  For these inventories, the balance sheet value should be the amount that can be recovered if the stocks can finally be sold. |
| **Trade  and other receivables** | Trade debtors are usually the main part of this category.  A trade debtor is created when a customer is allowed to buys goods or services on credit.  The sale is recognised as revenue (income statement) when the transaction takes place and the amount owed is added to trade debtors in the balance sheet.  At some stage in the future, when the customer settles the invoice, the trade debtor balance converts into cash!  Most businesses operate with a reasonably significant amount owed by trade debtors at any one time.  It is not unusual for customers to take between 60-90 days to pay amounts owed, although the average payment period varies by industry. Of course some customer debts are not eventually paid – the customer becomes insolvent, leaving the business with debtor balances that it cannot recover.  When a business is doubtful whether a customer will settle its debts it needs to make an allowance for this in the balance sheet.  This is done by making a “**provision for bad and doubtful debts**” which effectively reduces the value of trade debtors to the total amount that the business reasonably expects to receive in the future. |
| **Short-term investments** | A business with positive cash balances can either hold them in the bank or invest them for short periods – perhaps by placing them on short-term deposit.   Such investments would be shown in this category. |
| **Cash and cash equivalents** | The most liquid form of current assets = the actual cash balances that the business has!  The bank account balance would be the main item in this category. |

## **Current liabilities**

Current liabilities represent amounts that are **owed by the business** and which are due to be paid within the next twelve months. Current liabilities are normally settled from the amounts available in current assets.  
The main elements of current liabilities are:

|  |  |
| --- | --- |
| **Trade and other payables** | The main element of this is normally **“trade creditors”** – amounts owed by a business to its suppliers for goods and services supplied. A trade creditor is the reverse of a trade debtor.  A business buys from a supplier and then pays for those goods and services some time later – the period depends on the length and amount of credit the supplier allows. |
| **Short-term borrowings** | Amounts in this category represent the amounts that need to be repaid on outstanding borrowings in the next year.  For example, a business may have a bank loan of £2million of which £250,000 is due to be repaid six months after the balance sheet date.  In the balance sheet, the bank loan would be split into two categories: £250,000 as short-term borrowings and the remainder (£1,750,000) in the borrowings figure in non-current liabilities. |
| **Current tax liabilities** | This category shows the tax liabilities that the business is still to pay to the government. This will mainly comprise corporation tax, income tax and VAT. |
| **Provisions** | This is a category that can contain a variety of amounts due. For example, it would include any dividends due to be paid to shareholders. More importantly, it will also include any estimates of potential costs which the business might incur in relation to known disputes or other issues.  For example, if the business is subject to legal claims or is planning to make redundancies in the near future – then the likely costs of these issues needs to be provided for in the balance sheet |

**Non-current liabilities**  
This category shows the longer-term liabilities that a business has.  By “longer-term”, we mean liabilities that need to be settled in more than one year’s time.  This would include bank loans which are not yet due for repayment.

# ****Financial planning****

## **Financial objectives** - overview

From the first day of trading, a business should set itself financial objectives.

For a start-up, the relevant financial objective is likely to be focused initially on **survival** - i.e. not running out of cash.

After a while (hopefully sooner rather than later) the business aims to breakeven and then start generating a profit.

Even better would be to generate positive cash flows out of those profits.  Medium-term financial objectives for the start-up might then also include making a return for the investors and growing the capital value of the business.  
Importantly, those early financial objectives of the start-up never really disappear completely.  The many well-established businesses that became insolvent in 2008-09 during the recession would certainly have given their all to have achieved survival and emerged intact from the economic downturn. The profit objective continues to be a vitally important aim for private sector businesses of all sizes.

However, as a business becomes well-established and its products and operations become more complex, the nature of its financial objectives changes.

Why set financial objectives?  It is quite simply because the performance of a business is traditionally measured in financial terms.

## Internal and external influences on financial objectives

The main internal and external influences which are likely to affect the financial objectives include:

|  |  |
| --- | --- |
| **Internal Influences** | **External Influences** |
| **Business ownership** The nature of business ownership has a significant impact on financial objectives.  A venture capital investor would have quite a different approach to a long-standing family ownership. | **Economic conditions** As demonstrated by the Credit Crunch.  The economic downturn forced many businesses to reappraise their financial objectives in favour of cost minimisation and maximising cash inflows and balances.  Significant changes in interest rates and exchange rates also have the potential to threaten the achievement of financial targets like ROCE. |
| **Size and status of the business** E.g. start-ups and smaller businesses tend to focus on survival, breakeven and cash flow objectives.  Quoted multinational businesses are much more focused on growing shareholder value | **Competitors** Competitive environment directly affects the achievability of financial objectives.  E.g. cost minimisation may become essential if a competitor is able to grow market share because it is more efficient |
| **Other functional objectives** Almost every other functional objective in a business has a financial dimension – which often brings the finance department into conflict with other functions. | **Social and political change** Often an indirect impact.  E.g. legislation on environmental emissions or waste disposal may force an business to increase investment in some areas, and cut costs in others |

## **Financial objectives** - key measures

## Cash flow targets

A clichéd but nevertheless relevant saying amongst bank managers goes like this:

**Revenue is vanity**  
**Profit in sanity**  
**CASH IS KING**

The logic behind the saying is straightforward.  Many businesses focus on growing revenues and take great pleasure from being boasting about the total sales they achieve.  However, what if those sales are not profitable? A business that runs out of cash becomes insolvent and fails.  In contrast, a business that generates strong profits and turns them into positive cash flow is in a very strong position to achieve all of its objectives.

A variety of possible cash flow objectives might be set by a business depending on its financial position and corporate strategy.  For example:

* Reduce bank borrowings to a target level – perhaps by repaying amounts owed under bank loans or restricting the use of bank overdraft facilities
* Minimise the time taken by customers who pay on credit to settle outstanding invoices – this is traditionally a major concern of smaller businesses and an obvious focus for a cash flow objectives
* Extend the period taken to pay suppliers to maximum permitted period – e.g. paying trade creditors at the end of any agreed credit period
* Building a buffer balance of cash as a precaution against unforeseen circumstances
* Minimising the amounts paid out in interest charges
* Reducing the seasonal swings in cash flow – perhaps by finding new uses for excess production capacity in quiet periods, or developing markets which are counter-seasonal to existing revenues

## Returns on investment objectives

The funds invested in a business need to earn a return.  Ideally that return at least matches, and ideally exceeds, the target return set by management.

The main performance measure of return in a commercial business is **Return on Capital Employed**(“ROCE”) - sometimes also referred to as Return on Capital.

ROCE is essentially about how well a business turns **assets into profit**.  This matters for a business because of the concept of**opportunity cost**.

Faced with a choice of investing £500,000 in a new business project or giving it back to the shareholders as a dividend, what should the business do?  If the project generates a return on investment of over 10%, then the shareholders would probably prefer the project to go ahead rather than receiving the dividend. It depends on what their **required rate of return** is.

ROCE can be used in several ways:

* To help evaluate the overall performance of the business
* To provide a target return for individual projects
* To benchmark performance with competitors

Your studies on investment appraisal make use of the concepts introduced above – this is an important area.

## Shareholders’ returns

A basic recap to begin with.  Shareholders are the **owners of a limited company** and they gain their financial reward from share ownership in two ways:

* A share of the profits earned by the company – paid out as a **dividend**
* Growth in the value of their shareholding (compared with the cost of buying the shares) – which is “realised” when the shareholder sells the shares to someone else

The vast majority of limited companies are “private” in that their shares are not publicly traded on a regulated stock market.  However, that does not stop the shareholders of private limited companies from buying and selling shares privately.

Shareholders in public companies whose shares are traded on the Stock Exchange have a daily insight into the returns their investment is making:

* The **share price** indicates the market value of the business (share price x number of shares in issue)
* The latest share price can be shown as a multiple of the most recent annual earnings (or profits) per share, to show a valuation ratio known as the Price/Earnings (or P/E) ratio
* The latest annual dividend can be compared with the share price to indicate an annual return (“**dividend yield**”)

The financial objectives that a public company might, therefore, set in relation to shareholder returns might include:

* Target growth in the share price
* Increases in the dividend per share over time
* Increases in earnings per share

## **Introduction to budgets and budgeting**

Abudget is a **financial plan** for the future concerning the revenues and costs of a business. However, a budget is about much more than just financial numbers.

**Budgetary control** is the process by which **financial control** is exercised within an organisation.

Budgets for income/revenue and expenditure are prepared in advance and then compared with actual performance to establish any **variances**.

**Managers**are responsible for controllable costs within their budgets and are required to take remedial action if the adverse variances arise and they are considered excessive.

There are many management uses for budgets.  For example, budgets are used to:

* Control income and expenditure (the traditional use)
* Establish priorities and set targets in numerical terms
* Provide direction and co-ordination, so that business objectives can be turned into practical reality
* Assign responsibilities to budget holders (managers) and allocate resources
* Communicate targets from management to employees
* Motivate staff
* Improve efficiency
* Monitor performance

Whilst there are many uses of budgets, there are a set of guiding principles for good budgetary control in a business.

In an effective budget system:

* Managerial responsibilities are clearly defined – in particular the responsibility to adhere to their budgets
* Individual budgets lay down a plan of action
* Performance is monitored against the budget
* Corrective action is taken if results differ significantly from the budget
* Departures from budgets are permitted only after approval from senior management
* Unaccounted for variances are investigated

## **Budget variances and management by exception**

A key word to understand when you are looking at budgets is **“variance”**

A variance arises when there is a **difference between actual and budget figures**

Variances can be either:

* **Positive/favourable** (better than expected) or
* **Adverse/unfavourable** ( worse than expected)

A **favourable variance** might mean that:

* Costs were lower than expected in the budget, or
* Revenue/profits were higher than expected

By contrast, an **adverse variance**might arise because:

* Costs were higher than expected
* Revenue/profits were lower than expected

Should variances be a matter of concern to management? After all, a budget is just an estimate of what is going to happen rather than reality. The answer is – it depends.

The significance of a variance will depend on factors such as:

* Whether it is positive or negative – adverse variances (negative) should be of more concern
* Was it foreseen?
* Was it foreseeable?
* How big was the variance - absolute size (in money terms) and relative size (in percentage terms)?
* The cause
* Whether it is a temporary problem or the result of a long term trend

“**Management by exception**” is the name given to the process of focusing on activities that require attention and ignoring those that appear to be running smoothly

Budget control and analysis of variances facilitates management by exception since it highlights areas of business performance which are not in line with expectations.

Items of income or spending that show no or small variances require no action. Instead concentrate on items showing a large adverse variance.

## Are all adverse variances bad news?

Here is a point that students often find hard to understand – or believe!

An adverse variance might result from something that is good that has happened in the business.

For example, a budget statement might show higher production costs than budget (adverse variance).  However, these may have occurred because sales are significantly higher than budget (favourable budget).

**Remember, it is the cause and significance of a variance that matters – not whether it is favourable or adverse.**

## Variances illustrated

Consider the following budget statement:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Item** | **Budget** | **Actual** | **Variance** | **Favourable** |
|  | £'000 | £'000 | £'000 | or Adverse |
| **SALES REVENUE** |  |  |  |  |
| Standard product | 75 | 90 | 15 | F |
| Premium product | 30 | 25 | -5 | A |
| Total sales revenue | 105 | 115 | 10 | F |
|  |  |  |  |  |
|  |  |  |  |  |
| **COSTS** |  |  |  |  |
| Wages | 35 | 38 | 3 | A |
| Rent | 15 | 17 | 2 | A |
| Marketing | 20 | 14 | -6 | F |
| Other overheads | 27 | 35 | 8 | A |
| Total costs | 97 | 104 | 7 | A |
|  |  |  |  |  |
| Profit | 8 | 11 | 3 | F |

What do the numbers in the budget statement tell us?

Looking at the sales revenue section, you can see that actual sales of standard product were £15k higher than budget – this is a positive (favourable) variance.

Turning to the costs section, actual wages were £3k higher than budget – i.e. an adverse (negative) variance.

Overall, the profit variance was positive (favourable) – i.e. better than budget

## **Limitations of budgets**

Whilst budgets are widely used to in business, you should appreciate that they have some important limitations.  In particular:

* Budgets are only as good as the data being used to create them.  Inaccurate or unreasonable assumptions can quickly make a budget unrealistic
* Budgets can lead to inflexibility in decision-making
* Budgets need to be changed as circumstances change
* Budgeting is a time consuming process – in large businesses, whole departments are sometimes dedicated to budget setting and control
* Budgets can result in short term decisions to keep within the budget rather than the right long term decision which exceeds the budget
* Managers can become too preoccupied with setting and reviewing budgets and forgetting to focus on the real issues of winning customers

Budgets can also create some behavioural challenges in a business

* Budgeting has behavioural implications for the motivation employees
* Budgets are de-motivating if they are imposed rather than negotiated
* Setting unrealistic targets adds to de-motivation
* Budgets contribute to departmental rivalry - battles over budget allocation
* Spending up to budget: it can result in a “use it or lose it” mentality - spend up to the budget  to preserve it for next year
* Budgetary slack occurs if targets are set too low
* A “name, blame and shame” culture can develop - but managers should be answerable only for variations that were under their control

# Ratio Analysis

## **Main ratios (introduction)**

In our introduction to interpreting financial information we identified five main areas for investigation of accounting information. The use of ratio analysis in each of these areas is introduced below:

**Profitability Ratios**

These ratios tell us whether a business is making profits - and if so whether at an acceptable rate. The key ratios are:

|  |  |  |
| --- | --- | --- |
| Ratio | Calculation | Comments |
| ***Gross Profit Margin*** | [Gross Profit / Revenue] x 100 (expressed as a percentage | This ratio tells us something about the business's ability consistently to control its production costs or to manage the margins its makes on products its buys and sells. Whilst sales value and volumes may move up and down significantly, the gross profit margin is usually quite stable (in percentage terms). However, a small increase (or decrease) in profit margin, however caused can produce a substantial change in overall profits. |
| ***Operating Profit Margin*** | [Operating Profit / Revenue] x 100 (expressed as a percentage) | Assuming a constant gross profit margin, the operating profit margin tells us something about a company's ability to control its other operating costs or overheads. |
| ***Return on capital employed ("ROCE")*** | Net profit before tax, interest and dividends ("EBIT") / total assets (or total assets less current liabilities | ROCE is sometimes referred to as the "primary ratio"; it tells us what returns management has made on the resources made available to them before making any distribution of those returns. |

**Efficiency ratios**

These ratios give us an insight into how efficiently the business is employing those resources invested in fixed assets and working capital.

|  |  |  |
| --- | --- | --- |
| Ratio | Calculation | Comments |
| ***Sales /Capital Employed*** | Sales / Capital employed | A measure of total asset utilisation. Helps to answer the question - what sales are being generated by each pound's worth of assets invested in the business. Note, when combined with the return on sales (see above) it generates the primary ratio - ROCE. |
| ***Sales or Profit / Fixed Assets*** | Sales or profit / Fixed Assets | This ratio is about fixed asset capacity. A reducing sales or profit being generated from each pound invested in fixed assets may indicate overcapacity or poorer-performing equipment. |
| ***Stock Turnover*** | Cost of Sales / Average Stock Value | Stock turnover helps answer questions such as "have we got too much money tied up in inventory"?. An increasing stock turnover figure or one which is much larger than the "average" for an industry, may indicate poor stock management. |
| ***Credit Given / "Debtor Days"*** | (Trade debtors (average, if possible) / (Sales)) x 365 | The "debtor days" ratio indicates whether debtors are being allowed excessive credit. A high figure (more than the industry average) may suggest general problems with debt collection or the financial position of major customers. |
| ***Credit taken / "Creditor Days"*** | ((Trade creditors + accruals) / (cost of sales + other purchases)) x 365 | A similar calculation to that for debtors, giving an insight into whether a business is taking full advantage of trade credit available to it. |

**Liquidity Ratios**

Liquidity ratios indicate how capable a business is of meeting its short-term obligations as they fall due:

|  |  |  |
| --- | --- | --- |
| Ratio | Calculation | Comments |
| ***Current Ratio*** | Current Assets / Current Liabilities | A simple measure that estimates whether the business can pay debts due within one year from assets that it expects to turn into cash within that year. A ratio of less than one is often a cause for concern, particularly if it persists for any length of time. |
| ***Quick Ratio (or "Acid Test"*** | Cash and near cash (short-term investments + trade debtors) | Not all assets can be turned into cash quickly or easily. Some - notably raw materials and other stocks - must first be turned into final product, then sold and the cash collected from debtors. The Quick Ratio therefore adjusts the Current Ratio to eliminate all assets that are not already in cash (or "near-cash") form. Once again, a ratio of less than one would start to send out danger signals. |

**Stability Ratios**

These ratios concentrate on the long-term health of a business - particularly the effect of the capital/finance structure on the business:

|  |  |  |
| --- | --- | --- |
| Ratio | Calculation | Comments |
| ***Gearing*** | Borrowing (all long-term debts + normal overdraft) / Net Assets (or Shareholders' Funds) | Gearing (otherwise known as "leverage") measures the proportion of assets invested in a business that are financed by borrowing. In theory, the higher the level of borrowing (gearing) the higher are the risks to a business, since the payment of interest and repayment of debts are not "optional" in the same way as dividends. However, gearing can be a financially sound part of a business's capital structure particularly if the business has strong, predictable cash flows. |
| ***Interest cover*** | Operating profit before interest / Interest | This measures the ability of the business to "service" its debt. Are profits sufficient to be able to pay interest and other finance costs? |

**Investor Ratios**

There are several ratios commonly used by investors to assess the performance of a business as an investment:

|  |  |  |
| --- | --- | --- |
| Ratio | Calculation | Comments |
| ***Earnings per share ("EPS")*** | Earnings (profits) attributable to ordinary shareholders / Weighted average ordinary shares in issue during the year | A requirement of the London Stock Exchange - an important ratio. EPS measures the overall profit generated for each share in existence over a particular period. |
| ***Price-Earnings Ratio ("P/E Ratio")*** | Market price of share / Earnings per Share | At any time, the P/E ratio is an indication of how highly the market "rates" or "values" a business. A P/E ratio is best viewed in the context of a sector or market average to get a feel for relative value and stock market pricing. |
| ***Dividend Yield*** | (Latest dividend per ordinary share / current market price of share) x 100 | This is known as the "payout ratio". It provides a guide as to the ability of a business to maintain a dividend payment. It also measures the proportion of earnings that are being retained by the business rather than distributed as dividends. |

## **Introduction to ratio analysis**

Financial information is always prepared to satisfy in some way the needs of various interested parties (the "**users of accounts**"). Stakeholders in the business (whether they are internal or external to the business) seek information to find out three fundamental questions:

(1) How is the business trading?

(2) How strong is the financial position?

(3) What are the future prospects for the business?

For outsiders, published financial accounts are an important source of information to enable them to answer the above questions.

To some degree or other, all interested parties will want to ask questions about financial information which is likely to fall into one or other of the following categories, and be about:

|  |  |
| --- | --- |
| **Performance Area** | **Key Issues** |
| **Profitability** | Is the business making a profit? How efficient is the business at turning revenues into profit? Is it enough to finance reinvestment? Is it growing? Is it sustainable (high quality)? How does it compare with the rest of the industry? |
| **Financial efficiency** | Is the business making best use of its resources?  Is it generating adequate returns from its investments?  Is it managing its working capital properly? |
| **Liquidity and gearing** | Is the business able to meet its short-term debts as they fall due? Is the business generating enough cash? Does the business need to raise further finance? How risky is the finance structure of the business? |
| **Shareholder return** | What returns are owners gaining from their investment in the business? How does this compare with similar, alternative investments in other businesses? |

## **Using financial statements to assess business performance**

The balance sheet and income statement provide much useful information for a user of accounts to better understand how the business is doing. Some useful analytical tasks would include:

***Comparing performance over time:***

A danger with just looking at one year’s results is that the numbers can hide a longer term issue in the business.

By looking at data over several years, it is possible to see whether a trend is emerging.  Public companies in the UK are required to publish a five-year summary of the income statement to help shareholders assess trends.

***Comparing performance against competitors or the industry as a whole:***

Assuming that the detailed information is available, a comparison against competitors provides a useful way for management and shareholders to assess relative performance.

Has the business’ revenues grown as fast as close competitors? How has the business performed compared with the market as a whole?

***Benchmarking against best-in-class businesses:***

Comparison against other businesses who are not direct competitors can also be useful – particularly if they help set the standard that the business aims to achieve.  Care has to be taken with this, though. The benchmark business might operate in a very different industry, with significantly different profit margins and balance sheet norms.

**Potential weaknesses in using published financial information to assess performance**

It is worth remembering some of the potential problems that can arise when using the income statement and balance sheet to assess performance.  Two in particular:

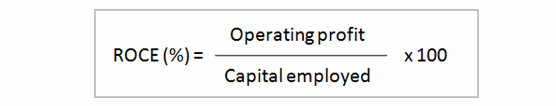
* Valuing some assets and liabilities on the balance sheet involves subjective judgement.  For example, management have some discretion about what provisions they need to make for trade debtors that may not pay or for obsolete stocks.
* Accounts are largely descriptive about what has occurred in the past – rather than explaining why.  Publicly quoted companies are required to provide much more detailed commentary on the financial statements in the Annual Report. However, the vast majority of companies are not publicly quoted!

# Calculations and Formulas

## **Return on capital employed**

ROCE is sometimes referred to as the **"primary ratio”**. It tells us what returns (profits) the business has made on the resources available to it.

ROCE is calculated using this formula:

  
  
Example calculation:

* Operating profit = £280,000
* Capital employed = £1,400,000
* ROCE = £280,000 / £1,400,000 = 20%

The capital employed figure normally comprises:

***Share capital + Retained Earnings + Long-term borrowings***

(the same as Equity + Non-current liabilities from the balance sheet)

Capital employed is a good measure of the total resources that a business has available to it, although it is not perfect.

For example, a business might lease or hire many of its production capacity (machinery, buildings etc) which would not be included as assets in the balance sheet.

With ROCE, the higher the percentage figure, the better.  The figure needs to be compared with the ROCE from previous years to see if there is a trend of ROCE rising or falling.

It is also important to ensure that the operating profit figure used for the top half of the calculation does not include any exceptional items which might distort the ROCE percentage and comparisons over time.

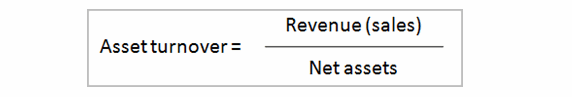
To improve its ROCE a business can try to do two things:

* Improve the top line (i.e. increase operating profit) without a corresponding increase in capital employed, or
* Maintain operating profit but reduce the value of capital employed

## **Asset turnover**

This ratio considers the relationship between revenues and the total assets employed in a business.  A business invests in assets (machinery, inventories etc) in order to make profitable sales, and a good way to think about the asset turnover ratio is imagining the business trying to make those assets work hard (or sweat) to generate sales.

The formula for asset turnover is:

  
  
In terms of where to get the numbers:

* Revenue obviously comes from the income statement
* Net assets = total assets less total liabilities
* The resulting figure is expressed as a “number of times per year”

The calculation can be illustrated as follows using the follow [balance sheet](http://tutor2u.net/business/accounts/balance_sheet.htm) and [income statement](http://tutor2u.net/business/accounts/profit_loss_account.htm)

|  |  |  |
| --- | --- | --- |
|  | **2012** **£’000** | **2011** **£’000** |
| **Revenue** | 21,450 | 19,780 |
| **Net assets** | 4,455 | 3,225 |
| **Asset turnover** | 4.8 times | 6.1 times |

How to evaluate the data in the table above?

At face-value, the asset turnover has deteriorated falling from 6.1 times per year to 4.8 times.  Why might this have occurred?

The best clues appear to be in the balance sheet.  The value of fixed assets has risen by over £300,000, the business has over £500,000 more cash and the value of loans has fallen.  That means that net assets have risen by almost 40%.

That certainly looks like good news.  However, revenues have only grown by 8%.  Hence the lower asset turnover – even though the story is a positive one!

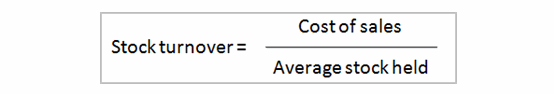
You can see that particular care needs to be taken with the asset turnover ratio.  For example:

* The number will vary enormously from industry to industry. A capital-intensive business may have a much lower asset turnover than a business with low net assets but which generates high revenues.
* The asset turnover figure for a specific business can also vary significantly from year to year. For example, a business may invest heavily in new production capacity in one year (which would increase net assets) but the revenues from the extra capacity might not arise fully until the following year
* The asset turnover ratio takes no direct account of the profitability of the revenues generated

## **Stock turnover**

Stock turnover helps answer questions such as "have we got too much money tied up in inventory"?  An increasing stock turnover figure or one which is much larger than the "average" for an industry may indicate poor inventory management.

The stock turnover formula is:



Calculating stock turnover can be illustrated as follows

|  |  |  |
| --- | --- | --- |
|  | **2012 £’000** | **2011 £’000** |
| Cost of sales | 13,465 | 12,680 |
| Average stock | 1,325 | 1,475 |
| Stock turnover | 10.2 times | 8.6 times |

[note: assumes the inventories at year-end were equivalent to average stock during year]

From the data above, the business has improved its stock turnover, with the ratio rising from 8.6 times to 10.2 times per year.

As a general guide, the quicker a business turns over its stocks, the better.  But, it is more important to do that profitably rather than sell stocks at a low gross profit margin or worse at a loss.

Interpreting the stock turnover ratio needs to be done with some care.  For example:

* Some products and industries necessarily have very high levels of stock turnover.  Fast-food outlets turnover their stocks over several times each week, let alone 8-10 times per year! A distributor of industrial products might aim to turn stocks over 10—20 times per year
* Some businesses have to hold large quantities and value of stock to meet customer needs. They may have to stock a wide range of product types, brands, sizes and so on.
* Stock levels can vary during the year, often caused by seasonal demand.  Care needs to be taken in working out what the “average stock held” is – since that directly affects the stock turnover calculation

 A business can take a range of actions to improve its stock turnover:

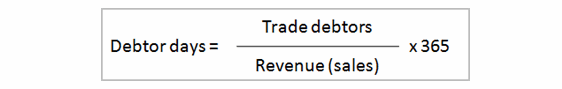
* Sell-off or dispose of slow-moving or obsolete stocks
* Introduce lean production techniques to reduce stock holdings
* Rationalise the product range made or sold to reduce stock-holding requirements
* Negotiate sale or return arrangements with suppliers – so the stock is only paid for when a customer buys it

The last point to remember is that stock turnover is an irrelevant ratio for many businesses in the service sector.  Any business that provides personal or professional services, for example, is unlikely to carry significant stocks.

## **Debtor Days**

The debtor days ratio focuses on the time it takes for trade debtors to settle their bills. The ratio indicates whether debtors are being allowed excessive credit. A high figure (more than the industry average) may suggest general problems with debt collection or the financial position of major customers.  The efficient and timely collection of customer debts is a vital part of cash flow management, so this is a ratio which is very closely watched in many businesses.

The formula to calculate debtor days is:

  
  
Applying this formula to some example data:

|  |  |  |
| --- | --- | --- |
|  | **2012** **£’000** | **2011** **£’000** |
| **Revenue** | 21,450 | 19,780 |
| **Trade receivables** | 4,030 | 3,800 |
| **Debtor days** | 68.6 days | 70.1 days |

The data above indicates an improvement in debtor days – i.e. debtor days have fallen.  That means that the business is converting credit sales into cash slightly quicker, although it still has to wait for an average of over two months to be paid!

The average time taken by customers to pay their bills varies from industry to industry, although it is a common complaint that trade debtors take too long to pay in nearly every market.

Among the factors to consider when interpreting debtor days are:

* The industry average debtor days needs to be taken into account.  In some industries it is just assumed that the credit that can be taken is 45 days, or 60 days or whatever everyone else seems (or claims) to be taking
* A business can determine through its terms and conditions of sale how long customers are officially allowed to take
* There are several actions a business can take to reduce debtor days, including offering early-payment incentives or by using invoice factoring

## **Creditor Days**

“Creditor days” is a similar ratio to debtor days and it gives an insight into whether a business is taking full advantage of trade credit available to it.

Creditor days estimates the average time it takes a business to settle its debts with trade suppliers. As an approximation of the amount spent with trade creditors, the convention is to use cost of sales in the formula which is as follows:



The ccalculation for creditor days can be illustrated as follows:

|  |  |  |
| --- | --- | --- |
|  | **2012** **£’000** | **2011** **£’000** |
| **Cost of sales** | 13,465 | 12,680 |
| **Trade payables** | 2,310 | 2,225 |
| **Creditor days** | 62.6 | 64.1 |

According to the data, the business is taking slightly less time on average before it pays it suppliers. Creditor days fell slightly from 64.1 days to 62.6 days.

In general a business that wants to maximise its cash flow should take as long as possible to pay its bills.  However, there are risks associated with taking more time than is permitted by the terms of trade with the supplier. One is the loss of supplier goodwill; another is the potential threat of legal action or late-payment charges

## **Liquidity rations (current & acid-test)**

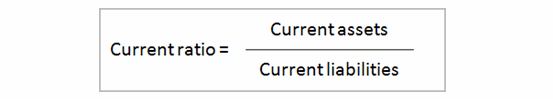
There are two main liquidity ratios which are used to help assess whether a business has sufficient cash or equivalent current assets to be able to pay its debts as they fall due. In other words, the liquidity ratios focus on the**solvency** of the business.  A business that finds that it does not have the cash to settle its debts becomes insolvent.

Liquidity ratios focus on the **short-term** and make use of the **current assets and current liabilities**shown in the balance sheet.

**Current ratio**

This is a simple measure that estimates whether the business can pay debts due within one year out of the current assets. A ratio of less than one is often a cause for concern, particularly if it persists for any length of time.

The formula for the current ratio is:



The calculation for the current ratio can be illustrated as follows:

|  |  |  |
| --- | --- | --- |
|  | **2012** **£’000** | **2011** **£’000** |
| **Current assets** | 6,945 | 6,245 |
| **Current liabilities** | 3,750 | 3,680 |
| **Current ratio** | 1.85 | 1.70 |

At 31 December 2012 current assets were 1.85 times the value of current liabilities. That ratio was more than the 1.7 times at the end of 2011, suggesting a slight improvement in the current ratio.

A current ratio of around 1.7-2.0 is pretty encouraging for a business.  It suggests that the business has enough cash to be able to pay its debts, but not too much finance tied up in current assets which could be reinvested or distributed to shareholders.

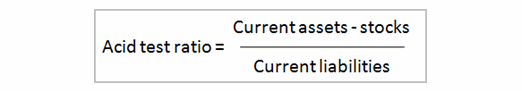
A low current ratio (say less than 1.0-1.5 might suggest that the business is not well placed to pay its debts.  It might be required to raise extra finance or extend the time it takes to pay creditors.

**Acid-test ratio**

Not all assets can be turned into cash quickly or easily. Some - notably raw materials and other stocks - must first be turned into final product, then sold and the cash collected from debtors.

The **Acid Test Ratio** (sometimes also called the **“Quick Ratio**”) therefore adjusts the Current Ratio to eliminate certain current assets that are not already in cash (or "near-cash") form. The tradition is to remove inventories (stocks) from the current assets total, since inventories are assumed to be the most illiquid part of current assets – it is harder to turn them into cash quickly.

The formula for the acid test ratio is:



An example calculation is shown below:

|  |  |  |
| --- | --- | --- |
|  | **2012** **£’000** | **2011** **£’000** |
| **Current assets less inventories** | 5,620 | 4,770 |
| **Current liabilities** | 3,750 | 3,680 |
| **Acid test ratio** | 1.50 | 1.30 |

Again, the data for the business looks fine.  An acid test ratio of over 1.0 is good news; the business is well-placed to be able to pay its debts even if it cannot turn inventories into cash.

Some care has to be taken interpreting the acid test ratio.  The value of inventories a business needs to hold will vary considerably from industry to industry.  For example, you wouldn’t expect a firm of solicitors to carry much inventory, but a major supermarket needs to carrying huge quantities at any one time.

An acid test ratio for Tesco or Asda would indicate a very low figure after taking off the value of inventories but leaving in the very high amounts owed to suppliers (trade creditors).  However, there is no suggestion that either of these two businesses has a problem being able to pay its debts!

The trick is to consider what a sensible figure is for the industry under review.  A good discipline is to find an industry average and then compare the current and acid test ratios against for the business concerned against that average.

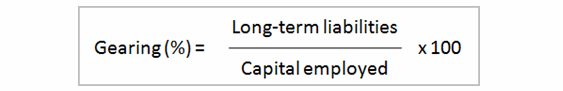
## **Gearing ratio**

Gearing focuses on the capital structure of the business – that means the proportion of finance that is provided by debt relative to the finance provided by equity (or shareholders).

The gearing ratio is also concerned with liquidity.  However, it focuses on the long-term financial stability of a business.   
Gearing (otherwise known as "leverage") measures **the proportion of assets invested in a business that are financed by long-term borrowing**.

In theory, the higher the level of borrowing (gearing) the higher are the risks to a business, since the payment of interest and repayment of debts are not "optional" in the same way as dividends. However, gearing can be a financially sound part of a business's capital structure particularly if the business has strong, predictable cash flows.

The formula for calculating gearing is:

  
  
Long-term liabilities include loans due more than one year + preference shares + mortgages  
Capital employed = Share capital + retained earnings + long-term liabilities

The gearing calculation can be calculated like this:

|  |  |  |
| --- | --- | --- |
|  | **2012** **£’000** | **2011** **£’000** |
| **Long-term liabilities** | 1,200 | 1,450 |
| **Capital employed** | 5,655 | 4,675 |
| **Gearing ratio** | 21.2% | 31.0% |

According to the data the gearing ratio at 31 December 2012 was 21.2%, a reduction from 31.0% a year earlier.  This was largely because the business reduced long-term borrowings by £200,000 and added over £1million to retained earnings.

How can the gearing ratio be evaluated?

* A business with a gearing ratio of more than 50% is traditionally said to be “highly geared”.
* A business with gearing of less than 25% is traditionally described as having “low gearing”
* Something between 25% - 50% would be considered normal for a well-established business which is happy to finance its activities using debt.

For the above business, that would suggest that the business is relatively lowly-geared and that the capital structure of the business is pretty safe and cautious.

It is important to remember that financing a business through long-term debt is not necessarily a bad thing!  Long-term debt is normally cheap, and it reduces the amount that shareholders have to invest in the business.

What is a sensible level of gearing?  Much depends on the ability of the business to grow profits and generate positive cash flow to service the debt.  A mature business which produces strong and reliable cash flows can handle a much higher level of gearing than a business where the cash flows are unpredictable and uncertain.

Another important point to remember is that the long-term capital structure of the business is very much in the control of the shareholders and management.  Steps can be taken to change or manage the level of gearing – for example:

|  |  |
| --- | --- |
| **Reduce Gearing** | **Increase Gearing** |
| Focus on profit improvement (e.g. cost minimisation | Focus on growth – invest in revenue growth rather than profit |
| Repay long-term loans | Convert short-term debt into long-term loans |
| Retain profits rather than pay dividends | Buy-back ordinary shares |
| Issue more shares | Pay increased dividends out of retained earnings |
| Convert loans into equity | Issue preference shares or debentures |

## **Shareholder ratios**

A prime concern of shareholders is their return on investment.  The returns from investing in shares of a company come in two main forms:

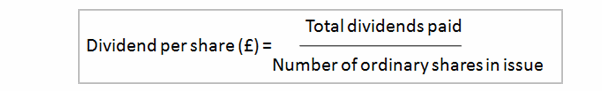
* The payment of dividends out of profits
* The increase in the value of the shares (share price) compared with the price that the shareholder originally paid for the shares

**Dividend per share**

One very straightforward shareholder ratio (though as we shall see – not a hugely helpful one) is dividend per share.

This shows the value of the total dividend per issued share for the financial year.  Quoted public companies usually split the annual dividend into two payments – the “interim” (paid after six months trading) and the “final” (paid at the end of the financial year). In these cases, it is necessary to add the two dividend payments together.

The formula for dividend per share is:

  
  
To illustrate the calculation, let us assume that a firm paid out the following dividends

* 2009: £460,000
* 2008: £240,000
* In both years, there were 500,000 £1 ordinary shares in issue which qualified to receive a dividend

The dividend per share would be:

* 2009: £460,000 / 500,000 shares = £0.92 (or 92p) per share
* 2008: £240,000 / 500,000 shares = £0.48 (or 48p) per share

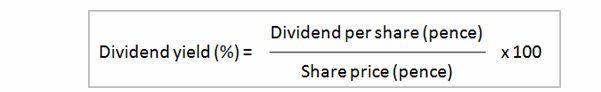
An ordinary shareholder would probably be pleased with the higher dividend per share in 2009 compared with 2008.

However, the problem with dividend per share is that the ratio lacks a sensible context.  We don’t know:

* How much the shareholder paid for the shares – i.e. what the dividend means in terms of a return on investment
* How much profit per share was earned which ***might*** have been distributed as a dividend

**Dividend yield**

Dividend yield is a better shareholder ratio to use to get a sense for the rate of return on investment. The formula for dividend yield is:



To illustrate the calculation, consider this information:

* A firm declared the following dividend payments:  92p (2009) and 48p (2008)
* The average share price for 1 ordinary share of the company on the Stock Exchange during those financial years was 1415p (2009) and 1067p (2008)

Using the formula, the dividend yield would be:

* 92/1415 for 2009 = 6.5%
* 48/1067 for 2008 = 4.5%

So the dividend yield in 2009 increased, which is good news for shareholders since that represents an increase in their return on investment.

A dividend yield of 6.5% would seem to be a good return in a period of low interest rates and low returns on savings accounts.  What we don’t know if whether the shareholders consider it to be an acceptable return for the perceived risk investing in the shares of the business.

## **Drawbacks & limitations of ratio analysis**

Ratio analysis is widely used in practice in business.  Teams of investment analysts pour over the historical and forecast financial information of quoted companies using ratio analysis as part of their toolkit of methods for assessing financial performance.  Venture capitalists and banker use the ratios featured here and others when they consider investing in, or loaning to businesses.

The main strength of ratio analysis is that it encourages a systematic approach to analysing performance.

However, it is also important to remember some of the drawbacks of ratio analysis

* Ratios deal mainly in numbers – they don’t address issues like product quality, customer service, employee morale and so on (though those factors play an important role in financial performance)
* Ratios largely look at the past, not the future.  However, investment analysts will make assumptions about future performance using ratios
* Ratios are most useful when they are used to compare performance over a long period of time or against comparable businesses and an industry – this information is not always available
* Financial information can be “massaged” in several ways to make the figures used for ratios more attractive.  For example, many businesses delay payments to trade creditors at the end of the financial year to make the cash balance higher than normal and the creditor days figure higher too.

# Accounting Issues

## **Accounting for fixed assets**

**Introduction**

An important distinction is made in accounting between "current assets" and " "fixed assets".

**Current assets** are those that form part of the circulating capital of a business. They are replaced frequently or converted into cash during the course of trading. The most common current assets are stocks, trade debtors, and cash.

Compare current assets with fixed assets. A **fixed asset** is an asset of a business **intended for continuing use**, rather than a short-term, temporary asset such as stocks.

Fixed assets must be classified in a company's balance sheet as **intangible, tangible, or investments.**Examples of intangible assets include goodwill, patents, and trademarks. Examples of tangible fixed assets include land and buildings, plant and machinery, fixtures and fittings, motor vehicles and IT equipment.

**How should the changing value of a fixed asset be reflected in a company's accounts?**

The benefits that a business obtains from a fixed asset extend over several years. For example, a company may use the same piece of production machinery for many years, whereas a company-owned motor car used by a salesman probably has a shorter useful life.

By accepting that the life of a fixed asset is limited, the accounts of a business need to recognise the benefits of the fixed asset as it is "consumed" over several years.

This consumption of a fixed asset is referred to as **depreciation**.

**Definition of depreciation**

Financial Reporting Standard 15 (covering the accounting for tangible fixed assets) defines depreciation as follows:

"the wearing out, using up, or other reduction in the useful economic life of a tangible fixed asset whether arising from use, effluxion of time or obsolescence through either changes in technology or demand for goods and services produced by the asset.'

A portion of the benefits of the fixed asset will be used up or consumed in each accounting period of its life in order to generate revenue. To calculate profit for a period, it is necessary to match expenses with the revenues they help earn.

In determining the expenses for a period, it is therefore important to include an amount to represent the consumption of fixed assets during that period (that is, depreciation).

In essence, depreciation involves allocating the cost of the fixed asset (less any residual value) over its useful life. To calculate the depreciation charge for an accounting period, the following factors are relevant:

- the cost of the fixed asset;

- the (estimated) useful life of the asset;

- the (estimated) residual value of the asset.

**What is the relevant cost of a fixed asset?**

The cost of a fixed asset includes all amounts incurred to acquire the asset and any amounts that can be directly attributable to bringing the asset into working condition.

Directly attributable costs may include:

- Delivery costs

- Costs associated with acquiring the asset such as stamp duty and import duties

- Costs of preparing the site for installation of the asset

- Professional fees, such as legal fees and architects' fees

Note that general overhead costs or administration costs would not be included as part of the total  
costs of a fixed asset (e.g. the costs of the factory building in which the asset is kept, or the cost of the maintenance team who keep the asset in good working condition)

The cost of subsequent expenditure on a fixed asset will be added to the cost of the asset provided that this expenditure enhances the benefits of the fixed asset or restores any benefits consumed.

This means that major improvements or a major overhaul may be capitalised and included as part of the cost of the asset in the accounts.

However, the costs of repairs or overhauls that are carried out simply to maintain existing performance will be treated as expenses of the accounting period in which the work is done, and charged in full as an expense in that period.

**What is the Useful Life of a fixed asset?**

An asset may be seen as having a physical life and an economic life.

Most fixed assets suffer physical deterioration through usage and the passage of time. Although care and maintenance may succeed in extending the physical life of an asset, typically it will, eventually, reach a condition where the benefits have been exhausted.

However, a business may not wish to keep an asset until the end of its physical life. There may be a point when it becomes uneconomic to continue to use the asset even though there is still some physical life left.

The economic life of the asset will be determined by such factors as technological progress and changes in demand. For purposes of calculating depreciation, it is the estimated economic life rather than the potential physical life of the fixed asset that is used.

**What about the Residual Value of a fixed asset?**

At the end of the useful life of a fixed asset the business will dispose of it and any amounts received from the disposal will represent its residual value. This, again, may be difficult to estimate in practice. However, an estimate has to be made. If it is unlikely to be a significant amount, a residual value of zero will be assumed.

The cost of a fixed asset less its estimated residual value represents the total amount to be depreciated over its estimated useful life.

## **Depreciation of fixed assets**

**Introduction**

In our [introduction to accounting for fixed assets,](http://tutor2u.net/business/accounts/assets_fixedassets_intro.asp) we described how businesses need to account for the consumption of fixed assets over time in a way that reflects their reducing value. The term given to this consumption is depreciation. This revision note explains the various methods available to calculate depreciation and highlights how subjective this calculation can be. Other revision notes provide worked example of each depreciation method.

**Depreciation Methods**

The total amount to be depreciated over the life of a fixed asset is determined by the following calculation:

**Cost of the fixed asset less residual value**

The period over which to depreciate a fixed asset is known as the**"useful economic life"** of the asset

So how much of this depreciable amount is charged against profits in each accounting period?

A depreciation method is required to allocate, in a systematic way, the total amount to be depreciated between each accounting period of the asset's useful economic life.

There are various methods of depreciation available. However, most businesses appear to adopt one of the two methods described below.

**Method 1 - Straight-line depreciation**

The straight-line method of depreciation is widely used and simple to calculate. It is based on the principle that each accounting period of the asset's life should bear an **equal amount of depreciation**.

As a result, the depreciation charge for the asset can be calculated using the following formula:

**Dpn = (C- R)/ N**

where:

Dpn = Annual straight-line depreciation charge

C = Cost of the asset  
R = Residual value of the asset  
N = Useful economic life of the asset (years)

Whilst it is simple and popular, Is the straight line depreciation method the most appropriate way of calculating depreciation?

The answer lies in understanding that depreciation is a process of allocation, not valuation.

The pattern of annual depreciation charges for a fixed asset should attempt to match the pattern of benefits derived from that asset. Therefore, where the benefits from an asset are likely to be reasonably constant over its life the straight-line method of depreciation would be appropriate as it results in a constant annual depreciation charge.

In practice it may be difficult to assess the pattern of benefits relating to an asset. In such cases the straight-line method may often be chosen simply because it is easy to understand and calculate.

**Method 2 - Reducing balance method**

The reducing balance method of depreciation provides a high annual depreciation charge in the early years of an asset's life but the annual depreciation charge reduces progressively as the asset ages.

To achieve this pattern of depreciation, a **fixed annual depreciation percentage**is applied to the **written-down value** of the asset. Thus, depreciation is calculated as a percentage of the reducing balance.

For certain fixed assets, the benefits derived may be high in the early years, but may decline as the asset ages. For such assets, the reducing-balance method of depreciation would be appropriate insofar as it matches the depreciation expense with the pattern of benefits.

Once a particular method of depreciation has been chosen for a fixed asset, the method should be applied consistently over its life. It is only permissible to switch from one method to another if the new method provides a fairer presentation of the financial results and financial position.

**Total depreciation charged**

It should be noted that, whichever method of depreciation is selected, the total depreciation to be charged over the useful life of a fixed asset will be the same.

It is simply the allocation of the total depreciation charge between accounting periods that is affected by the choice of method.

## Depreciation - straight line example

**Introduction**

In our introduction to the methods available to calculate depreciation, we suggested that there are two main methods that can be used:

- Straight- line depreciation

- Reducing balance method

We emphasised the point that these two methods simply provide an alternative way of allocating the total depreciation charge over several accounting periods. The total depreciation charge using either method will be the same over the total useful economic life of the asset.

To illustrate the straight line depreciation method, we have calculated the depreciation charge for the following asset:

**Data**

A business purchases a new machine for £75,000 on 1 January 2003. It is estimated that the machine will have a residual value of £10,000 and a useful economic life of five years. The business has an accounting year end of 31 December.

**Straight line depreciation method**

Using the straight line depreciation method, the calculation of the annual depreciation charge is as follows:

**Dpn = (C- R)/ N**

where:

Dpn = Annual straight-line depreciation charge

C = Cost of the asset  
R = Residual value of the asset  
N = Useful economic life of the asset (years)

So the calculation is:

Dpn = (£75,000 - £10,000) / 5

Dpn = £13,000

in the accounts of the business a depreciation charge of £13,000 will be expensed in the profit and loss account for each of the five years of the asset's useful economic life.

In the annual balance sheet, the machine would be shown at its original cost less the total accumulated depreciation for the asset to date.

**Example of how this would be disclosed in the accounts**

At the end of the third year of ownership of the machine, the financial accounts of the business would include the following items in relation to the machine:

***In the Profit and Loss Account:***

Depreciation of Machinery - Charge: £13,000

***In the Balance Sheet at 31 December 2005:***

|  |  |  |
| --- | --- | --- |
|  | £ | £ |
| Machine at Cost | 75,000 |  |
| less: Accumulated Depreciation | 39,000 |  |
| Machine at net book value |  | 36,000 |

The figure for accumulated depreciation of £39,000 at 31 December 2005 represents three years' worth of depreciation at £13,000 per year.

The cost of the machine (£75,000) less the accumulated depreciation charged on the machine (£39,000) is known as the "written-down value" ("WDV") or "net book value" ("NBV").

it should be noted that WDV or NBV is simply an accounting value that is the result of a decision about which method is used to calculate depreciation. It does not necessarily mean that the machine is actually worth more or less than the WDV or NBV.

## Depreciation - reducing balance example

**Introduction**

In our introduction to the methods available to calculate depreciation, we suggested that there are two main methods that can be used:

- Straight- line depreciation

- Reducing balance method

We emphasised the point that these two methods simply provide an alternative way of allocating the total depreciation charge over several accounting periods. The total depreciation charge using either method will be the same over the total useful economic life of the asset.

To illustrate the reducing balance depreciation method, we have calculated the depreciation charge for the following asset:

**Data**

A business purchases a new machine for £75,000 on 1 January 2003. It is estimated that the machine will have a residual value of £10,000 and a useful economic life of five years. The business decides to calculate annual depreciation at the rate of 40% of the written-down value. The business has an accounting year end of 31 December.

**Reducing balance depreciation method**

Using the straight line depreciation method, the calculation of the annual depreciation charge is as follows:

|  |  |  |
| --- | --- | --- |
| 31 December |  | £ |
|  | Original machine cost | 75,000 |
| 2003 | Depreciation in 2003 (40% cost) | 30,000 |
|  | Written down value at 31 December 2003 | 45,000 |
|  |  |  |
| 2004 | Depreciation in 2004 (40% of WDV @ 31 December 2003) | 18,000 |
|  | Written down value at 31 December 2004 | 27,000 |
|  |  |  |
| 2005 | Depreciation in 2005 (40% of WDV @ 31 December 2004) | 10,800 |
|  | Written down value at 31 December 2005 | 16,200 |
|  |  |  |
| 2006 | Depreciation in 2006 (40% of WDV @ 31 December 2005) | 6,480 |
|  | Written down value at 31 December 2006 | 9,720 |
|  |  |  |
| 2007 | Depreciation in 2007 (40% of WDV @ 31 December 2006) | 3,888 |
|  | Written down value at 31 December 2007 | 5,832 |

The reducing balance method can result in significant differences in the annual depreciation charge, depending on the "percentage" of written-down value that is used to calculate the charge.

In the example above, the total amount charged to depreciation in the first three years of owning the machine (2003-2005) was £58,800 (compared with £39,000 if a straight line depreciation method has been used).

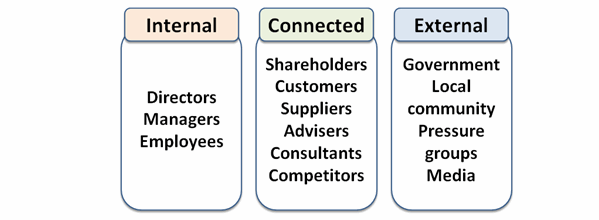
# Stakeholders

## **Introduction to stakeholders**

Let’s start with a definition of stakeholders, which are:

**Groups / individuals that are affected by and/or have an interest in the operations and objectives of the business**

Most businesses have a variety of stakeholder groups which can be broadly categorised as follows:

  
  
Stakeholder groups vary both in terms of their **interest**in the business activities and also their **power to influence business decisions**.  Here is a useful summary:

|  |  |  |
| --- | --- | --- |
| **Stakeholder** | **Main Interests** | **Power and influence** |
| **Shareholders** | Profit growth, Share price growth, dividends | Election of directors |
| **Banks & other Lenders** | Interest and principal to be repaid, maintain credit rating | Can enforce loan covenants Can withdraw banking facilities |
| **Directors and managers** | Salary ,share options, job satisfaction, status | Make decisions, have detailed information |
| **Employees** | Salaries & wages, job security, job satisfaction & motivation | Staff turnover, industrial action, service quality |
| **Suppliers** | Long term contracts, prompt payment, growth of purchasing | Pricing, quality, product availability |
| **Customers** | Reliable quality, value for money, product availability, customer service | Revenue / repeat business Word of mouth recommendation |
| **Community** | Environment, local jobs, local impact | Indirect via local planning and opinion leaders |
| **Government** | Operate legally, tax receipts, jobs | Regulation, subsidies, taxation, planning |

## **Managing the power of stakeholders**

**Stakeholder power** is an important factor to consider whenever you are asked to write about the relationship between a business and its stakeholders. In the context of strategy, what is important is the **power and influence that a stakeholder has over the business objectives**.

For stakeholders to have power and influence, **their desire to exert influence** must be combined with their **ability to exert influence** on the business. The power a stakeholder can exert will reflect the extent to which:

* The stakeholder can disrupt the business’ plans
* The stakeholder causes uncertainty in the plans
* The business needs and relies on the stakeholder

The reality is that stakeholders**do not have equality**in terms of their power and influence. For example:

* Senior managers have more influence than environmental activists
* A venture capitalist with 40% of the company’s share capital will have a greater influence that a small shareholder
* Banks have a considerable impact on firms facing cash flow problems but can be ignored by a cash rich firm
* A customer that provides 50% of a business’ revenues exerts significantly more influence than several smaller customer accounts
* Businesses that operate from many locations across the country will be less relevant to the local community than a business which is the dominant employer in a town or village
* Governments exercise relatively little influence on many well-established and competitive business-to-business markets.  However their power is much stronger over businesses in markets which are regulated (e.g. water, gas & electricity) or where the public sector has a direct stake (e.g. retail banking)
* Employees have traditionally sought to increase their power as stakeholders by grouping together in trade unions and exercising that power through industrial action.  However, in the last two decades the level of union membership has declined significantly as has the total time lost to industrial action

## How should a business handle stakeholders?

How should a business respond to these variations in stakeholder power and influence?  The matrix below provides some guidance on the approaches often taken:

|  |  |  |
| --- | --- | --- |
|  | **High level of interest** | **Low level of interest** |
| **High level of power** | Key players Take notice of them | Keep them satisfied |
| **Low level of power** | Communicate regularly with them | Can usually be ignored |

In handling its stakeholders, a business also has to accept that it will have to make **choices.**  It is rare that “win-win” solutions can be found for key business decisions. Almost certainly the business cannot meet the needs of every stakeholder group and most decisions will end up being “win-lose”: i.e. supporting one stakeholder means another misses out.

There are often areas where **stakeholder interests are aligned** (in agreement) – where a decision can benefit more than one stakeholder group.  In other cases, there is a **clear conflict of interest**.  Here are some common examples:

|  |  |
| --- | --- |
| **Where Stakeholder Interests are Aligned** | **Where Stakeholder Interests Conflict** |
| Shareholders and employees have a common interest in the success and growth of the business  High profits lead not only lead to good dividends but also greater investment (retained) in the business  Suppliers have an interest in the growth and prosperity of the business  Local community, employees and shareholders benefit from business involvement in the community | Wage rises might be at the expense of lower profits and dividends  Managers have an interest in organisational growth but this might be at the expense of short term profits  Expansion of production activity might cause extra noise and disruption in local community |

## **Stakeholder conflicts**

There are two main approaches to handling the often conflicting needs of stakeholders:

|  |  |
| --- | --- |
| **Shareholder Approach** | **Stakeholder Approach** |
| The traditional approach Business (management) acts in best interest of shareholders / owners Principal aim is to maximise shareholder returns Main focus is on growth & profit | Increasingly popular Business takes much more account of wider stakeholder interests Approach based on consultation, agreement, cooperation E.g. social and environmental concerns become more important |

Over the years various techniques and organisational models have been developed which help businesses handle their relationships with key stakeholder groups.  Some of the most important are summarised below:

|  |  |
| --- | --- |
| **Approach** | **Description** |
| **Workers Councils** | Compulsory for some larger firms in the EU Brings worker representatives from across departments & activities for regular discussion of business issues |
| **Stakeholder Directors** | Outside representatives who hold a non-executive position on the Board Many UK plcs – particularly those selling direct to consumers and households, have taken steps to reflect customer interests on the Boards |
| **Arbitration / Conciliation** | Formal processes of resolving conflicts between employer and employees (e.g.[ACAS](http://www.acas.org.uk/index.aspx?articleid=1461)) Also applies to settling disputes between firms and their suppliers (e.g. negotiating agreement on contractual disputes rather than resorting to legal action) |
| **Share options & other performance-related pay** | Widened participation of share ownership amongst all employees, helps align interests of shareholders and employees |