

3

The profit and loss account

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Learning objectives

Completion of this chapter will enable you to:

- describe what is meant by profit (or loss)
- outline the structure of the profit and loss account (income statement) of a limited company
- classify the categories of income and expenditure that comprise the profit and loss account
- appreciate the alternative profit and loss account formats
- prepare a profit and loss account
- explain the links between the profit and loss account and the balance sheet, particularly with regard to the valuation of fixed assets and depreciation, stock and cost of sales, and debtors and the doubtful debt provision
- explain the links between the profit and loss account and cash flow
- appreciate the subjective aspects of profit measurement.

Introduction

In Chapter 2 we looked at how the balance sheet is prepared from transactions carried out by a business during an accounting period. This chapter will be concerned with the second of the financial statements, the profit and loss account (or income statement). Although profit and loss accounts are prepared by all forms of business entity, this chapter, in a similar way to Chapter 2, deals primarily with the profit and loss accounts of limited companies, both private and public.

This chapter deals with how profit and loss accounts are structured and how the accounts within the profit and loss account are categorised. Each of the items within each of the profit and loss account categories will be described in detail and form the basis to enable the preparation of a profit and loss account of a limited company in the appropriate format.

We will look at the relationship between the profit and loss account and the balance sheet and provide an introduction to the relationship between profit (or loss) and cash flow. Like the balance sheet, the profit and loss account is subjective largely because of the impact on costs of the variety of approaches that may be taken to the valuation of assets and liabilities.

What does the profit and loss account tell us?

The profit and loss account and income statement are two terms that really mean the same thing. Profit (or loss) may be considered in two ways, which both give the same result.

The profit and loss account shows the change in wealth of the business over a period. The wealth of the business is the amount it is worth to the owners, the shareholders. The accumulation of the total change in wealth since the business began, up to a particular point in time, is reflected within the equity section of the balance sheet under the heading 'retained profits'. The profit and loss account measures the change in the balance sheet from one 'pause' to another. An increase in equity is a profit and a decrease in equity is a loss.

The profit and loss account may also be considered in its measurement of the trading performance of the business (see Fig. 3.1). The profit and loss account calculates whether or not the company has made a profit or loss on its operations during the period, through producing and selling its goods or services. The result, the net earnings or **net profit** (or loss), is derived from deducting expenses incurred from revenues derived throughout the period between two 'pauses'.

The total of the expenses (debits) and revenues (credits) accounts within the general ledger comprise the profit and loss account. The total of these may be a net debit or a net credit. A net debit represents a loss and a net credit represents a profit. The net profit or loss is reflected in the balance sheet of the business under the heading 'retained profits', which is part of 'shareholders' equity'. All the other accounts within the general ledger, other than expenses and revenues, may be summarised into various other non-profit and loss account categories and these represent all the other balances that complete the overall balance sheet of the business.

There are three main points to consider regarding the profit and loss account and how it differs from the cash flow statement. First, revenues (or **sales** or income) and expenses (or costs or expenditure) are not necessarily accounted for when cash transfers occur. Sales are normally accounted for when goods or services are delivered and accepted by the customer. Cash will rarely be received immediately from the customer, except in businesses like high-street retailers and supermarkets; it is normally received weeks or months later.

Second, the profit and loss account does not take into account all the events that impact on the financial position of the company. For example, an issue of new **shares** in the company, or a loan to the company, will increase cash but they are neither revenue nor expenses.

Third, non-cash flow items, for example depreciation and bad debts, reduce the profit, or increase the loss, of the company but do not represent outflows of cash. These topics will be covered in detail in the next chapter.

Therefore it can be seen that net profit is not the same as cash flow. A company may get into financial difficulties if it suffers a severe **cash** shortage even though it may have positive net earnings (profit).

The profit and loss account of a private limited company or a public limited company should be able to tell us all about the results of the company's activities over specified accounting periods. The profit and loss account shows us what revenues have been generated and what costs incurred in

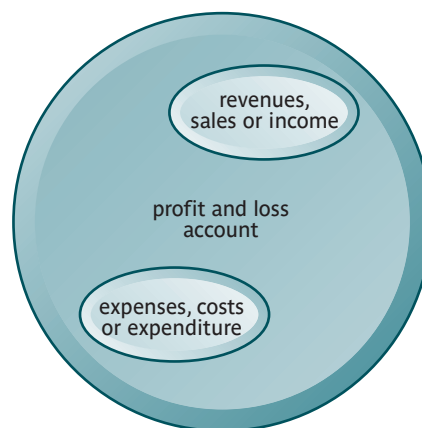


Figure 3.1 The main elements of the profit and loss account

generating those revenues, and therefore the increase or decrease in wealth of the business during the period.

The same note of caution we mentioned in Chapter 2 that should be exercised in the analysis of balance sheet information, applies to profit and loss account information. The profit and loss account is an historical statement and so it does not tell us anything about the ability of the business to sustain or improve upon its performance over subsequent periods.

There is not always consistency between the information included in one company's profit and loss account and that of another company. As with the balance sheet, the profit and loss accounts of two companies even within the same industry may be very difficult to compare. This will be illustrated in the wide variety of methods of depreciation calculations and stock valuation methods examined in this chapter. In addition, the bases of financial ratios (to be examined in detail in Chapter 5) used by analysts in looking at a company's profit and loss account may often be different.

It is often said of profit and loss statements, as well as of balance sheets, that the value of every item included in them is a matter of opinion. This is due not only to the alternative stock valuation and depreciation methods, but also because of the subjective assessment of whether the settlement of a customer account is doubtful or not, and the sometimes imprecise evaluation of accruals and provisions.

What is profit?

We saw from the worked examples in Chapter 2 that profit (or loss) may be considered from two perspectives. We may consider these perspectives to illustrate the links between the profit and loss account and the balance sheet.

The first perspective, which is not suggested as a method for calculating profit in practice, compares the balance sheet of an entity at the start of an accounting period with the balance sheet at the end of the accounting period. We may see from these that the values of each of the components of the balance sheet may have changed. For example, levels of stocks, debtors, creditors, cash, fixed assets, and accruals may have changed during an accounting period. We have seen that the net value of the assets and liabilities in the balance sheet represents the capital, or equity, or the wealth of the business at a point in time. The change in wealth over an accounting period between the beginning and end of the accounting period is the profit or loss for the period reflected in the retained earnings category in the balance sheet.

Profit (or loss) considered in this way can be represented in the equation:

$$\text{total assets (TA)} - \text{total liabilities (TL)} = \text{equity (E)} + \text{profit (P)}$$

The second perspective, as we discussed in Chapter 2, considers the profit and loss account by summarising all the trading and non-trading transactions that have occurred during an accounting period (see Fig. 3.1). This is the method used in practice to calculate the profit or loss for an accounting period. This summary, or profit and loss account, gives the same result as that derived by simply looking at the change in wealth between the beginning and end of the accounting period. It is the same because all the transactions relating to items contained in the profit and loss account are also all reflected in some way within one or more balance sheet categories. For example, sales are reflected in debtors, expenses are reflected in creditors, cost of goods that have been sold came out of stocks.

Profit (or loss) considered in this way can be represented in the equation:

$$\text{profit (P)} = \text{total revenue (TR)} - \text{total costs (TC)}$$

Worked Example 3.1

Using the opening balance sheet 1 March 2005 below and the further transactions (a) and (b), we are able to:

- (i) show how the balance sheet will change after these transactions/events have taken place
- (ii) identify the profit which the shareholders should consider is potentially distributable as a dividend.

Opening balance sheet 1 March 2005	£
Fixed assets	100,000
Current assets	100,000
less	
Current liabilities	<u>(100,000)</u>
	<u>100,000</u>
 Shareholders' funds	 <u>100,000</u>

During March

- (a) The fixed assets were re-valued from £100,000 to £120,000
- (b) All the stock of £20,000 was sold for £40,000 cash (that is, not on credit)

Closing balance sheet 31 March 2005	£
Fixed assets [100,000 + 20,000]	120,000
Current assets [100,000 – 20,000 + 40,000]	120,000
Current liabilities [no change]	<u>(100,000)</u>
	<u>140,000</u>
 Shareholders' funds [100,000 + 20,000 + 20,000]	 <u>140,000</u>

(ii)

The revised balance sheet reflects two profits:

- The revaluation surplus of £20,000 is a paper profit; as no cash has been involved it is not prudent to pay a dividend from this profit (and legally it is not permitted).
- The other £20,000 profit is from trading and is a cash profit; it is quite prudent to pay a dividend from this profit.

The balance sheets show the categories of assets, liabilities and capital, but it can be seen that there must be an analysis of the movements between the balance sheets to appreciate their fundamental nature.

Worked Example 3.2

A trading company, Squirrel Ltd, has an accounting period that covers the 12 months to 31 December 2005. During that period the company entered into the following transactions:

Sales of £1,300,000, included a sales invoice for January 2006, amounting to £100,000. Expenses of £1,000,000, included a payment of £60,000 for rent relating to the 6 months to 31 March 2006.

The expenses excluded some heating costs relating to the last 2 weeks of December 2005, for which the estimated cost was around £5,000. The quarterly invoice covering that period was not expected until late March 2006.

The above information may be used to look at why the annual net profit should be revenues less expenses, and why there should be accounting concepts applied to the treatment of those expenses.

The profit and loss account for a year tries to match revenues and expenses for that year (complying with the matching concept – see Chapter 1). The term ‘net profit’ means the difference between revenues and expenses. Gross profit is derived from sales less the costs of those sales, and net profit is derived from deducting expenses from gross profit. Net profit is not the difference between cash receipts and cash payments. Cash inflows and outflows suffer from timing differences.

The reported sales for the year must relate only to the 12 months to 31 December. Sales for Squirrel Ltd for the year 2005 are £1,200,000 (£1,300,000 less £100,000). Using the matching concept, the expenses must also be for 12 months. So, the estimated heating costs of £5,000 for the last 2 weeks of December 2005 must be added, and the rent relating to January to March 2006 of £30,000 (£60,000/2) must be deducted from the total expenses of £1,000,000. Without these adjustments, the expenses would not represent 12 months’ expenses.

Net profit for the 12 months to 31 December 2005 for Squirrel Ltd is therefore:

Sales	£1,200,000	[£1,300,000 less £100,000]
less Expenses	£975,000	[£1,000,000 plus £5,000 less £60,000 plus £30,000]
which equals	£225,000	

There must be an application of concepts and standard practices in arriving at net profit, otherwise users of financial information would not have reasonable confidence in the amounts being shown in the accounts reported by companies, large or small.

In this chapter we will look at the profit and loss account from the second perspective. We will look at how a profit and loss account is constructed and prepared by deducting total costs from total revenues, as the second of the three key financial statements that are required to be prepared by a limited company.

Progress check 3.1 Explain the perspectives from which we may consider the profit (or loss) of a business.

Structure of the profit and loss account

As we have seen previously, the profit and loss account measures whether or not the company has made a profit or loss on its operations during the period, through producing or buying and selling its goods or services. It measures whether total sales or revenues are higher than the total costs (profit), or whether total costs are higher than total sales or revenues (loss).

The total revenue of a business is generated from the provision of goods or services and may be, for example, in the form of:

- sales (goods)
- interest received (on loans)
- rents (from property)
- subscriptions (to TV channels)
- fees (professions)
- royalties (books, CDs).

The total costs of a business include the expenditure incurred as a result of the generation of revenue. The total costs of a business include, for example:

- costs of goods purchased for resale
- costs of manufacturing goods for sale
- transport and distribution costs
- advertising
- promotion
- insurance
- costs of the 'consumption' of fixed assets over their useful lives (depreciation)
- wages and salaries
- interest paid
- stationery costs
- photocopy costs
- communications costs
- electricity
- water and effluent costs
- travel expenses
- entertaining expenses
- postage.

Each of the above examples of costs (by no means an exhaustive list) incurred in the generation of revenue by a business appears itself as a separate heading, or is grouped within one or other of the other main headings within the profit and loss account. Figure 3.2 shows each of the levels of profit that are derived after allowing for the various categories of revenues and expenses.

We will look at how a basic profit and loss account is constructed to arrive at the profit on ordinary activities after taxation (or net profit) for the company. Net profit is also sometimes called net earnings, from which may be deducted dividends payable to ordinary shareholders. The net result is then the retained profit for the financial year.

Figure 3.3 shows an example of the profit and loss account format adopted by a public limited company, Flatco plc.

Each of the categories of revenue and cost within the profit and loss account (see Fig. 3.4) can be examined in a little more detail.

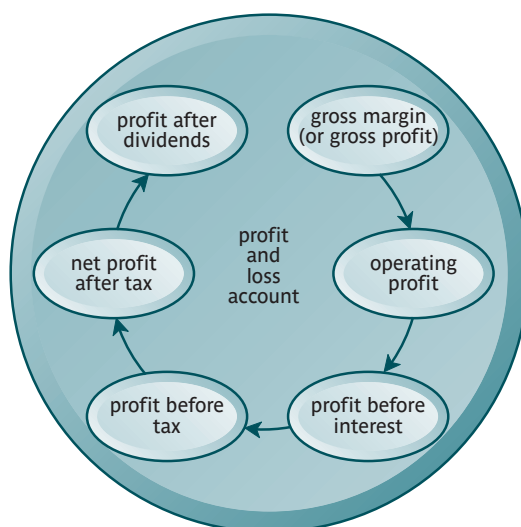


Figure 3.2 Levels of profit within the profit and loss account

Flatco plc	
Profit and loss account for the year ended 31 December 2005	
	£000
Turnover	3,500
Cost of sales	(2,500)
Gross profit	1,000
Distribution costs	(300)
Administrative expenses	(250)
	450
Other operating income	100
Operating profit	550
Income from other investments	100
Profit before interest and tax	650
Net interest	(60)
Profit before tax	590
Tax on profit on ordinary activities	(50)
Net profit (or profit on ordinary activities after tax)	540
Dividends	(70)
Net result (or retained profit for the financial year)	470

Figure 3.3 A profit and loss account format

Turnover

The main source of income for a company is its **turnover**, primarily comprised of sales of its products and services to third-party customers. Revenues and costs are not necessarily accounted for when cash transfers occur. Sales are normally accounted for when goods or services are delivered and invoiced, and accepted by the customer, even if payment is not received until some time later, even in a subsequent trading period. ←

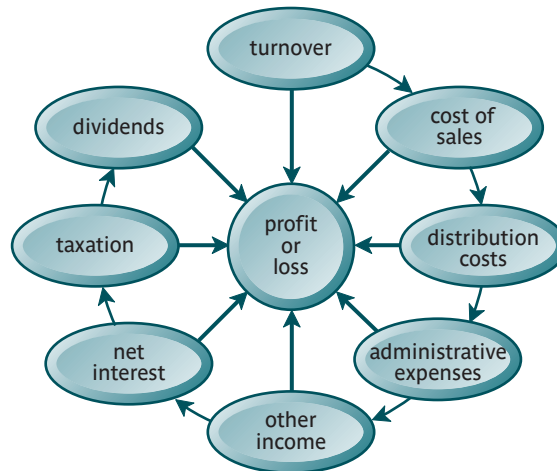


Figure 3.4 Elements of the profit and loss account

It should be noted that a cost or expense is the financial result of the ‘consumption’ that occurred during the accounting period that relates directly or indirectly to the production or sales of the goods or services, and is accounted for as it is incurred rather than on a cash payment basis. Costs may be cash-related, invoiced costs such as raw materials or non-cash items like depreciation charges.

Cost of sales (COS)

The sum of direct costs of goods sold plus any manufacturing expenses relating to the sales (or turnover) is termed cost of sales, or production cost of sales, or cost of goods sold. These costs include:

- costs of raw materials stocks
- costs of inward-bound freight paid by the company
- packaging costs
- direct production salaries and wages
- production expenses, including depreciation of trading-related fixed assets.

Gross margin (or gross profit)

- ➔ The difference between turnover, or sales, and COS is gross profit or **gross margin**. It needs to be positive and large enough to at least cover all other expenses.

Other operating expenses: distribution costs and administrative expenses

Although not directly related to the production process, but contributing to the activity of the company, there are further costs that are termed ‘other operating expenses’. These include distribution costs and selling costs, administration costs, and research and development costs (unless they relate to specific projects and the costs may be deferred to future periods).

Distribution costs include the costs of selling and delivering goods and services. Such costs may include:

- advertising
- market research

- promotion
- costs of the sales department
- outbound freight costs
- delivery fleet costs
- costs of the warehouse and goods outward department.

Administrative expenses effectively include all costs not included in cost of sales, distribution costs, and financial costs. They may include:

- costs of service departments such as
 - finance
 - human resources
 - research and development
 - engineering
- telephone costs
- computer costs
- amortised goodwill.

Distribution costs and administrative expenses include all expenses related to the 'normal' operations of the company, except those directly related to manufacturing like the costs of the purchasing department, logistics department, and quality department. They also exclude the share of overhead costs, for example, heating and lighting, business rates, water and effluent costs, relating to manufacturing activities. Administrative expenses exclude financial expenses and revenues, because these are really a function of the financial structure of the company (the extent of its funding by owners' share capital and by lenders' debt, or loans), and any other non-operational expenses and revenues.

Other operating income

Other operating income includes all other revenues that have not been included in other parts of the profit and loss account. It does not include sales of goods or services, reported turnover, or any sort of interest receivable, reported within the net interest category.

Operating profit (OP)

Operating profit (see Fig. 3.2 and Fig. 3.3), or

$$\text{OP} = \text{turnover} - \text{COS} - \text{other operating expenses} + \text{other operating income}$$

The operating profit is the net of all operating revenues and costs, regardless of the financial structure of the company and whatever exceptional events occurred during the period that resulted in exceptional costs. Operating profit is not required to be disclosed according to the Companies Act 1985/1989, but its disclosure is one of the specific recommendations within the standard on Reporting Financial Performance, FRS 3. It is therefore an extremely important profit/loss subtotal because it allows inter-firm comparisons of companies operating in the same markets but having different financial policies.

Income from other fixed asset investments

Income from other fixed asset investments specifically excludes interest receivable, but includes dividends receivable from subsidiary or fellow subsidiary companies and from **non-related companies**.

Profit before interest and tax (PBIT)

Profit before interest and tax, or

$$\text{PBIT} = \text{OP} + \text{income from other fixed asset investments}$$

PBIT is a measure of the profitability of the operations of a company regardless of the amount of interest payable and receivable on overdrafts and loans, and regardless of the amount of corporation tax it may have to pay.

Net interest

Net interest is the difference between financial revenues and charges, interest receivable and payable, and includes other financial costs like bank charges, and costs of transferring funds. The overall level of cost (or revenue) will be dependent on the type of company and level of interest rates and debt/equity mix within the funding of the company.

Profit before tax (PBT)

➔ Profit before tax, or

$$\text{PBT} = \text{PBIT} + / - \text{net interest}$$

Tax on profit on ordinary activities

➔ **Corporation tax** is payable on profits of limited companies. The companies, as entities, are responsible for the tax, rather than individuals as with sole traders and partnerships. Tax is shown in the profit and loss accounts, balance sheets and cash flow statements of limited companies.

The corporation tax shown on the face of the profit and loss account will have been based on a computation carried out prior to the exact amount payable having been agreed with the Inland Revenue. There may therefore be some differences from year to year between the tax payable numbers reported and tax actually paid.

Profit after tax (PAT)

PAT, or net profit, is the profit on ordinary activities after tax. The final charge that a company has to suffer, provided it has made sufficient profits, is therefore corporate taxation.

$$\text{PAT} = \text{PBT} - \text{corporation tax}$$

Progress check 3.2 What exactly do we mean by cost of sales? What types of expense does cost of sales include and what types of expense does it exclude?

The net profit has resulted from the following processes. The assets, owned by the shareholders, have generated the operating profit. Operating profit has been used to pay interest to bankers and other lenders, and corporation tax to the Inland Revenue. What is left belongs to the owners of the assets, the shareholders. The net profit is the increase in wealth of the company.

The directors propose how much will be distributed to shareholders in dividends, and how much will be held as retained earnings as part of the equity of the company and reinvested in the operations of the company. The shareholders vote on whether to accept or reject the directors' proposal. The net profit is used to provide the shareholders' returns, the dividends they receive from their total

investment in the equity of the company. So, not only does the net profit have to be positive, but it has to be high enough to reward the risk the shareholders took in investing in the company. In some circumstances a dividend may be paid out of retained earnings, even though the company may have made a loss during the period. This is obviously only acceptable in the short term and cannot be continued for successive accounting periods.

Dividends

The Companies Acts do not have a specific requirement for dividends to be shown in the profit and loss account, but both the Acts and FRS 3 imply that dividends are usually deducted from the profit or loss for the financial year in arriving at the profit or loss retained for the year. The dividend line in the profit and loss account includes any interim payment that may have been made and any final dividend proposed by the directors to be paid to shareholders later in the year.

Retained profit for the financial year

The **retained profit** for the year is what is left on the profit and loss account after deducting dividends for the year. The balance on the profit and loss account forms part of the capital (or equity, or shareholders' funds) of the company. The company's annual report is required to include a statement that discloses the reconciliation of the movement in shareholders' funds that has taken place between the beginning and the end of the financial year (see Fig. 3.5).

Flatco plc Reconciliation of movement in shareholders' funds for the year ended 31 December 2005		
	£000	£000
Shareholders' funds at start of year		2,524
Profit for the financial year	510	
Dividends	(70)	470
Shareholders' funds at end of year		2,994

Figure 3.5 Reconciliation of movement in shareholders' funds

Progress check 3.3 The profit or loss that a business has earned or suffered during an accounting period may be ascertained by deducting the total costs from the total revenues for the period. Identify in which category of the profit and loss account the following items may appear.

- interest received
- share premiums
- interest paid
- depreciation on factory machinery for the year
- CD royalties received
- outward freight costs
- sales of redundant stocks
- travel and subsistence
- accountancy fees
- electricity standing charge
- rents received
- telephone charges
- advertising and promotion
- raw materials purchases
- stocks of work in progress
- sales of finished product

Profit and loss account formats

The Companies Act 1985, as amended in 1989, outlines the permitted formats for published financial statements. There are four alternative formats for the profit and loss account.

In formats 1 and 3, expenses are classified by function, for example cost of sales, distribution costs, administrative expenses. Both formats require identical information and have much in common with the internal management accounts prepared monthly by most UK companies.

In formats 2 and 4, expenses are classified by type, for example raw materials and consumables, staff costs, and depreciation. Formats 3 and 4 are rarely used. Format 1 is seen more frequently than format 2, and is the format adopted by most of the larger UK plcs. The profit and loss account in the example adopted by Flatco plc (Fig. 3.3) has been based on format 1.

FRS 3, Reporting Financial Performance, contains supplementary provisions relating to the format of the profit and loss account, in addition to the four alternative formats allowed in the Companies Act. One of the main provisions of FRS 3 relates to the separate identification within the profit and loss account of turnover and operating profit relating to continuing operations and discontinued operations.

The other important provisions of FRS 3 relate to the treatment of:

- ➔ 1. **Extraordinary items**
- ➔ 2. **Exceptional items**
- ➔ 3. **Earnings per share**
- 4. Reconciliation of the movement in shareholders' funds.

1. Extraordinary items

Extraordinary items, defined as material (significant) income or costs which are derived or incurred from events or transactions outside the ordinary activities of the company which were not expected to occur frequently or regularly, were previously required to be disclosed in a separate line on the profit and loss account. A company's ordinary activities have now been defined so broadly that extraordinary items have now effectively disappeared from the face of the profit and loss account.

The costs resulting from the complete destruction of a factory may be sufficiently extraordinary to warrant the appearance of extraordinary items as a separate item on the profit and loss account.

2. Exceptional items

Exceptional items are items of abnormal size and incidence, which are derived from the ordinary activities of the business. FRS 3 requires exceptional items to be included under the statutory format headings to which they relate and disclosed on the face of the profit and loss account if necessary to give a true and fair view.

3. Earnings per share

FRS 3 also refers to earnings per share, which would normally be disclosed after the retained profit for the year (not shown in the Flatco plc example).

4. Reconciliation of the movement in shareholders' funds

The movement in shareholders' funds for Flatco plc, disclosed in accordance with the requirements of FRS 3, is shown in Fig. 3.5. The actual report would of course include the previous year 2004 comparative figures.

Flatco plc		
Profit and loss account for the year ended 31 December 2005		
		£000
Turnover		
Continuing operations		3,500
Discontinued operations		—
		<u>3,500</u>
Cost of sales		(2,500)
Gross profit		<u>1,000</u>
Distribution costs	(300)	
Administrative expenses	(155)	
Other operating costs		
Exceptional items: redundancy costs	<u>(95)</u>	(550)
Other operating income		<u>100</u>
Operating profit		
Continuing operations	550	
Discontinued operations	<u>—</u>	550
Income from other investments		<u>100</u>
Profit before interest and tax		650
Net interest		(60)
Profit before tax		590
Tax on profit on ordinary activities		(50)
Profit on ordinary activities after tax		<u>540</u>
Dividends		(70)
Retained profit for the financial year		<u>470</u>

Figure 3.6 Format 1 profit and loss account in compliance with the Companies Act 1985/89 and FRS 3

Figure 3.6 shows the profit and loss account for Flatco plc restated in line with format 1 and illustrating the provisions of FRS 3. The Companies Act requires comparative figures for the previous year for each line in the profit and loss account (not shown in the example), usually shown in a column to the right of the current year's figures.

Worked Example 3.3

The relevant profit and loss account balances, representing the costs and revenues for the year to date as extracted from the trial balance of Perfecto Ltd at 30 September 2005, are presented below in an alphabetical list:

	£000
Advertising and promotion	54
Corporation tax	70
Costs of administration departments	146
Costs of production departments	277

Costs of purchasing and logistics department	77
Depreciation on factory machinery	284
Depreciation on office equipment	35
Direct labour cost of sales	203
Freight out costs	230
Interest paid	20
Interest received	10
Materials cost of sales	611
Rent and utilities (2/3 factory, 1/3 office)	48
Sales	2,279
Warehousing and goods outward costs	84

We will prepare a profit and loss account for Perfecto Ltd for the year to 30 September 2005, using format 1, and which complies as far as possible with the provisions included in FRS 3.

Perfecto Ltd
Profit and loss account for the year ended 30 September 2005

Figures in £000

Turnover		2,279
Cost of sales [277 + 77 + 284 + 203 + 611 + 32 (2/3 of 48)]		<u>(1,484)</u>
Gross profit		795
Distribution costs [54 + 230 + 84]	(368)	
Administrative expenses [146 + 35 + 16 (1/3 of 48)]	<u>(197)</u>	
		<u>(565)</u>
Operating profit		230
Net interest [20 – 10]		<u>(10)</u>
Profit before tax		220
Tax on profit on ordinary activities		<u>(70)</u>
Profit on ordinary activities after tax		<u>150</u>

The Companies Act 1985/1989 requires group accounts to be prepared for the holding company in addition to the accounts that are required to be prepared for each of the individual companies within the group. Consolidated accounts exclude all transactions between companies within the group, for example inter-company sales and purchases. In most other respects the group consolidated accounts reflect an amalgamation of each of the components of the profit and loss accounts of all the companies within the group.

Progress check 3.4 There are four profit and loss account formats that comply with the requirements of the Companies Act 1985/1989. How do formats 1 and 3 differ from formats 2 and 4? Which format appears to be favoured by the majority of UK companies?

Profit and loss and the balance sheet

The balance sheet and the profit and loss account, whilst they are both historical statements, are not alternatives or competing options. They show different financial information, as we have discussed. The balance sheet shows the financial position at the start and at the end of an accounting period, and the profit and loss account shows what has happened during the period, the financial performance.

The profit and loss account and the balance sheet are linked in two ways:

- the cumulative balance on the profit and loss account is reflected within the equity, or the shareholders' funds, category of the balance sheet representing the increase in the wealth of the business
- some of the items contained in the profit and loss account are also all reflected in some way within one or more balance sheet categories.

In Chapter 2 we saw how the balance on the profit and loss account was reflected in retained earnings, within the equity of the company. We will now look at some of the types of adjusting entries used to prepare the profit and loss account, which are also reflected in the balance sheet.

In this chapter we will look at some further categories of adjusting entries:

- depreciation, the depreciation provision, and fixed assets
- the cost of sales, and the valuation of stocks
- bad and doubtful debts, and trade debtors.

Worked Example 3.4

Ronly Bonly Jones Ltd, or RBJ, buys and sells giftware. It made a profit of £10,000 during the month of January 2005.

We will use the balance sheet as at 1 January 2005 as the starting point and then look at how each of the elements in the profit and loss account for January is reflected in the balance sheet to derive the balance sheet as at 31 January 2005.

The profit and loss account for January 2005 and the balance sheet as at 1 January 2005 are as follows:

Profit and loss account for January 2005	£000
Sales	650
Cost of goods sold	
Opening stocks	45
Purchases	<u>424</u>
	469
less Closing stocks	<u>79</u>
Gross profit	<u>390</u>
Depreciation	(5)
Expenses	<u>(245)</u>
Profit for January [650 – 390 – 5 – 245]	<u>10</u>

Additional information

RBJ acquired fixed assets in January for £20,000 cash, and raised additional share capital of £10,000.

72 **CHAPTER 3** THE PROFIT AND LOSS ACCOUNT

Creditors were paid £422,000 in the month and £632,000 was received from customers. The bank account at the end of January 2005 was overdrawn by £39,000.

Balance sheet as at 1 January 2005		£000
Fixed assets at cost		130
Depreciation provision		(20)
Stocks		45
Debtors		64
Cash and bank		6
		<u>225</u>
Creditors		(87)
Share capital		(50)
Profit and loss account		(88)
		<u>(225)</u>

Let's derive the 31 January 2005 balance sheet from the information that has been provided.

Figures in £000	Fixed assets	Depn	Stocks	Debtors	Cash	Creditors	Equity	Profit/loss account
1 January 2005	130	(20)	45	64	6	(87)	(50)	(88)
Sales				650				(650)
Cash from customers				(632)	632			0
Purchases			424			(424)		0
Cash to creditors					(422)	422		0
Stock sold			(390)					390
Depreciation		(5)						5
Expenses					(245)			245
Fixed asset additions	20				(20)			0
Issue of shares					10		(10)	0
31 January 2005	<u>150</u>	<u>(25)</u>	<u>79</u>	<u>82</u>	<u>(39)</u>	<u>(89)</u>	<u>(60)</u>	<u>(98)</u>

Ronly Bonly Jones Ltd

Balance sheet at 1 January 2005 and at 31 January 2005 is as follows:

	1 January 2005	31 January 2005
	£000	£000
Fixed assets at cost	130	150
Depreciation provision	(20)	(25)
Stocks	45	79
Debtors	64	82
Cash and bank	6	-
	<u>225</u>	<u>286</u>

Creditors	(87)	(89)
Bank overdraft	–	(39)
Share capital	(50)	(60)
Profit and loss account	<u>(88)</u>	<u>(98)</u>
	<u>(225)</u>	<u>(286)</u>

Worked Example 3.4 shows the changes in the balance sheet that have taken place over the month of January. The 31 January 2005 balance sheet has been derived from considering each element in the profit and loss account for January and its impact on the balance sheet, and movements between accounts within the balance sheet:

- sales to customers on credit are the starting point for the profit and loss account, which also increase debtors
- cash received from customers increases cash and reduces debtors
- purchases of goods on credit for resale increase stock and increase creditors
- cash paid to creditors reduces cash and reduces creditors
- stock sold reduces stock and is a cost to the profit and loss account
- depreciation of fixed assets increases the depreciation provision and is a cost to the profit and loss account
- payments of expenses reduce cash and are a cost to the profit and loss account
- payments for additions to fixed assets increase fixed assets and reduce cash
- issues of ordinary shares increase equity capital and increase cash.

In Worked Example 3.4, depreciation is a relatively small number. Normally, profit and loss account movements may have significant impacts on the balance sheet in the areas of both stocks and depreciation:

- during the years 1999 and 2000 several major retailers had to announce that their profits would be lower due to their stocks having to be heavily discounted (for example, Marks and Spencer plc)
- depreciation of an automotive assembly line may need to be changed due to a revision in its estimated useful economic life following a reassessment of the life cycle of a vehicle.

Progress check 3.5 Describe the ways in which a company's profit and loss account and its balance sheet are linked.

We have already discussed the links between the various categories in the profit and loss account and those within the balance sheet. Consequently, the ways in which specific balance sheet items are valued have a significant impact on the profit reported for an entity for a particular period. The requirement for the valuation, or revaluation of, for example, assets like machinery, raw materials, and finished product may be a result of their consumption or being used up; it may be because of their deterioration or obsolescence, or significant changes in their market value. For whatever reason, such changes in the valuation of assets must be reflected in the profit and loss account in the period in which they occur. We will focus here on the valuation of the three key areas of:

- fixed assets, reflected in the profit and loss account within *depreciation*
- stocks, reflected in the profit and loss account within *cost of sales*
- debtors, reflected in the profit and loss account within *bad and doubtful debts*.

Depreciation

Generally, the total cost of using a fixed asset over its life may be defined as the original investment less an estimate of the portion of its cost that may be recovered (its residual value) at the end of the asset's useful life. FRS 15 defines depreciation as a measure of the wearing out, consumption or other reduction in the useful economic life of a fixed asset, whether arising from use, passage of time or obsolescence through technological or market changes. In accordance with the accruals (matching) concept a fair proportion of the total cost (or valuation) of a fixed asset, its depreciation, should be charged to the profit and loss account during each period that sales or other benefits are received from the use of that asset. At the same time as the depreciation charge is made to the profit and loss account, the value of the fixed asset is reduced by the same amount from a corresponding entry to credit the cumulative **depreciation provision** account. The cumulative balance at any point in time on the depreciation provision account for a fixed asset is deducted from its historical cost to provide its net value shown in the balance sheet at that time.

Worked Example 3.5

Many companies operate and succeed in one market for many years. One of many business 'facts of life' is that recurring profits can come to an abrupt end when a successful business model develops a basic flaw. Changes in technology can cause a change in trading or force a complete review of the equipment that has been highly profitable in the past. Photo-Me International, the photo-booth operator, announced a £24.1m non-cash write-down of its old analogue photo-booths in January 2001.

There a number of reasons why this type of equipment review might affect the annual profits:

- (i) The profit and loss account for a year aims to match incomes and expenses for that year, complying with the matching concept (see Chapter 1).
- (ii) One of the expenses relates to the use of plant and equipment, which normally represents wear and tear, and is called depreciation.
- (iii) The choice of method of depreciating an asset will result in differing amounts of depreciation for the year and so the annual profit and loss account can be quite different because of this subjective decision (which involves opinions that may vary from manager to manager).
- (iv) The Accounting Standards Board (ASB) introduced FRS 11, Impairment of Fixed Assets and Goodwill, to force companies to formally review the fixed assets for any changes in circumstances (impairment is not recurring, whereas depreciation or wear and tear is recurring).
- (v) In the Photo-Me circumstances outlined above, the company would have had to acknowledge a change in technology from analogue to digital. The result is that the balance

sheet net book values of its fixed assets would no longer be tenable because of their sharp decline. The remaining net book value of the amount that was paid for their original acquisition can no longer be regarded as a fixed asset for current and future balance sheet purposes, and therefore must be written off against the current profits.

The useful life of an asset is the period of its service relevant to the business entity. With regard to the useful life of the asset, there are a number of problems in dealing with depreciation of fixed assets:

- determining the useful life of the asset
- determining the correct way to spread the total cost of the asset over the useful life
- physical limitations regarding the useful life
 - intensity of use of the asset
 - the actions of the elements
 - adequacy of maintenance
 - the simple passage of time (e.g. legal rights or patents)
- economic limitations in respect of useful life
 - technological developments
 - business growth.

There are three main depreciation methods:

- straight line
- reducing balance
- sum of the digits.

We will consider each of these in detail in Worked Example 3.6. However, the straight line and the reducing balance methods are the ones that are most frequently used by businesses.

Straight line depreciation is calculated by deducting the residual value from the acquisition cost and dividing the result by the life of the asset.

The reducing balance method is used to derive the rate required (d) to reduce the cost of the asset, period by period, to the residual value by the end of its life. This may be expressed as:

$$d = 1 - \sqrt[\text{life}]{\text{residual value/original cost}}$$

The sum of the digits method considers the life of the asset, say for example 5 years, and allocates the total cost of the asset over that period as follows:

For a 5-year life the sum of digits is $5 + 4 + 3 + 2 + 1 = 15$

So each year's depreciation is calculated:

- 1st year $5/15 \times (\text{acquisition cost} - \text{residual value})$
- 2nd year $4/15 \times (\text{acquisition cost} - \text{residual value})$
- 3rd year $3/15 \times (\text{acquisition cost} - \text{residual value})$
- 4th year $2/15 \times (\text{acquisition cost} - \text{residual value})$
- 5th year $1/15 \times (\text{acquisition cost} - \text{residual value})$

Worked Example 3.6

Castle Ltd purchases an item of equipment for £16,000 and estimates its residual value, at the end of its useful economic life of 5 years, at £1,000. At the start of year 1 the net book value (NBV) is the acquisition cost of the asset £16,000.

Net book values may be derived by using any of the three methods:

- straight line
- reducing balance
- sum of the digits

Straight line divides acquisition cost less residual value by 5 (the number of years' economic life).

Reducing balance calculates

$$d = 1 - \sqrt[5]{1,000/16,000} = 42.5659\%$$

Sum of the digits is $(5 + 4 + 3 + 2 + 1) = 15$

Figures in £000

Year	Straight line			Reducing balance			Sum of the digits		
	Start NBV	Depn	End NBV	Start NBV	Depn	End NBV	Start NBV	Depn	End NBV
1	16,000	3,000	13,000	16,000	6,810	9,190	16,000	5,000	11,000
2	13,000	3,000	10,000	9,190	3,912	5,278	11,000	4,000	7,000
3	10,000	3,000	7,000	5,278	2,247	3,031	7,000	3,000	4,000
4	7,000	3,000	4,000	3,031	1,290	1,741	4,000	2,000	2,000
5	4,000	3,000	1,000	1,741	741	1,000	2,000	1,000	1,000

The resultant cost of £1,000 in the balance sheet under the fixed assets category at the end of year 5 is the same using each of the methods. This cost is likely to be offset exactly by the proceeds of £1,000 expected to be received on disposal of the asset.

In addition to the methods already discussed, it should be noted that there are many alternative methods that may be used to account for depreciation. We will not look at the detailed calculations of any further methods, but you may consider Worked Example 3.7, which serves only to illustrate the wide variations in yearly depreciation (and therefore net book values) that may be derived from a selection of alternative methods, compared with the straight line method.

We have already seen from Worked Example 3.6 that there may be large variations in the amounts of depreciation charged to the profit and loss account in each year, dependent on which method is adopted by a company. Worked Example 3.7 further illustrates the wide variation in first year depreciation, from £2,840 to £4,400 on an asset costing £20,000, using six alternative methods of calculation. The particular depreciation method used by a company, therefore, may result in widely differing levels of profit reported each year. This sometimes makes it difficult to compare the profit of a company from one year to the next on a like-for-like basis. Likewise, it may sometimes be difficult to compare the yearly performance of two or more businesses, which may be similar in every respect other than the difference in the methods they have used to depreciate their fixed assets.

Worked Example 3.7

Consider a company van, which cost £20,000 to purchase new. Its residual value is considered to be zero at the end of its useful life of 5 years. The rate of inflation is 10% and the cost of capital is 15%.

The depreciation for the first year and the net book value (NBV) at the end of year 1 may be evaluated using six alternative methods, including straight line depreciation.

		Depreciation in year 1	NBV at end of year 1
1. Straight line depreciation over 5 years, i.e. 20% per annum using a historical cost of £20,000	£20,000 at 20%	£4,000	£16,000
2. Constant purchasing power, which means allowing for an inflationary price increase (in this case 10%), and using straight line depreciation at 20% per annum	£20,000 × 1.10 at 20%	£4,400	£17,600
3. Replacement value for an identical one-year-old van based on used van market value of say £17,000. Depreciation would be £20,000 – £17,000 = £3,000		£3,000	£17,000
4. Replacement cost of a new van less one year's depreciation based on an estimated replacement cost of say	£21,600 at 20%	£4,320	£17,280
5. Net realisable value – net proceeds from a trade auction say £16,000. Depreciation would be £20,000 – £16,000 = £4,000		£4,000	£16,000
6. Economic value using estimated net cash flow from using the van for each year 1: £6,000; 2: £6,000; 3: £6,000; 4: £6,000 present values of future cash flows, using a cost of capital of 15% per annum (see the discounted cash flow technique in Chapter 11) £6,000/1.15 + £6,000/1.15 ² + £6,000/1.15 ³ + £6,000/1.15 ⁴ Depreciation will be £20,000 – £17,160		£2,840	£17,160

Whichever method of depreciation is used, it must be consistent from one accounting period to another. The depreciation method adopted must be disclosed within the company's accounting policies that accompany the financial statements and include the depreciation rates applied to each of the categories of fixed asset.

Progress check 3.6 What are the various methods that may be used to depreciate an asset? Describe two of the most commonly used methods.

The amount of depreciation calculated for an accounting period is charged as a cost in the profit and loss account, the depreciation charge. A corresponding amount is also reflected in an account in the balance sheet, the cumulative depreciation provision account, the effect of which is to reduce the original cost of the fixed assets at the end of each accounting period.

The difference between depreciation cost and other costs such as wages is that it is not a cash expense, that is it will generate no cash inflow or outflow. The only cash outflow relating to depreciation took place when the asset was originally purchased. The depreciation is really only the 'memory' of that earlier cash outflow.

Progress check 3.7 Why are assets depreciated and what factors influence the decision as to how they may be depreciated?

Cost of sales

➔ As we saw in Chapter 2, stocks of **raw materials**, **work in progress**, **finished product**, and consumable stores, pose problems in their valuation for three main reasons:

- raw materials may be purchased from a variety of geographical locations, and additional costs such as duty, freight, and insurance may be incurred – the costs of stocks should comprise the expenditure that has been incurred in the normal course of business in bringing the product or service to its present location and condition
- packaging and other consumable items, in addition to raw materials, are used during the production processes to manufacture work in progress, partly finished product and fully finished product, and such costs must be correctly apportioned to give a true cost – stocks are disclosed as a main heading in the balance sheet and comprise raw materials and consumables, work in progress, finished goods, and long-term contracts
- homogeneous items within various stock categories are purchased continuously and consumed continuously in the manufacturing processes and the purchase prices of these homogeneous items may vary considerably – stocks must be valued at the lower of purchase cost (or production cost) and their net realisable value.

➔ There are many alternative methods that may be used to determine the cost of **closing stocks**. The four methods that are most commonly used by businesses are:

- ➔ ■ **first in first out (FIFO)**
- ➔ ■ **last in first out (LIFO)**
- average cost
- market value.

The choice of method adopted by individual companies depends largely on their particular requirements and will be influenced by a number of factors:

- ease of use
- volumes of stocks
- costs of stocks
- management information requirements.

The FIFO method of stock valuation is by far the most popular. FIFO (first in first out, where the oldest items of stock, or their costs, are assumed to be the first to be used) assumes that costs are matched with the physical flow of stock (although this may not actually be true).

LIFO (last in first out, where the most recently acquired items of stock, or their costs, are assumed to be the first to be used) matches current costs with current revenues. LIFO is not permitted in the UK by the accounting standard for SSAP 9, Stocks and Long-term Contracts, and is not acceptable for taxation purposes.

The average cost method smoothes income and stock values and assumes that individual units cannot be tracked through the system. The use of market values begs the questions as to which market value is most appropriate and should replacement or realisable values be used.

Progress check 3.8 What factors must be considered regarding the valuation of stocks?

The following worked example looks at the four main methods of valuation of stocks to enable us to provide a comparison in numerical terms and represent this graphically.

Worked Example 3.8

A retailing company at 1 January 2005 has 400 units in stock of a product that cost £3 each, and therefore a total cost of £1,200. The company's purchases over January and February are:

	Units	Price £	Value £	
January	600	4.00	2,400	
	800	5.00	4,000	Total £6,400
February	200	6.00	1,200	
	1,000	4.00	4,000	Total £5,200

and its sales over the same periods are

	Units	Price £	Value £
January	1,400	12.00	16,800
February	1,400	12.00	16,800

The market value of a unit of each product is

	Price £
January	6.00
February	3.00

FIFO – first in first out, matching costs with physical stock flows

	Units	£		Units	£
January opening stock	400	1,200	Sales	1,400	16,800
Purchases	1,400	6,400			
	1,800	7,600			
January closing stock	400	2,000			
Cost of goods sold	1,400	5,600			
Gross profit		11,200			
		16,800			16,800
February opening stock	400	2,000	Sales	1,400	16,800
Purchases	1,200	5,200			
	16,00	7,200			
February closing stock	200	800			
Cost of goods sold	1,400	6,400			
Gross profit		10,400			
		16,800			16,800

Note that purchases are always valued at their actual cost regardless of which stock valuation method is used.

There were 400 units in stock at the beginning of January that cost £3 each and then 600 units were purchased at £4 each and then 800 purchased at £5 each. On a FIFO basis it is assumed that the 1,400 units sold in January first used the 400 opening stock and then the 600 units first purchased and then 400 of the 800 units next purchased. The cost of these units was $(400 \times £3) + (600 \times £4) + (400 \times £5) = £5,600$. The 400 units of stock remaining at the end of January (which becomes the opening stock at the beginning of February) are the 400 units left from the purchase of 800 units at £5 each and so are valued at £2,000. Using the same basis, the cost of the 1,400 units sold in February was $(400 \times £5) + (200 \times £6) + (800 \times £4) = £6,400$. The 200 units of stock remaining at the end of February are the 200 units left from the purchase of 1,000 units at £4 each and so are valued at £800.

The result is a gross profit of £11,200 for January and £10,400 for February.

LIFO – last in first out, matching current costs with current revenues

	Units	£		Units	£
January opening stock	400	1,200	Sales	1,400	16,800
Purchases	1,400	6,400			
	1,800	7,600			
January closing stock	400	1,200			
Cost of goods sold	1,400	6,400			
Gross profit		10,400			
		16,800			16,800

February opening stock	400	1,200	Sales	1,400	16,800
Purchases	1,200	5,200			
		<u>1,600</u>			
		6,400			
February closing stock	200	600			
Cost of goods sold	1,400	5,800			
Gross profit		<u>11,000</u>			
		16,800			<u>16,800</u>

There were 400 units in stock at the beginning of January that cost £3 each and then 600 units were purchased at £4 each and then 800 purchased at £5 each. On a LIFO basis it is assumed that the 1,400 units sold in January used the 800 last purchased at £5 each and then the 600 units purchased at £4 each. The cost of these units was $(800 \times £5) + (600 \times £4) = £6,400$. The 400 units of stock remaining at the end of January (which becomes the opening stock at the beginning of February) are the 400 units left from opening stock at £3 each and so are valued at £1,200. Using the same basis, the cost of the 1,400 units sold in February was $(1,000 \times £4) + (200 \times £6) + (200 \times £3) = £5,800$. The 200 units of stock remaining at the end of February are the 200 units left from the opening stock of 400 units at £3 each and so are valued at £600.

The result is a gross profit of £10,400 for January and £11,000 for February.

Average cost – smoothing of revenues and stock values, assuming that individual units purchased cannot be followed through to actual sales so total purchases combined to calculate an average cost per unit

	Units	£		Units	£
January opening stock	400	1,200	Sales	1,400	16,800
Purchases	1,400	6,400			
		<u>1,800</u>			
		7,600			
January closing stock	400	1,689			
Cost of goods sold	1,400	5,911			
Gross profit		<u>10,889</u>			
		16,800			<u>16,800</u>

$$\text{Average cost per unit for January} = \frac{(1,200 + 6,400)}{(400 + 1,400)} = \frac{7,600}{1,800} = £4.222$$

$$\text{January closing stock} = 400 \times \frac{7,600}{1,800} = £1,689$$

	Units	£		Units	£
February opening stock	400	1,689	Sales	1,400	16,800
Purchases	1,200	5,200			
	<u>1,600</u>	<u>6,889</u>			
February closing stock	200	861			
Cost of goods sold	1,400	6,028			
Gross profit		<u>10,772</u>			
		<u>16,800</u>			<u>16,800</u>

$$\text{Average cost per unit for February} = \frac{(1,689 + 5,200)}{(400 + 1,200)} = \frac{6,889}{1,600} = \text{£}4.305$$

$$\text{February closing stock} = 200 \times \frac{6,889}{1,600} = \text{£}861$$

The result is a gross profit of **£10,889** for January and **£10,772** for February

The lower of FIFO or market value

	Units	£		Units	£
January opening stock	400	1,200	Sales	1,400	16,800
Purchases	1,400	6,400			
	<u>1,800</u>	<u>7,600</u>			
January closing stock	400	2,000			
Cost of goods sold	1,400	5,600			
Gross profit		<u>11,200</u>			
		<u>16,800</u>			<u>16,800</u>
February opening stock	400	2,000	Sales	1,400	16,800
Purchases	1,200	5,200			
	<u>1,600</u>	<u>7,200</u>			
February closing stock	200	600			
Cost of goods sold	1,400	6,600			
Gross profit		<u>10,200</u>			
		<u>16,800</u>			<u>16,800</u>

January closing stock using FIFO is £2,000. Using market value, January closing stock is 400 units at £6 per unit – £2,400. Using the lower value, stock at the end of January is £2,000. February closing stock using FIFO is £800. Using market value, February closing stock is 200 units at £3 per unit – £600. Using the lower value, stock at the end of February is £600.

The result is a gross profit of £11,200 for January and £10,200 for February.

Summary of stock valuation methods				
	FIFO	LIFO	Average cost	Lower of cost or market value
	£	£	£	£
Profit				
January	11,200	10,400	10,889	11,200
February	10,400	11,000	10,772	10,200
Stock valuation				
January	2,000	1,200	1,689	2,000
February	800	600	861	600

Graphical representations of the summary of stock valuation methods used in Worked Example 3.8 are shown in Fig. 3.7 and Fig. 3.8.

It can be seen from the summary of results in Worked Example 3.8 that wide variations in profit may be reported from period to period. However, over the long run the total result will eventually be the same, as all stocks become used up. It is important to stress that a method may not be chosen to give, for example, a required result for one period. There must be consistency in the use of stock valuation method from one period to the next.

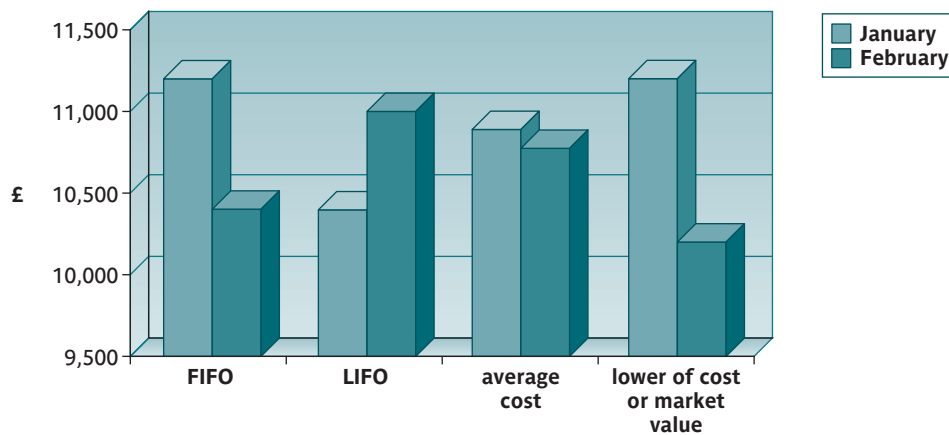


Figure 3.7 Profit comparison from the use of various stock valuation methods

Progress check 3.9 Why does stock valuation cause such problems and why is it so very important?

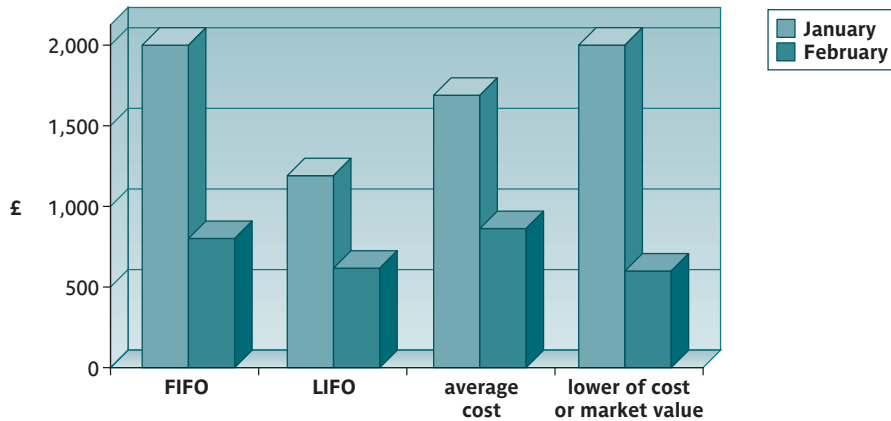


Figure 3.8 Stock value comparison from the use of various stock valuation methods

Bad and doubtful debts

The term 'provision' often means very much the same thing as accrued expenses. The difference is that a provision is normally an amount charged against profit to provide for an expected liability or loss even though the amount or date of the liability or loss is uncertain. However, the word 'provision' is sometimes used in a different context, most commonly the depreciation provision relating to a fixed asset. It is also used in dealing with debtors at the end of an accounting period.

When goods or services are sold to a customer on credit, an invoice is issued to record the transaction and to obtain settlement. The sale is reflected in the profit and loss account within the turnover of the business for the relevant period. The 'other side' of the entry is debited to the sales ledger, appearing as an account receivable from the customer in line with the agreed payment terms. Most customers pay in accordance with their agreed terms, whether it is for example within 10 days, 1 month, or 2 months of invoice date. Unfortunately, there may sometimes be slow payers; there may be customers, for a variety of reasons, from whom payment will never be received. In the event of an invoice not being settled at all, as soon as this is known with certainty, the debt is deemed to be a **bad debt** and must be written off. The effect of this on the profit and loss account is not to reduce sales. It is a cost charged to the bad debt account. The double-entry is to the debtor account to cancel the appropriate account receivable.

At the end of each accounting period debtors who have still not paid, falling outside their normal credit terms, must be reviewed as to the likelihood of their not paying in full or at all. If non-payment is certain then the debt must be written off. If there is uncertainty as to whether or not a debt will be settled then a provision for **doubtful debts** may be made on a specific basis, based on knowledge of particular customers, or on a general basis, say as a percentage of total debtors, based on past trading experience.

An amount in respect of estimated doubtful debts that is charged to an account in the profit and loss account, the bad and doubtful debt account, is also reflected as a credit to an account in the balance sheet, the **doubtful debt provision**. The effect of the provision for doubtful debts is to reduce the value of the debtors in the balance sheet but without permanently eliminating any accounts receivable. Debtors that are deemed to be bad debts are actually written off (charged as a cost to the profit and loss account) and the debts are permanently eliminated from accounts receivable.

Progress check 3.10 What are bad debts and doubtful debts and how are they reflected in the profit and loss account and balance sheet of a business?

Worked Example 3.9

Trade debtors on the books of Sportswear Wholesalers Ltd at 31 January 2005 were £429,378: current month £230,684, month 2 £93,812, 3 to 6 months £64,567, over 6 months £40,315. On 18 January 2005 one of Sportswear's customers, Road Runner Ltd, had gone into liquidation owing Sportswear £15,342, which had been invoiced over 6 months previously. Sportswear's policy was to provide for doubtful debts on the basis of 3 to 6 months' debts 5%, and over 6 months' debts 10%.

Let's consider what entries would appear in Sportswear's cumulative profit and loss account to January 2005 and its balance sheet at 31 January 2005 in respect of bad and doubtful debts. We may assume that no other debts have been written off during the year to date.

Road Runner Ltd has gone into liquidation owing Sportswear £15,342, of which it is assumed there is no chance of any recovery, therefore it must be written off as a bad debt in the profit and loss account in January 2005.

The effect of the bad debt write off is to reduce trade debtors by £15,342, and the debts over 6 months old will reduce down to £24,973 [£40,315 – £15,342].

The doubtful debt provision at 31 January in line with Sportswear's policy is

5% × £64,567	= £3,228
10% × £24,973	= £2,497
Total	= £5,725 (assuming no opening doubtful debt provision at 1 January 2005)

Profit and loss account for the year to 31 January 2005:

Bad and doubtful debts

Road Runner Ltd write off 31/01/05	£15,342
Doubtful debt provision at 31/01/05	<u>£5,725</u>
Balance at 31 January 2005	<u>£21,067</u>

Balance sheet as at 31 January 2005:

Trade debtors:

Balance per accounts receivable at 31/01/05	£429,378
Road Runner Ltd write off 31/01/05	<u>£15,342</u>
Balance at 31 January 2005	<u>£414,036</u>

Doubtful debt provision:

Doubtful debt provision at 31/01/05	<u>£5,725</u>
Balance at 31 January 2005	<u>£5,725</u>

Trade debtors in Sportswear's balance sheet as at 31 January 2005 would be £408,311 [£414,036 – £5,725]

Such bad and doubtful debt entries would not be individually apparent from inspection of Sportswear Wholesalers Ltd's financial statements. Bad and doubtful debt charges are normally included under the profit and loss account heading *Distribution Costs*, and the corresponding balance sheet entries are reflected within the total *Trade Debtors* heading.

Profit and loss and cash flow

During the last decade of the twentieth century there was a great deal of activity in the birth and growth of so-called dot.com companies. Their aim was to exploit the use of the Internet to provide opportunities to sell products and services in wider markets and on an increasingly global basis. The apparent success of the majority of these businesses was initially based on growth of potential in both market share and profitability reflected in the numbers of subscribers attracted to their websites. Actual and potential profitability do not necessarily inevitably result in a healthy cash position. Such companies invariably required large amounts of cash for them to continue operating for extended periods prior to achieving profitability and to generate their own cash flows. Many dot.com businesses from that era failed to survive and flourish, but there were also many successes, for example, Amazon.com, Sportingbet.com, and Lastminute.com.

In Chapter 2 we discussed how profit and cash flow do not mean the same thing. In fact, the profit earned and the net cash generated during an accounting period are usually very different, and often significantly different. How often do we see cases reported of businesses in serious financial difficulties because of severe cash shortages, even though they may appear to be trading profitably?

However, it is invariably the reported profits, or more usually estimated profits, that are closely monitored by investors and financial analysts. It is these numbers on which analysts base their business forecasts, and which influence investor confidence in a business, and therefore its share price.

June 2004 saw a severe profits warning from the budget airline Easyjet (see the *Accountancy Age* extract below). easyJet's chief executive actually gave a full year profit forecast for 2004 that indicated that it was likely to be 50% worse than analysts had expected. This had a huge impact on the share price, which fell by 19%.

Nevertheless, cash flow is very important. There is a relationship between cash and profit, and it is possible to identify and quantify the factors within this relationship. The profit or loss made by a business during an accounting period differs from the net cash inflows and outflows during the period because of:

- cash expected to be paid or received relating to transactions during a period may in fact not be paid or received until the following or subsequent periods

Profits warning - the writing on the wall

Chris Walton, the finance director of troubled budget airline EasyJet, has come under pressure from shareholders to step down over the manner in which the company communicated its recent profit warnings.

The Independent reported that institutional shareholders have raised the issue with the airline's non-executive directors although Sir Colin Chandler, chairman of EasyJet, has backed his FD, saying the company was not contemplating any board changes 'at the moment'.

Last week EasyJet warned that rising fuel prices and fare cuts could hurt fiscal 2004 earnings sending the share price tumbling by 19% – the company's share price has almost halved in value since the beginning of May.

EasyJet founder and its biggest shareholder Stelios Haji-Ioannou, who has a 41% stake in the airline, has also been critical of the manner in which the warnings have been handled saying there was 'room for improvement'.

Easyjet FD under threat

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- cash may have been paid or received in advance of goods or services being received or provided and invoices being received or issued
- cash may have been paid or received relating to non-manufacturing, non-trading, or non-profit items – for example, cash received for shares in the business, and cash paid out on capital expenditure
- profit will have been calculated to include the impact of non-cash items such as depreciation.

When we look at the cash flow statement in the next chapter we shall see that one of the schedules that is required to be prepared in support of the cash flow statement is in fact a reconciliation of operating profit to net cash flow.

Prior to that, we can consider the following example, which is not in strict compliance with the cash flow reconciliation schedule requirement, but will serve to illustrate how profit and cash flow are linked and how the links may be identified.

Worked Example 3.10 shows that despite making a profit of £10,000 during an accounting period the company in fact had a shortfall of cash of £45,000 for the same period. After adjusting profit for the non-cash item of depreciation and adding the increase in share capital it effectively had an increase in funds during the month of £25,000. It then had to finance the purchase of fixed assets of £20,000 and finance an increase in its working capital requirement of £50,000 (stocks £34,000 plus debtors £18,000 less creditors £2,000). This resulted in its cash deficit for the month of £45,000. The company therefore went from having a positive cash balance of £6,000 at the start of the month to an overdraft of £39,000 at the end of the month.

Worked Example 3.10

In Worked Example 3.4 we saw that Ronly Bonly Jones Ltd made a profit of £10,000 during the month of January 2005. A summary of its balance sheet at 1 January 2005, and the 31 January 2005 balance sheet that we derived, are as follows:

	1 January 2005	31 January 2005
	£000	£000
Fixed assets at cost	130	150
Depreciation provision	(20)	(25)
Stocks	45	79
Debtors	64	82
Cash and bank	6	–
	<u>225</u>	<u>286</u>
Creditors	(87)	(89)
Bank overdraft	–	(39)
Share capital	(50)	(60)
Profit and loss account	(88)	(98)
	<u>(225)</u>	<u>(286)</u>

We can provide a reconciliation of Ronly Bonly Jones Ltd's profit for the month of January with the cash flow for the same period.

January 2005	
£000	
Profit for the month	10
Add back non-cash item	
Depreciation for month	5
	<u>15</u>
Cash gained from	
Increase in creditors	2
Additional share capital	10
	<u>27</u>
Cash reduced by	
Purchase of fixed assets	(20)
Increase in stocks	(34)
Increase in debtors	(18)
	<u>(72)</u>
Cash outflow for month	<u>(45)</u>
Cash and bank 1 January 2005	6
Cash outflow for month	(45)
Cash and bank 31 January 2005	<u>(39)</u>

Both the company and its bankers would obviously need to monitor RBJ Ltd's performance very closely over future months! A company will normally continuously review its cash, overdraft, accounts payable, and accounts receivable position. The bank manager will regularly review a company's balances and require advance notice of potential breaches of its overdraft limits.

Progress check 3.11 In what ways does the profit earned by a business during an accounting period differ from the cash generated during the same period? In what ways are profit and cash affected by the settlement (or not) of their accounts by the customers of the business?

Summary of key points

- Profit and loss account and income statement are two terms usually used to mean the same thing.
- The profit (or loss) of an entity may be considered from two perspectives: by considering the change in wealth between the start and end of an accounting period; by deducting total costs from total revenues (sales) generated during the accounting period.

- Categories within the profit and loss account are classified into turnover, cost of sales, other operating costs, other operating income, net interest, taxation, and dividends.
- There are four alternative profit and loss account formats permitted by the Companies Act 1985/1989, and in line with the provisions of FRS 3; format 1 is the most widely used by the majority of limited companies.
- The profit and loss account is closely linked with the balance sheet in two ways: they both reflect the change in wealth of the business; most transactions are reflected once in the profit and loss account and once in the balance sheet.
- Valuation of the various items within the balance sheet in accordance with the Companies Act 1985/1989, accounting concepts and standards, has a significant impact on the level of profit (or loss) earned by a business during an accounting period.
- The profit (or loss) earned during an accounting period is not the same as the cash flow generated during the period, but the links between the two measures may be quantified and reconciled.
- There are limitations to the profit and loss account, which like the balance sheet is an historical document, primarily due to the impact on costs of the employment of alternative methods of valuation of assets and liabilities.

Questions

- Q3.1** Consider two ways of looking at the profit of a business: an increase in the wealth of the company; and the net result of the company's trading operations (sales less expenses). What do these terms mean, and is the result different using the two approaches?
- Q3.2** How would you define the profit (or loss) earned by a business during an accounting period?
- Q3.3** Outline a profit and loss account showing each of the main category headings.
- Q3.4**
- (i) What are the requirements that determine the format of the profit and loss account of a limited company?
 - (ii) Which accounting standard contains provisions relating to the format of the profit and loss account?
 - (iii) What are the main requirements relevant to the formats?
- Q3.5** The profit and loss account and the balance sheet report on different aspects of a company's financial status. What are these different aspects and how are they related?
- Q3.6**
- (i) Why are the methods used for the valuation of the various types of assets so important?
 - (ii) Describe the three main categories of asset that are most relevant.
- Q3.7** What is depreciation and what are the problems encountered in dealing with the depreciation of fixed assets?
- Q3.8** Describe the three most commonly used methods of accounting for depreciation.

- Q3.9** Describe the four most commonly used methods of valuing stocks.
- Q3.10** How does the valuation of trade debtors impact on the profit and loss account of a business?
- Q3.11** Profit does not equal cash, but how can the one be reconciled with the other for a specific accounting period?

Discussion points

D3.1 'My profit for the year is the total of my pile of sales invoices less the cash I have paid out during the year.' Discuss.

D3.2 'The reason why companies make a provision for depreciation on their fixed assets is to save up enough money to buy new ones when the old assets reach the end of their lives.' Discuss.

D3.3 Why is judgement so important in considering the most appropriate method to use for valuing stocks? What are the factors that should be borne in mind and what are the pros and cons of the alternative methods?

Exercises

Solutions are provided in Appendix 3 to all exercise numbers highlighted in colour.

Level I

E3.1 *Time allowed – 30 minutes*

Mr Kumar's chemist shop derives income from both retail sales and from prescription charges made to the NHS and to customers. For the last 2 years to 31 December 2003 and 31 December 2004 his results were as follows:

	2003	2004
	£	£
Sales and prescription charges to customers	196,500	210,400
Prescription charges to the NHS	48,200	66,200
Purchases of stocks	170,100	180,600
Opening stock at the start of the year	21,720	30,490
Closing stock at the end of the year	30,490	25,300
Wages	25,800	27,300
Mr Kumar drawings*	20,500	19,700
Rent and rates	9,400	13,200
Insurance	1,380	1,620
Motor vehicle expenses	2,200	2,410
Other overheads	14,900	15,300

* Note that Mr Kumar's drawings are the amounts of money that he has periodically taken out of the business for his own use and should be shown as a deduction from the profits earned by the business rather than an expense in the profit and loss account.

Rent for the year 2003 includes £2,400 paid in advance for the half year to 31 March 2004, and for 2004 includes £3,600 paid in advance for the half year to 31 March 2005. Other overheads for 2003 do not include the electricity invoice for £430 for the final quarter (included in 2004 other overheads).

There is a similar electricity invoice for £510 for 2004. Depreciation may be ignored.

- (i) Prepare a profit and loss account for the two years to 31 December.
- (ii) Why do you think that there is a difference in the gross profit to sales % between the two years?
- (iii) Using Mr Kumar's business as an example, explain the accruals accounting concept and examine whether it has been complied with.

E3.2 Time allowed – 30 minutes

Discuss the concepts that may apply and practical problems that may be encountered when accounting for:

- (i) the acquisition of desktop personal computers, and
- (ii) popular brands of products supplied by retailers

with specific comments regarding their depreciation charged to the profit and loss account and their net book values shown in the balance sheet.

E3.3 Time allowed – 30 minutes

A friend of yours owns a shop selling CDs and posters for the 12–14-year-old market. From the following information advise him on the potential problems that may be encountered in the valuation of such items for balance sheet purposes:

- (i) greatest hits compilation CDs have sold consistently over the months and cost £5,000 with a retail value of £7,000
- (ii) sales of specific group CDs, which ceased recording in the previous year, have now dropped off to zero and cost £500 with a total retail value of £700
- (iii) specific group CDs, which are still constantly recording and selling in the shop every week, cost £1,000 with a total retail value of £1,400
- (iv) specific artist posters are currently not selling at all (although CDs are), and cost £50 with a retail value of £100.

E3.4 Time allowed – 30 minutes

The Partex company began trading in 2002, and all sales are made to customers on credit. The company is in a sector that suffers from a high level of bad debts, and a provision for doubtful debts of 4% of outstanding debtors is made at each year end.

Information relating to 2002, 2003 and 2004 was as follows:

	Year to 31 December		
	2002	2003	2004
Outstanding debtors at 31 December*	£88,000	£110,000	£94,000
Bad debts to be written off during year	£4,000	£5,000	£4,000

* before bad debts have been written off

You are required to state the amount that will appear:

- (i) in the balance sheet for debtors, and
- (ii) in the profit and loss account for bad debts.

E3.5 Time allowed – 45 minutes

Tartantrips Ltd, a company in Scotland, operates several ferries and has a policy of holding several in reserve, due to the weather patterns and conditions of various contracts with local authorities. A ferry

costs £5 million and has an estimated useful life of 10 years, at which time its realisable value is expected to be £1 million.

Calculate and discuss three methods of depreciation available to the company:

- (i) sum of the digits
- (ii) straight line
- (iii) reducing balance.

E3.6 Time allowed – 60 minutes

From the following profit and loss information that has been provided by Lazydays Ltd, for the year ended 31 March 2005 (and the corresponding figures for the year to 31 March 2004), construct a profit and loss account, using the format adopted by the majority of UK plcs, including comparative figures.

	2005	2004
	£	£
Administrative expenses	22,000	20,000
Depreciation	5,000	5,000
Closing stock	17,000	15,000
Distribution costs	33,000	30,000
Dividends paid	32,000	30,000
Dividends received from non-related companies	5,000	5,000
Interest paid	10,000	10,000
Interest received	3,000	3,000
Opening stock	15,000	10,000
Purchases	99,000	90,000
Redundancy costs	5,000	
Sales	230,000	200,000
Taxation	25,000	24,000

- (a) Depreciation is to be included in the administrative expenses
- (b) Redundancy costs are to be regarded as an exceptional item

Level II

E3.7 Time allowed – 60 minutes

Llaregyb Ltd started business on 1 January 2005 and its year ended 31 December 2005. Llaregyb entered into the following transactions during the year.

Received funds for share capital of £25,000

Paid suppliers of materials £44,000

Purchased 11,000 units of materials at £8 per unit, one of which was required in one unit of finished goods

Heating and lighting costs paid for cash £16,000

Further heating and lighting costs £2,400 were incurred within the year, but still unpaid at 31 December 2005

Mr D Thomas loaned the company £80,000 on 1 January 2005 at 8% per annum

Loan interest was paid to Mr Thomas for January to June 2005

8,000 finished goods units were sold to customers at £40 each
 Customers paid £280,000 to Llaregyb for sales of finished goods
 Rent on the premises £60,000 was paid for 18 months from 1 January 2005, and business rates for the same period of £9,000 were also paid
 Salaries and wages were paid for January to November amounting to £132,000 but the December payroll cost of £15,000 had not yet been paid
 A lorry was purchased for £45,000 on 1 January 2005 and was expected to last for 5 years after which it could be sold for £8,000
 The company uses the straight line method of depreciation

Prepare a profit and loss account for Llaregyb Ltd for the year ended 31 December 2005.

E3.8 Time allowed – 60 minutes

From the trial balance of Retepmal Ltd at 31 March 2004 prepare a profit and loss account for the year to 31 March 2004 and a balance sheet as at 31 March 2004 using the vertical formats used by most UK companies.

	£
Premises (net book value)	95,000
Trade debtors	75,000
Purchases of stocks	150,000
Retained earnings at 31 March 2003	130,000
Stocks at 31 March 2003	15,000
Furniture and fixtures	30,000
Sales	266,000
Distribution costs and administrative expenses	90,000
Trade creditors	54,000
Motor vehicles (net book value)	40,000
Cash and bank	35,000
Share capital	80,000

Additional information:

- (a) Stocks at 31 March 2004 were £25,000.
- (b) Dividend proposed for 2004 was £7,000.
- (c) An accrual for expenses of £3,000 was required at 31 March 2004.
- (d) A prepayment of expenses of £5,000 was required at 31 March 2004.
- (e) Corporation tax estimated to be payable on 2003/2004 profits was £19,000.
- (f) Annual depreciation charges on premises and motor vehicles for the year to 31 March 2004 are included in administrative expenses and distribution costs respectively, and in the cumulative depreciation provisions used to calculate the net book values of £95,000 and £40,000, shown in the trial balance at 31 March 2004.

The furniture and fixtures balance of £30,000 relates to purchases of assets during the year to 31 March 2004. The depreciation charge to administrative expenses and the corresponding depreciation provision are not included in the trial balance at 31 March 2004. They are required to be calculated for a full year to 31 March 2004, based on a useful economic life of eight years and an estimated residual value of £6,000.