6 FINANCIAL ACCOUNTING

After studying this chapter, you should understand the nature and purpose of the three most important elements of a company's annual report:

- *the balance sheet;*
- *the profit and loss account;*
- *the cash flow statement;*

and you should be able to interpret them in straightforward cases.

6.1 DISCLOSURE REQUIREMENTS

The proprietors of limited liability companies are privileged, precisely because their liability is limited – they can lose no more than the money they invested in the company. In return for this privilege, the law requires that, every year, the company produces an **annual report**, which must be filed at Companies House. The annual report contains information about the company and its activities during the preceding year. In particular, it contains information about its financial health so that those who are considering dealing with the company can judge whether it is likely to meet its obligations. If the company is a public one, that is, if its shares are available for purchase by the public, through trading on a stock exchange, the stock exchange will impose additional **disclosure requirements**. In other words, it will require the company to make more information public. In recent years, a series of scandals has led to calls for greater openness and more extensive disclosure of companies' activities, which has, in turn, led to the inclusion of further statements and more extensive notes in companies' annual reports. Some are required by stock markets and some have simply become regarded as good practice. On the whole, but by no means universally, software companies set good examples in this regard.

6.2 THE BALANCE SHEET

The purpose of the balance sheet is to show what the company owns – its **assets** – and what it owes, its **liabilities**. It is a snapshot of the state of the company at a particular point in time, normally at the end of the last day of the company's financial year.

6.2.1 Balance sheet for a student

Perhaps the easiest way to get to understand the idea of a balance sheet is to look at the balance sheet not of a company but of an individual. We take an imaginary student called Jemima Puddleduck and, as is usual, we show her present position side by side with the position a year ago, so that it is easy to make a comparison. Notice also the common accounting convention of putting a number in parentheses to indicate that it is negative, rather than using a negative sign as is normal in science or mathematics. Her balance sheet is shown in Table 6.1.

Table 6.1 Balance sheet for a student

Jemima Puddleduck Balance Sheet As at 31 October 2013	**2013**	**2012**
ASSETS		
Cash in hand	25	40
Cash at bank	361	240
Pre-paid accommodation	300	180
Debts owed by friends	18	0
Computer	240	360
Guitar	160	180
Total assets	1,104	1,000
LIABILITIES		
Credit card bill	174	64
Student loans	4,800	1,900
Total liabilities	4,974	1,964
NET WORTH	(3,870)	(964)

Jemima's most obvious asset is money. She has, let us say £25, in cash in her purse and another £361 in her bank account.

The next two items are less obvious. The accommodation item refers to the fact that Jemima has paid a term's fees to the hall of residence in advance; since the balance sheet refers to the position on 31st October, some 60 per cent (six weeks out of ten) of this accommodation has not been used. Depending on the regulations of the hall, if the accommodation is no longer required, the student may be able to get a refund on

the unused period or sell it to another student; in other words, the student has paid for the right to live in hall for a further six weeks and this right can be converted into cash and is therefore an asset. In a similar way, the debt of £18 owed by friends can be turned into cash and is also therefore an asset.

The next two items are more complex because they represent capital items. Jemima owns a computer, which cost £480 including the software when her parents bought it for her, two years ago. She also owns a guitar, which she bought for £200 in 2012. These are examples of fixed assets, that is, assets that she will continue to own and to use for a fairly long period.

Standard accounting practice is to reduce the value of fixed assets each year to reflect the likely lifetime of each asset; the fall in the value of the asset from one year to the next is called the **depreciation**. Thus, Jemima will probably keep her computer for four years before it becomes obsolete and she has to replace it with a new one. The simplest and commonest way of calculating the depreciation is to assume that it falls in value uniformly, that is, that it loses value at a rate of £120 per year. Hence after one year, it is worth £360, after two years £240, after three years £120, and at the end of the fourth year it no longer has any value. Musical instruments typically have a longer life than computers. We have assumed that the guitar will have a life of 10 years, so that its value drops by £20 each year.

The figure given for 'other assets' covers the many personal items that everyone owns, including clothes, books and CDs. We simply take an approximate figure for these, because the calculations involved in dealing with them precisely would be far more extensive than the value of the items justifies.

The valuation of assets can be a contentious issue. For the moment we shall simply accept the figures given in the balance sheet but we shall have more to say on this topic when we come to look at a commercial balance sheet.

Jemima's liabilities are more straightforward. She owes money on her credit card and she has a student loan. The credit card debt is an example of a short term debt; she is expected to repay it fairly quickly, although she may incur other debts against it. The student loan is a long-term debt, which does not need to be repaid until she graduates and is earning a reasonable salary.

As its name suggests, a balance sheet must balance: the total assets and total liabilities should be equal. To achieve this we need to include a **balancing item** on one side or the other; it is often labelled 'excess of assets over liabilities' but in this case we have chosen to call it 'net worth' because it represents the amount of cash which Jemima would have if all her assets were sold and all her debts paid off – in other words, how much, in financial terms, she is 'worth'. The net worth plus the liabilities together equal her total assets. In her case, as with many students, her net worth is negative.

6.2.2 Commercial balance sheets: assets

Commercial balance sheets are prepared on precisely the same basis as we have just described but the assets and liabilities are grouped into various categories and a single figure is given for each category. There will be several 'notes' to the balance sheet

describing the basis of the accounts and giving more detail about certain items; such items will cross reference the notes. Table 6.2 shows an example of such a balance sheet for an imaginary software services company.

Table 6.2 Balance sheet for a services company

XYZ Software Ltd **Balance Sheet** **As at 31 October 2013**	**2013** **£'000**	**3012** **£'000**
Fixed assets		
Intangible assets	475	–
Tangible assets	960	770
Investments	50	82
Total fixed assets	1,485	852
Current assets		
Work in progress	550	621
Debtors	3,400	2,580
Cash in hand and at bank	2,491	1,770
Total current assets	6,441	4,971
Creditors: amounts falling due within one year	(3,210)	(2,601)
Net current assets	3,231	2,370
Total assets less current liabilities	4,716	3,222
Creditors: amounts falling due after one year		
Borrowings	(154)	(61)
Provisions for liabilities and charges	(7)	(16)
Net assets	4,555	3,145
Capital and reserves		
Called up share capital	318	308
Share premium reserve	350	145
Profit and loss account	3,887	2,692
Shareholders' funds – equity	4,555	3,145

Assets are classified as current assets and fixed assets. The essential difference between the two is that fixed assets contribute to the company's productive capacity and are held primarily for the purpose of creating wealth, while current assets are items which are bought and sold in the course of its day to day trading activities. The fixed assets are further subdivided into investments (e.g. shares in other companies), tangible assets (assets which have some physical existence) and intangible assets (assets such as copyright in software or ownership of brand names, which have no physical existence).

In most cases the difference between fixed assets and current assets is easily perceived. A new file server bought to support program development facilities in a software house or a machine tool used to produce satellite dishes are clearly examples of fixed assets; a stock of paper for the laser printer is equally clearly a current asset. It should be borne in mind, however, that the treatment of the same item may vary from organisation to organisation or even within the same organisation. Thus, if a company buys a car to enable one of its sales staff to operate more effectively, this is a fixed asset but, if a car dealer buys a car in order to resell it as part of the business, this is a current asset. If the software house buys a computer on which it will implement special software before delivering the whole system to a client, the computer is a current asset, not a fixed one.

The rules of accounting state that current assets are shown on the balance sheet with a value that is the lower of what they cost and what it is expected they could be sold for. Suppose a company has a stock of 1,000 user manuals for a piece of software that it sells. The manuals sell at £10 each but cost £2 each to produce. Then they will appear on the balance sheet as worth £2,000, the cost price, rather than £10,000, the resale price. On the other hand, a stock of printer paper that cost £5,000 would only be saleable for a lower figure, say £2,000. It would therefore appear on the balance sheet at the resale price, because this is lower.

In contrast to current assets, fixed assets are not expected to be sold in normal trading operations and their resale value is irrelevant; what is needed is a measure of their value to the company. In practice, this is done by reducing their value each year in accordance with the company's depreciation policy. Much the commonest way of doing this is the so-called straight line method we described in connection with Jemima's computer. We first decide how many years the asset will continue to be useful for. We then divide its initial cost by that number to get the annual depreciation. Each year, we reduce (or **write down**) the value of the asset by the amount of the annual depreciation until the value of the asset reaches zero. Suppose a company buys a large database server costing £100,000 and expects to use it for five years. Then the annual depreciation will be £20,000 (£100,000/5) and the values shown in the balance sheet will be £80,000 at the end of year 1, £60,000 at the end of year 2, £40,000 at the end of year 3, £20,000 at the end of year 4, and zero at the end of year 5. It is customary to depreciate all items of the same type over the same period and this will be stated in the notes to the accounts, which might include statements such as 'It is the company's policy to write off all computer equipment over a period of three years and office furniture over a period of ten years.'

Assets are generally valued on the basis of historic cost, that is, their original monetary cost. In times of high inflation, this can be seriously misleading. The value of certain types of fixed assets, in particular land and buildings, may increase rather than decrease.

Some companies therefore arrange to have their property re-valued from time to time and include this valuation in the balance sheet.

Tangible fixed assets have to be recorded in the company's fixed asset register and, from time to time, their presence will be physically checked. Each year, depreciation must be calculated and, if a fixed asset is sold for a sum higher than its depreciated value, the company must show the difference as income. Because of these complicated procedures, it is usual to treat all purchases of less than, say, £1,000 as expenses in the year in which they are incurred.

There are some items which are difficult to classify. Software is one example. Consider a payroll package. A company buys such a package because it will help it to carry out part of its day-to-day operations more efficiently. The package will be bought with the intention of using it for some time, at least five years and probably 10 or 15. Logically, the package should be treated in the same way as a piece of machinery. It should be treated as a fixed asset and the initial cost depreciated over its useful lifetime. The rules of accounting allow this to be done. But, because software is intangible, many companies treat the cost of buying it as current expenditure.

The treatment of research and development is a particular problem. Logically, resources spent on developing new products should be regarded as an investment that will produce a fixed asset, that is, something that will allow the company to operate more effectively. However, the results of research and development are always uncertain and often prove to be worth very little; to treat all the costs as investment would be misleading. In practice, most software companies in the UK treat expenditure on research and development as current expenditure rather than as investment, although the accounting rules allow for more flexible treatment. In the USA, there are strict rules regarding the capitalisation of software that is developed for sale; these rules are based on a rather unrealistic model of the product life cycle.

Intangible fixed assets are the source of much discussion in the accounting profession. Software is generally regarded as an intangible asset but it is more tangible than many items, brand names, for example, which are often shown as intangible assets. An item that frequently appears under intangible assets on the balance sheets of software product companies is **goodwill**. This might arise, for example, if XYZ Software Ltd purchased another company, PQR Ltd, that owned the rights in a profitable package. If, as is likely, the package was not shown as an asset on PQR's balance sheet, XYZ would probably have paid much more to buy PQR than the value of its net assets. The difference between the price paid for PQR and the value of its net assets represents XYZ's estimate of the value of the rights in that package (and, possibly, other things such as the value of PQR's name). This needs to be shown on XYZ's balance sheet. Although it would be preferable for the value of the package to be shown explicitly, this is not normal practice and the whole of the difference between the purchase price and the value of PQR's net assets is normally shown under the heading of goodwill. It will then, of course, need to be depreciated over a fixed period. The notes to a company's accounts will normally itemise any acquisitions and give details of the goodwill arising from each one. When internet companies change hands a similar situation occurs but, in this case, the intangible assets may be much more difficult to identify; they are certainly less tangible than the rights to a package.

Readers who are football fans may be interested to know that football clubs that are organised as public companies – Manchester United, for example – include among their intangible assets the rights to the services of players whom they have bought.

6.2.3 Commercial balance sheets: liabilities and owners' equity

The entry under 'current liabilities: amounts falling due within one year' refers to debts that the company has and is committed to repaying within one year. These will include trade creditors, that is, outstanding invoices that the company has received but has not yet paid, in just the same way that the 'debtors' item refers to invoices that the company has issued but which have not yet been paid. They will also include any bank overdraft, as opposed to a long term loan.

The figure obtained by subtracting the current liabilities from the current assets, referred to as net current assets in the example, is also known as the **working capital**. It represents the amount the amount of money invested in the day-to-day operations of the company, as opposed to its infrastructure.

'Creditors: amounts falling due after one year' refers to long term debts. These may be long term borrowings or they may be liabilities, that is sums that the company expects to have to pay at some time in the future.

When the total liabilities are subtracted from the total assets, we arrive at a figure called the 'net assets'. These are balanced by items under the heading of 'Capital and reserves'. There are a number of ways in which these may be shown. First, there is the item labelled 'Called up share capital'. This is the amount raised from the par value of the shares that the company has issued. When a successful company decides to issue more shares, these are often sold at more than there par value. The extra is known as the share premium and the money raised from this is shown under the next heading, as the 'share premium account'. In our example the remainder is labelled as 'profit and loss account', indicating that it results from the accumulated surplus on the profit and loss account over the life of the company.

The total under the heading of 'Capital and reserves' is often known by names such as shareholders' equity, owners' equity, or owners' claim. It notionally represents the value of the company to its shareholders.

6.3 THE PROFIT AND LOSS ACCOUNT

The **profit and loss account** shows how much money has been received and how much has been spent in a given period – usually the organisation's financial year. In the USA it is usually known as an income statement and in the case of non-profit-making organisations it is usually called an income and expenditure account. Table 6.3 shows such an account for our imaginary student. It does not include money borrowed or received from the sale of equity nor does it include expenditure on acquiring fixed assets.

Table 6.3 Income and expenditure account for a student

Jemima Puddleduck **Income and Expenditure Account** **Year ended 31 October 2013**	**2013**	**2012**
INCOME		
Contribution from parents	1,500	1,300
Income from summer job (net)	1,840	1,682
Total income	3,340	2,982
EXPENDITURE		
Course fees	1,050	1,025
Hall fees	2,100	1,980
Books	30	25
Clothes and personal items	179	120
Transport	134	112
Food	1,400	1,247
Entertainment	1,303	840
Depreciation	140	140
Total expenditure	6,336	5,489
EXCESS OF INCOME OVER EXPENDITURE	(2,996)	(2,507)

It is important to observe that the excess of expenditure over income, that is, the amount that the student has overspent, is the same as the difference in her net worth between 2012 and 2013. This will usually be the case in simple situations where there has been no capital investment. In more complicated cases, particularly with commercial organisations, other items enter into the relationship.

Just as in the balance sheet, there is a certain arbitrariness about the way in which items have been aggregated. We could, for example, have lumped together 'Food' and 'Entertainment' under the heading 'Living expenses' or have split 'Transport' into 'Road' and 'Rail'. We have chosen to show the income from the summer job net (i.e. the take home pay) rather than show it gross (i.e. before deductions) with tax and national insurance on the expenditure side.

Some explanation of the depreciation item is required. The net figure at the bottom of the profit and loss account should reflect the extent to which the organisation – or, in this case, the individual – is better or worse off at the end of the year than at the beginning. Clearly, a fall in the value of the assets tends to make it worse off. Depreciation, although it is not an expenditure in the sense that cash is paid out, reflects this decline and is therefore shown as an expenditure. The figure of £140 arises from the depreciation on the computer and the guitar.

A commercial profit and loss account looks very different from Jemima's income and expenditure account, even though precisely the same ideas underlie it. Table 6.4 shows an example for a fictitious computer services company. Just as with the balance sheet, we see that items have been aggregated into very broad categories; the notes to the accounts will usually provide more detail. A package company, for example, might show in the notes how much of its income came from sales of packages, how much from training and consultancy, and how much from maintenance contracts.

Table 6.4 Profit and loss account for a services company

XYZ Software Ltd **Profit and Loss Account** **Year ending 31 October 2013**	**2013** **£'000**	**2012** **£'000**
TURNOVER		
Continuing operations	14,311	11,001
Acquisitions	407	
Total turnover	14,718	11,001
Cost of sales	(11,604)	(8,699)
Gross profit	3,114	2,302
Other operating expenses	(1,177)	(805)
OPERATING PROFIT	1,937	1,497
Interest payable	(23)	(27)
Profit on ordinary activities before taxation	1,914	1,470
Tax on profit on ordinary activities	719	480
Retained profit for the year	1,195	990

A number of points about this statement need to be explained. First, the turnover for a company acquired during the year is shown separately from the turnover from continuing operations, that is, operations that were carried on in 2012 and 2013. This

is to facilitate the comparison between the two years. In the same way, if part of XYZ Software Ltd had been disposed of in 2012, its turnover would have been shown under the heading 'discontinued operations'.

A second point is the distinction between 'cost of sales' and 'other operating expenses'. This distinction is an uncertain one and some companies do not show the items separately. However, for a package software company, there is a real difference between, on the one hand, expenditure on selling, printing documentation, installing software, and so on, all of which are the costs of sales, and expenditure on the development of new versions of existing packages or on new products, which would come under the heading of other operational expenses.

The bottom line shows the retained profit, that is the profit not paid out in tax or dividends to shareholders; this is added to the retained profit in the previous year's balance sheet to give the value of the retained profit that shown in the new balance sheet.

The profit and loss account itself gives very little information about where the company's revenue during the year has come from or how it has spent its money. Such information is normally given in the notes to the accounts. The Notes to the Accounts in the 2012 Annual Report of The Sage Group plc, for example, give a breakdown of turnover by both by geographical area and by market sector. It shows numbers of staff and expenditure on wages and salaries, on social security costs, and pension costs and other costs are also broken down into a number of categories. (Sage is one of the largest suppliers of accounting software in the world.) Package companies will often also show a breakdown of revenue into licence fees, maintenance charges, and consultancy fees. On the whole, software companies are fairly open in revealing information in the notes to their accounts but the level of detail provided in other sectors varies enormously from company to company.

6.4 THE CASH FLOW STATEMENT

As we have already pointed out, the income and expenditure account does not show expenditure on capital items, only their depreciation; capital expenditure affects the balance sheet but the balance sheet does not give sufficient information to deduce how much this expenditure amounts to and how it was funded. The link which ties the balance sheet and the profit and loss account to the capital expenditure is the cash flow statement. A moment's examination of our student's financial statements will reveal that, because there is no cash flow statement, there is no explanation of where the money to purchase her CD player came from.

Cash is defined as 'cash at bank and in hand and cash equivalents less bank overdrafts and other borrowings repayable within one year of the accounting date'. In Jemima's case, this means £361 (the money in her bank account) plus £25 (the notes and coins in her possession) less £174 (her credit card debt), that is, £212. The previous year the figure was £(220 + 40 – 64) = £196. One function of the cash flow statement is to explain this difference of £16.

The most obvious source of a change in the amount of cash Jemima holds is her profit and loss account. She appears to have spent £2,996 more than she received. This is

her major cash outflow. In fact, not all of this sum is a cash outflow. The item of £140 for depreciation corresponds to a reduction in the value of her capital assets but not to any outflow of cash. To take this into account, we add the depreciation back in as a cash inflow. The only other cash outflow is the £18 that she has lent to a friend. This is not expenditure, because it repayable. Nevertheless, it represents cash that has paid out. If she had bought her guitar during the year, its cost would also appear as a cash outflow.

We see from her balance sheet that Jemima's student loan increased by £2,900 from 2012 to 2013. This means that she received £2,900 in cash from that source. Although it is an inflow of cash, it is not income, because it will have to be repaid; hence it does not appear as income on the income and expenditure account.

These changes are summarised in Table 6.5, which shows Jemima's cash flow statement.

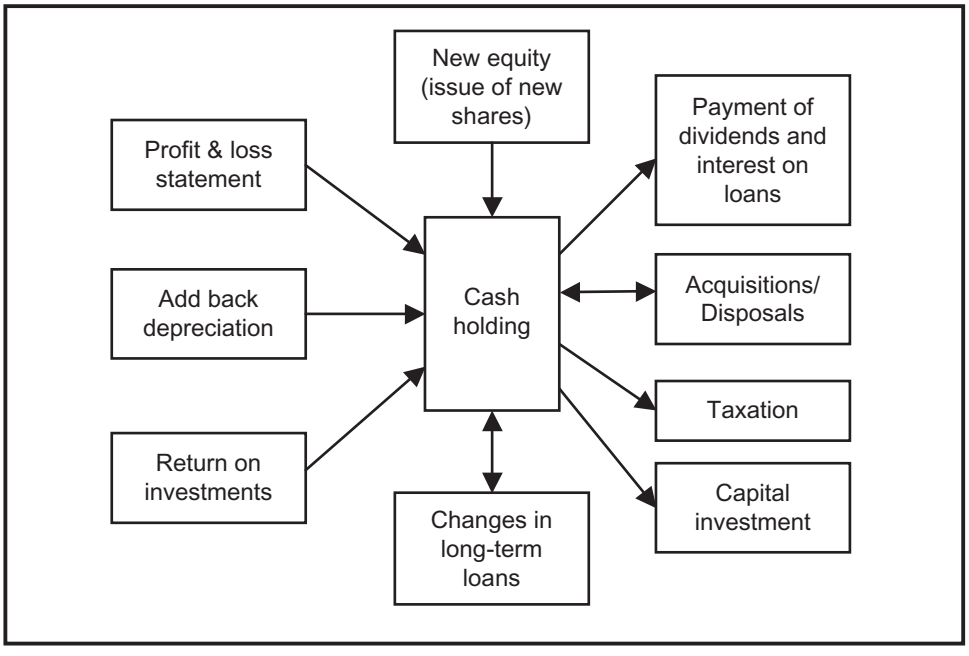
Table 6.5 Cash flow statement for a student

Jemima Puddleduck **Cash Flow Statement** **Year ended 31 October 2013**	**2013**	**2012**
Cash inflow		
Addition to student loan	2,900	1,900
Add back depreciation	140	140
Total cash inflow	3,120	2,120
Cash outflow		
From income and expenditure account	2,996	2,507
Loans made to friends	18	0
Total cash outflow	3,014	2,507
Increase/(decrease) in cash over the year	106	(387)

Jemima Puddleduck's cash flow statement tells us very little more than we could deduce from her other financial statements. In the case of a company, however, the cash flow statement has much more to tell us, because there are many more sources of cash flows.

Figure 6.1 shows the cash flows that are captured in the cash flow statement of a typical company. The arrows show the **normal** direction of the flow in a profitable company but it is always possible for the flows to be in the opposite direction. Table 6.6 shows the cash flow statement for our example company.

Figure 6.1 Sources and destinations of cash flows



The first source of cash is the operating profit before tax generated during the year. This needs to be adjusted for certain items which may appear in the profit and loss account but do not involve the movement of money in or out of the company. The most obvious of these is depreciation. This was entered in the profit and loss account to reflect the extent to which the life of the fixed assets was consumed during the year; in no way did it reflect the movement of money out of the company and so it must be added to the profit.

Following the adjusted figure for the operating profit, there are a number of items that may lead to cash flowing out of the company for reasons that are nothing directly to do with its operations. Taxation, interest payable and dividends paid are obvious examples. Capital investment in equipment or premises is another reason for which cash may flow out of the company, as is the purchase of another company. In some circumstances, e.g., the disposal of a subsidiary company, these items can give rise to an inflow of cash. When all these items are added together and subtracted from the operating profit, we arrive at a total figure for the inflow or outflow of cash into or out of the company before taking into account any changes in the financing of the company. The final section of the cash flow statement shows the effect on the cash position of changes in the financing of the company. The company has issued new shares and raised £215,000 through this; it has also paid off £50,000 of long term debt. Both of these, of course, affect its cash position and the bottom line of the cash flow statement reflects this; it gives the overall change in the company's cash position over the year.

Table 6.6 Cash flow statement for a software company

XYZ Software Ltd Cash Flow Statement Year ending 31 October 2013	2013 £'000	2012 £'000
Net cash inflow from operating activities	2,105	1,620
Returns on investments and servicing of finance	(23)	(27)
Capital expenditure and financial investment	(320)	(265)
Taxation	(719)	(480)
Acquisitions and disposals	(380)	
Equity dividends paid		
Cash outflow before financing	(1,342)	(772)
Net cash inflow before financing	763	848
Financing		
Issue of share capital	215	100
Repayment of long term loan	(50)	
Net cash inflow from financing	165	100
Increase in cash in the year	928	948

The alert reader will recall that XYZ's balance sheet shows that, despite the fact that a loan of £50,000 has been paid off, the long term debt has increased from £61,000 to £154,000 and that there is nothing in the cash flow statement to account for this. It almost certainly arises from the acquisition of another company. The statement shows that £380,000 was spent on acquisitions; the likelihood is that the company bought substantial debts, which were taken over by XYZ as part of the deal. This would be explained in the notes to the accounts.

At this point we should make clear that the financial statements for XYZ Software Ltd show a vigorous company growing very rapidly in an expanding market; they are typical of some young and successful IT services companies but not typical of many other industries.

6.5 THE OVERALL PICTURE

The balance sheet, the profit and loss account and the cash flow statement cannot be understood or interpreted in isolation. Their relationship to each other needs to be understood and they need to be looked at together when assessing the financial state of a company.

The balance sheet shows a snapshot of the financial position of a company at the end of an accounting period (usually the company's financial year), while the profit and loss account and the cash flow statement describe what has happened during the accounting period and thus explain the relationship between successive balance sheets. This is illustrated in Figure 6.2. The profit and loss account explains the relationship between the owners' equity in the two balance sheets, while the cash flow statement explains the relationship between the cash item shown in the two balance sheets. This is illustrated in Figure 6.3.

Figure 6.2 The relationship between the three financial statements

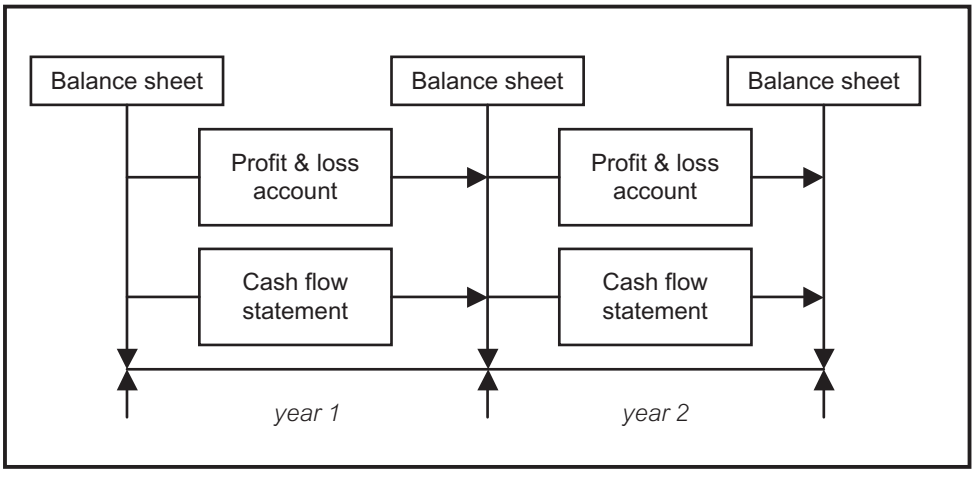
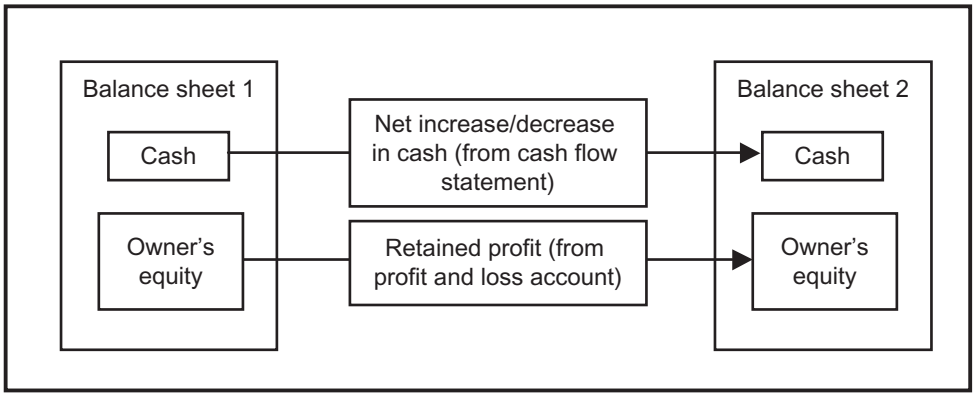


Figure 6.3 How the cash flow statement and the profit and loss account affect the items in the balance sheet



FURTHER READING

To get a feeling for company accounts and for the way the IT industry works, it is worth reading the annual reports and accounts of software companies. Many of them are available directly from the companies' websites. As a starting point we suggest looking at CGI, the Sage Group and Microsoft, all of which are readily available on the web at the following addresses:

www.cgi.com/en/investors/annual-reports
www.microsoft.com/investor/reports/ar12/index.html
www.investors.sage.com/reports_presentations/reports

The book by Atrill and McLaney recommended at the end of Chapter 5 also covers the material in this chapter.