

THIRD EDITION

# PRINCIPLES OF FINANCIAL ACCOUNTING



Ian Gillespie  
Richard Lewis  
Kay Hamilton





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Third Edition



# Principles of Financial Accounting

**Ian Gillespie**  
**Richard Lewis**  
**Kay Hamilton**

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# Contents in summary

Guided tour	xiv
How to use this text	xvii
1 The nature of accounting	1
<b>Part I · Preparing financial statements: the basics</b>	
2 The accounting equation: balance sheets and profit and loss accounts	19
3 The extended accounting equation: debits and credits	37
4 Accounting systems and financial statements: the basics	47
5 Accrual accounting	63
6 Fixed assets and depreciation	82
7 Bad and doubtful debts and control accounts	100
8 Cost of goods sold	121
9 Preparation of financial statements	136
<b>Part II · Preparation of financial statements: partnerships and limited companies</b>	
10 Partnership accounts	145
11 Limited company accounts	184
12 Consolidated accounts: an introduction	204
<b>Part III · Special topics in accounting</b>	
13 Incomplete records	231
14 Accounts of clubs, societies and charities	248
15 Branch accounts	263
16 Computerised accounting: an introduction	274
17 Auditing: an introduction	280
<b>Part IV · Analysing and understanding financial statements</b>	
18 Limitations of the conventional accounting model	289
19 Financial reporting in countries other than the UK	315
20 Cash flow statements	326
21 Analysis of financial statements 1	346
22 Analysis of financial statements 2	358
<b>Appendices</b>	
Further reading	385
Glossary	388
Solutions to checkpoint questions	395
Solutions to selected exercises	409
Index	483





# Contents in full

<b>Guided tour</b>	xiv
<b>How to use this text</b>	xvii
<b>1 The nature of accounting</b>	<b>1</b>
Introduction	1
Learning objectives	1
1.1 Purposes of accounting	1
1.2 Users of accounts	4
1.3 Planning and control	5
1.4 Financial and management accounting	6
1.5 Financial accounting for past activities	6
1.6 A brief history of accounting	7
1.7 Conventions	9
1.8 Rules and laws	12
Summary	13
Review questions	13
Exercises	14

## Part I · Preparing financial statements: the basics

<b>2 The accounting equation: balance sheets and profit and loss accounts</b>	<b>19</b>
Introduction	19
Learning objectives	19
2.1 The accounting equation	19
2.2 The balance sheet	22
2.3 The profit and loss account	27
Summary	32
Review questions	33
Exercises	33
<b>3 The extended accounting equation: debits and credits</b>	<b>37</b>
Introduction	37
Learning objectives	37
3.1 The extended accounting equation	37
3.2 Debit and credit	39
3.3 The ledger and T accounts	41
Summary	44
Review questions	44
Exercises	44



<b>4 Accounting systems and financial statements: the basics</b>	<b>47</b>
Introduction	47
Learning objectives	47
4.1 Accounting systems	48
4.2 The trial balance	54
4.3 The preparation of financial statements from a trial balance	56
Summary	58
Review questions	58
Exercises	59
<b>5 Accrual accounting</b>	<b>63</b>
Introduction	63
Learning objectives	63
5.1 The accruals basis of accounting	63
5.2 Accrual accounting	67
5.3 Preparation of financial statements including accrual accounting adjustments	70
Summary	74
Review questions	74
Exercises	75
<b>6 Fixed assets and depreciation</b>	<b>82</b>
Introduction	82
Learning objectives	82
6.1 Nature of depreciation and methods of calculation	82
6.2 Bases of calculation	84
6.3 Recording depreciation in the books	88
6.4 What depreciation is not	91
6.5 Preparation of financial statements including depreciation	93
Summary	94
Review questions	95
Exercises	96
<b>7 Bad and doubtful debts and control accounts</b>	<b>100</b>
Introduction	100
Learning objectives	100
7.1 Background, including a note on credit control	100
7.2 Treatment of bad and doubtful debts	101
7.3 Preparation of financial statements including bad and doubtful debts	105
7.4 Control accounts	107
7.5 Bank reconciliations	112
Summary	115
Review questions	115
Exercises	116

<b>8</b>	<b>Cost of goods sold</b>	<b>121</b>
	Introduction	121
	Learning objectives	121
	8.1 Conventional methods	122
	8.2 The replacement cost basis	126
	8.3 Preparation of financial statements including stock	128
	Summary	131
	Review questions	131
	Exercises	132
<b>9</b>	<b>Preparation of financial statements</b>	<b>136</b>
	Introduction	136
	Learning objectives	136
	9.1 Adjustments	137
	Exercise	142

## Part II · Preparation of financial statements: partnerships and limited companies

<b>10</b>	<b>Partnership accounts</b>	<b>145</b>
	Introduction	145
	Learning objectives	145
	10.1 Capital, current and drawings accounts	147
	10.2 The appropriation of profit	147
	10.3 Partners' loan accounts	151
	10.4 Lack of a partnership agreement	152
	10.5 The peculiar problems of partnerships	152
	10.6 Goodwill	154
	10.7 Change in the profit-sharing ratio	159
	10.8 The death or retirement of a partner	160
	10.9 The Partnership Act 1890	163
	10.10 Absence of accounts at the date of change in partnership arrangements	164
	10.11 Dissolution of partnerships	164
	10.12 Joint ventures	167
	Summary	170
	Review questions	170
	Exercises	171
	Appendix: An extended example of partnership accounts	177
<b>11</b>	<b>Limited company accounts</b>	<b>184</b>
	Introduction	184
	Learning objectives	184
	11.1 Structural and legal aspects: the nature of limited liability companies	184

11.2	Dividends	186
11.3	Share capital	186
11.4	Public and private companies	188
11.5	Limited companies: financial statements	189
11.6	Preparation of financial statements	193
11.7	Taxation in company accounts	196
	Summary	197
	Review questions	197
	Exercises	198
<b>12</b>	<b>Consolidated accounts: an introduction</b>	<b>204</b>
	Introduction	204
	Learning objectives	204
12.1	The advantages of a group structure	205
12.2	Why consolidate?	206
12.3	Consolidated accounts	207
12.4	Goodwill on consolidation	208
12.5	Goodwill – what to do with it	212
12.6	Partly owned subsidiaries	213
12.7	Consolidated balance sheets	214
12.8	The consolidated profit and loss account	217
12.9	Preference shares in subsidiary companies	221
12.10	Associated companies	222
	Summary	223
	Review questions	223
	Exercises	224
<b>Part III · Special topics in accounting</b>		
<b>13</b>	<b>Incomplete records</b>	<b>231</b>
	Introduction	231
	Learning objectives	231
13.1	Dealing with incomplete records	231
	Summary	242
	Review questions	242
	Exercises	242
<b>14</b>	<b>Accounts of clubs, societies and charities</b>	<b>248</b>
	Introduction	248
	Learning objectives	248
14.1	Unincorporated clubs and societies	248
14.2	The accounts of charities	254
	Summary	260
	Review questions	260
	Exercises	260

<b>15 Branch accounts</b>	<b>263</b>
Introduction	263
Learning objectives	263
15.1 Purposes and methods of accounting for branches	263
15.2 Branch accounting where the branch maintains full accounting records	264
15.3 Branch accounting where all transactions are recorded in the head office books	270
Summary	271
Review questions	271
Exercises	272
<b>16 Computerised accounting: an introduction</b>	<b>274</b>
Introduction	274
Learning objectives	274
16.1 Computers for accounting	275
16.2 Benefits and risks	275
16.3 Important practical issues	277
16.4 The disappearing audit trail	279
Summary	279
Review questions	279
<b>17 Auditing: an introduction</b>	<b>280</b>
Introduction	280
Learning objectives	280
17.1 What is auditing? Private and statutory audits	280
17.2 Audit reports	281
17.3 Notes on other audit roles	284
Summary	286
Review questions	286

## Part IV · Analysing and understanding financial statements

<b>18 Limitations of the conventional accounting model</b>	<b>289</b>
Introduction	289
Learning objectives	289
18.1 The limitations of the model	290
18.2 Income measurement and valuation	292
18.3 Creative accounting	298
18.4 Current value accounting	301
18.5 Replacement cost accounting	302
Summary	310
Review questions	310
Exercises	311

<b>19 Financial reporting in countries other than the UK</b>	<b>315</b>
Introduction	315
Learning objectives	315
19.1 Major differences and their causes	315
19.2 Country studies	319
19.3 Harmonisation	323
Summary	325
Review questions	325
<b>20 Cash flow statements</b>	<b>326</b>
Introduction	326
Learning objectives	326
20.1 The importance of cash	326
20.2 Reasons for the difference between profit and changes in cash balances	327
20.3 Sources and applications other than from operations	331
20.4 The preparation of cash flow statements	332
20.5 The uses and limitations of cash flow statements	337
20.6 Improvements to cash flow statements	338
Summary	339
Review questions	340
Exercises	340
<b>21 Analysis of financial statements 1</b>	<b>346</b>
Introduction	346
Learning objectives	346
21.1 Cross-sectional and time series analysis	346
21.2 Profitability ratios	347
21.3 Asset turnover rates	349
21.4 Liquidity and solvency ratios	351
21.5 Using the ratios	352
21.6 Limitations	353
21.7 Worked examples	353
Summary	357
Review questions	357
<b>22 Analysis of financial statements 2</b>	<b>358</b>
Introduction	358
Learning objectives	358
22.1 Medium- and long-term measures of solvency	358
22.2 Earnings per share	363
22.3 Return on capital employed	370
22.4 Further comments on limitations	373
Summary	375
Review questions	375
Exercises	375

## Appendices

Further reading	385
Glossary	388
Solutions to checkpoint questions	395
Solutions to selected exercises	409
Index	483

# Guided tour to the book

**1 The nature of accounting**

**Introduction**

In this first chapter we discuss the purposes of accounting, who uses accounting statements and why they use them. We also explain, briefly, the distinction between financial and management accounting. A short history of accounting is included to help you to see modern accounting in the context of the way it developed. Perhaps the most important section is the discussion of the conventions of accounting, because these conventions underlie all the aspects of accounting dealt with in later chapters.

**Learning objectives**

At the end of this chapter, after completing the checkpoint questions and exercises, you should be able to:

- explain the main purposes of accounting;
- describe the main users of accounts and explain why they need accounting statements;
- explain what is meant by 'planning and control';
- explain the main difference between financial accounting and management accounting;
- explain what 'conventions' are and describe the main ones;
- explain how conventions may conflict with each other;
- explain what is meant by a 'firm';
- describe the sources of the various rules and regulations that govern the preparation and publication of financial accounting statements.

**1.1 Purposes of accounting**

Accounting is not merely a collection of arithmetical techniques but a set of complex processes depending on and prepared for people.

- Accounting reports are prepared in order to help people make decisions.
- Accounting reports are based on activities that have been carried out by people.

Introduction and learning objectives explain what students will learn on reading the chapter

5 • Accrual accounting

**Key terms** To wind up is to close down. In a business context it also implies the sale of the assets and settlement of the debts of the firm, and also the distribution to the owner or owners of any balance of cash left over. Another term in use is to liquidate the firm, meaning to dissolve and realise. However, this term is usually used in connection with limited companies, set up under the law, where a liquidator has to be appointed to wind up the firm. This is a qualified person who takes control of the company in order to realise its assets, pay its debts and distribute any cash balance.

We should, of course, have to make adjustments for any further cash introduced or drawn out by the owner(s). For example, suppose that George had set up a business by investing £5,000,000 and had not, during the next five years, invested or drawn out any further cash. If, when the business was wound up, it realised £6,200,000 then the profit for the five years would be:

Amount realised	£	6,200,000
Original investment		5,000,000
Profit for the five years		1,200,000

If, however, George had invested a further £500,000 and had drawn out £600,000, then:

Amount realised	£	6,200,000
Add: Cash drawn out		600,000
Total cash withdrawn		6,800,000

Original investment	£	5,000,000
Further investment		500,000
		5,500,000
Profit for the five years		1,300,000

The problem is that it is not much use to the owner to know that he or she has made this profit once business has ceased. In order to take action to improve the business he or she needs to know the results much more frequently: every year, or every quarter, month or even every week. Some figures may well be needed daily. In practice most well-run firms have their accounting statements produced at least once a month. This means that we shall have to divide the firm's continuous life into arbitrary periods in order to produce the statements. This causes nearly all of the problems we have to face (and much of the interest) in accounting.

**Checkpoint question**

5.1 Anna invested £100,000 into a new business. During the next six years she drew out a total of £66,000 for her living expenses. She also made a further investment in the firm of £3,000. At the end of the six years, she wound up the business, realising £200,000. Calculate her profit for the six years.

The next step is to break the time stream into sections. Ideally the periods should be selected so that the results of one time period can be compared, within reason, with the

Key terms provide definitions of accounting terms throughout the text

Checkpoint questions throughout each chapter enable students to check their progress

3 • The extended accounting equation: debits and credits

**Example 3-2**

Andrew sold goods, which originally cost £1,000, to Albert for £1,500 on credit.

Debit Albert (debtor)	£1,500		
Credit sales (revenue)		£1,500	

and

Debit cost of goods sold (expense)	£1,000		
Credit stock (asset)		£1,000	

Albert		Sales	
Sales	1,500	Albert	1,500
Cost of goods sold		Stock	
Stock	1,000	Cost of goods sold	1,000

There are no detailed rules in the UK regarding the use of ledger accounts. In general, the way they are set up and used depends on the needs of the particular firm. We end this chapter with a longer example on the use of T-accounts (Example 3-3).

**Example 3-3**

- Arthur starts a business by paying into the new firm's bank account the amount of £100,000. (All entries are in £.)

Bank		Capital	
Capital	100,000	Bank	100,000

- Arthur also pays cash into the business to be held to cover small items of expenditure. (Actual cash on hand, as opposed to the balance in the bank, is called petty cash.)

Petty cash		Capital	
Capital	500	Bank	100,000
		Petty cash	500

- The firm purchases goods for resale for £20,000, on credit.

Stock		Creditors	
Creditors	20,000	Stock	20,000

- The firm sells the above goods for £23,000, on credit.

Sales		Debtors	
Debtors	23,000	Sales	23,000
Stock		Cost of sales	
Creditors	20,000	Cost of sales	20,000
		Stock	20,000

Illustrative worked examples explain concepts that students often find difficult

5 • Accrual accounting

each pair of columns and that the differences are equal but on different sides. In the profit and loss columns the credit total exceeds the debit total by £36,600; this is the profit for the period as the revenue exceeds the expenses by that amount. The debit total of the balance sheet columns exceeds the credit total, also by £36,600. This is the amount by which the profit has increased the equity; we therefore enter the amount in the credit column of the balance sheet, thus balancing both sets of columns. We may now extract the balances from the two pairs of columns and arrange them into the accounting statements shown in Example 5.1 above.

**Checkpoint question**

5.11 Explain the function of accrued and prepaid expenses in the matching process and the preparation of accounts on an accrual basis.

**Summary**

In this chapter we introduced accrual accounting. After the accounting equations, this is the key chapter in the book, dealing as it does with the basis of accounting used by virtually all business enterprises and many others, such as universities and hospitals. We also introduced the twin conventions of realisation and matching which underlie the accrual accounting method. Accrual accounting attempts to bring in to an accounting period all those revenues and expenses which relate to that period and to include in the balance sheet those assets, liabilities and equity items which exist at the end of the period. This should be compared with the cash basis, where revenue is recognised when the cash is received and the expenses are recognised when the cash is paid. As we shall see in the later chapters, nearly all the problems in accounting arise from the attempt to make accounting more relevant to the firm's needs through the adoption of the accruals basis. The preparation of financial statements (profit and loss account and balance sheet) including accruals and prepayments was also explained and demonstrated, including the use of the extended trial balance.

**Review questions**

- Explain the main differences between accrual accounting and cash accounting.
- Explain what is meant by realisation and matching.
- We have said that accrual accounting gives rise to most of the difficulties in accounting. Why do you think this is so?
- What have assets and expenses in common? How do they differ?
- Discuss the statement that 'revenue should not be recognised until it is realised'.

Summary at the end of each chapter reinforces students' learning

Review questions are ideal for use in tutorial discussion and further students' understanding

**Exercises**

Solutions to exercises whose number is in colour can be found at the end of the book.

7.1 Dino Facchi started business buying and selling knitting machines on 1 January 20X3. His debtors' figures, before writing off any bad debts, were as follows:

31 December 20X3	£30,000
31 December 20X4	£38,100
31 December 20X5	£47,500

Bad debts to be written off were as follows:

in 20X4	£2,100
in 20X5	£750

and the required figure for doubtful debts, in each year, is 5 per cent of outstanding debtors. **Required:** Facchi's bad debts expense and doubtful debts accounts together with supporting calculations.

7.2 Makolm's trial balance as at 30 June 20X2 was as follows:

	£	£
Capital account as at 1 July 20X1		20,000
Creditors		21,000
Debtors	22,650	
Cost of goods sold	144,000	
Drawings	32,100	
Sales		243,000
Stock	36,000	
Vehicles	21,000	
Wages expense	14,250	
Sundry expenses	3,000	
Rent expense	13,500	
Insurance expense	2,600	
Cash at bank	4,500	
	293,000	293,000

The following information is relevant:

- Wages payable but unpaid as 30 June 20X2 amounted to £750.
- Rent accrued but unpaid at 30 June 20X2 amounted to £3,000.
- The figure of insurance expenses includes a prepayment at 30 June 20X2 of £1,000.
- The vehicles are to be depreciated at the rate of 25 per cent per annum. As the vehicles were purchased at the beginning of the year, no depreciation has yet been charged. A full year's depreciation is now to be charged.
- Bad debts of £2,650 are to be written off and provision is to be made for doubtful debts amounting to 10 per cent of the remaining debtors.

**Required:** Prepare Makolm's profit and loss account for the year ended 30 June 20X2 and his balance sheet as at that date.

Exercises are designed to test students' technical and analytical capabilities

**Further reading**

**Chapter 1**  
*Financial Accounting*, 2nd edn, Arnold, J., Hope, T., Southworth, A. and Kirkham, L., Prentice Hall, Hemel Hempstead (1994), Chapters 1–3.

**Chapters 2–4**  
*Financial Accounting*, 2nd edn, Arnold, J., Hope, T., Southworth, A. and Kirkham, L., Prentice Hall, Hemel Hempstead (1994), Chapters 4 and 5.

**Chapter 5**  
*Financial Accounting*, 2nd edn, Arnold, J., Hope, T., Southworth, A. and Kirkham, L., Prentice Hall, Hemel Hempstead (1994), Chapter 5.

**Chapter 6**  
*Financial Accounting*, 2nd edn, Arnold, J., Hope, T., Southworth, A. and Kirkham, L., Prentice Hall, Hemel Hempstead (1994), Chapter 6.  
*Depreciating Assets: An Introduction*, Baxter, W.T., Gee & Co., London (1980).

**Chapter 7**  
*Accounting and Finance: A Firm Foundation*, 5th edn, Pizzey, A., Continuum International Publishing Group, London (2001).

**Chapter 8**  
*Financial Accounting*, 2nd edn, Arnold, J., Hope, T., Southworth, A. and Kirkham, L., Prentice Hall, Hemel Hempstead (1994), Chapter 7.

**Chapter 10**  
*Accounting and Finance: A Firm Foundation*, 4th edn, Pizzey, A., Casell, London (1994), Chapter 11.  
*Accounting and Finance: A Firm Foundation*, 5th edn, Pizzey, A., Continuum International Publishing Group, London (2001).

**Chapter 11**  
*Accounting Theory and Practice*, 7th edn, Glastier, M.W.E. and Underdown, R., Financial Times Prentice Hall, Harlow (2000), Chapter 13.  
*Advanced Financial Accounting*, 6th edn, Lewis, R. and Pendrill, D., Pearson Education, Harlow (2000), Chapter 7.

**Chapter 12**  
*Making Corporate Reports Valuable*, The Institute of Chartered Accountants of Scotland, Edinburgh (1988).  
*Advanced Financial Accounting*, 6th edn, Lewis, R. and Pendrill, D., Pearson Education, Harlow (2000), Chapters 8 and 9.

**Chapter 13**  
*Business Accounting 1*, 8th edn, Wood, F., Financial Times Prentice Hall, Harlow (1999), Chapter 31.

Further reading is arranged on a chapter-by-chapter basis and encourages readers to research topics in depth

**Glossary**

**Accrued expenses or accruals** Expenses which relate to an accounting period but have not yet been brought into the books of account.

**Aged debtors** The aged debtors schedule shows, for each debtor, the length of time the amount owed by the debtor has been outstanding.

**Allocate** To allocate revenues and costs in to apportion them to particular accounting periods, requiring judgement by the person making the allocations.

**Assets** A right which is of economic value to its owner, i.e. the future net cash flow to the owner will be greater by virtue of the ownership of the asset. For an asset to be recognised in the accounting records, it normally must have been acquired for a measurable cost.

**Associated company** One over which another company has significant influence but not control.

**Audit** A scrutiny of the accounts by qualified auditors who carry out checks on the figures in order to establish whether the accounts show a 'true and fair view' of the results and of the financial position of the entity.

**Audit trail** The records and documents used to trace items through the system.

**Auditor** A person qualified to carry out audits and to report on his/her findings.

**Auditors' remuneration** The amount payable to the auditors in respect of the period of the accounts. The auditors will carry out a number of checks on the figures in order to establish whether, in their opinion, the financial statements show a 'true and fair view' of the company's results for the period and its financial position at the end of the period.

**Backing-up** The procedure for making security copies of data from the computer system. Back-up is the copy produced.

**Balance sheet minority interest** The proportion of the capital and reserves of the subsidiary companies which relates to the shares in those companies not held by the parent company.

**Bank reference** A reference obtained from the selling firm's own bank.

**Branch** A subordinate part of a firm which is not a limited company. (Such a company would be a subsidiary company.)

**Called-up share capital** The nominal value of shares issued.

**Capital maintenance** The financial capital must be maintained to protect the interests of the creditors.

**Code/coding** Transactions are given code numbers/letters to guide the bookkeeper/computer operator in entering the details of the transaction into the books of account. In the United Kingdom, this coding is carried out at the discretion of the company itself.

**Computerised accounting system** A system that relies on the entries reflecting the transactions being keyed into preprogrammed software which contains the whole of the accounting system, much of the information being processed automatically following the initial entries.

Glossary collates all key terms alphabetically in one place

**Solutions to checkpoint questions**

**Chapter 1**

- To provide information in financial terms for users of accounts to make decisions concerning resource allocation.
- The application of money or other resources to a particular purpose.
- Existing and potential shareholders, creditors, analysts, government, Inland Revenue, employees, society.
  - Existing shareholders – includes sell, keep or increase shareholding, voting annually at shareholders' meetings, deciding whether to call special meetings, e.g. to remove directors.
  - Potential shareholders: whether to buy shares.
  - Creditors: whether to lend money/extend credit.
  - Investment and credit analysts: basis for advice to clients, i.e. investors and creditors.

**Solutions to selected exercises**

**Chapter 1**

1.1 (a) iii; (b) iii; (c) i; (d) iii; (e) iii.			
1.2 (a)		£	Conventions
1. At the start	Assets:		
	bucket	5	Objectivity, historical cost
	cash	3	
		8	
2. Filled the bucket	Assets:		
	bucket	5	Duality demonstrated
	cash (£1 – 2)	1	
	water	2	Objectivity, verifiability
		8	
3. Jack collides with passer-by	Assets:		
	as above	8	Prudence, relevance (business liability)
	Liabilities: repairs to glasses	2	
		6	
4. Sold half the water:	Assets:		
	bucket	5	Materiality (no depreciation charged)
	cash (£1 + 10)	11	

Solutions to checkpoint questions enable students to check their answers

Solutions to selected exercises enable students to assess their understanding and progress







# How to use this text

This text is addressed to you, the student. At all times, when producing this book, we have been concerned only to help you to understand the principles of financial accounting, bearing in mind that you are probably studying it for the first time. Our experience in teaching the subject over many years has convinced us that you will not fully understand the issues involved unless you learn to actually produce accounting statements and analyse them. This is the approach which is embodied in this book.

The text provides a comprehensive grounding in the principles of financial accounting: the main techniques and underlying concepts involved in the preparation and analysis of accounting statements, and their application to various forms of business organisation.

The book is therefore particularly suitable for students specialising in accounting. However, selective use of the chapters will make the text suitable for others, for instance students taking business studies degrees.

## Teaching and learning features

In writing this text we have, above all, tried to be clear and, as far as possible, to minimise and simplify the use of technical terms and jargon. We have provided clearly displayed definitions throughout the text where each **key term** is first introduced; for ease of reference and quick revision, all these terms have been collated alphabetically in a **glossary** towards the end of the book.

At regular intervals throughout each chapter there are one or more short **checkpoint questions**. These are intended to encourage you to interact with the text, answering each question as you progress through each chapter. They are typically of the kind that your lecturer might pose during a tutorial to check that you are following and understanding a topic. Other questions require you to make calculations to deduce an answer. For self-assessment, outline answers are given in the appendices. You should check your answers against these and, if you are not satisfied with your own answer, you are advised to reread the relevant section before moving on. In addition there are comprehensive worked **examples**. We have taken great care to ensure that you will be able to follow these through by explaining any aspects which we know by experience are likely to cause students some difficulty.

At the end of most chapters there are two types of question. **Review questions** are intended primarily for tutorial discussion, enabling you to focus and expand your thinking on topics, and to evaluate critically accounting techniques and concepts. If you are studying on your own, or without tutorial support, you will find it helpful to write short essays for each question and to check your thinking against the ideas expressed in this and other texts. **Exercises** are designed to test both your technical and analytical capabilities. To enable you to assess your understanding and progress, fully worked solutions to selected exercises for each chapter (those with the exercise number

printed in colour) are provided in the appendices. You should check your solution against that given, ensuring that you understand any differences; essentially, in the case of numerical questions, you need to understand how every figure is arrived at.

The **further reading** section contains a chapter-by-chapter listing of other texts to which you might refer in order to pursue a subject in more depth or for an alternative perspective.

## Content and structure

In Chapter 1 ‘The nature of accounting’, we start with an overview of accounting which includes the framework of conventions, rules and regulations that govern the production and publication of financial accounting statements.

This is followed by Part I ‘Preparing financial statements – the basics’. In Chapters 2 to 4 we explain the logic behind financial accounting and the more technical features of accounting systems. Thereafter, in Chapters 5 to 8, we explain the essentials of accrual accounting and some of the more important problems that this method raises in practice. Also, in Chapter 7 we deal with the preparation and uses of control accounts. The preparation of accounts of sole traders is covered in detail in Chapters 5 to 8. Chapter 9 ‘Preparation of financial statements’ concludes Part I.

Part II deals with the preparation of financial statements of partnerships and limited companies. Chapter 10 covers partnership accounts, including the recently introduced category of limited liability partnerships. Chapter 11 deals with the accounts of limited companies – the most common type of business organisation in the UK and elsewhere. This chapter also includes the basic structural and legal aspects and the basis of taxation of limited companies. Part II concludes with an introduction to consolidated accounts, that is the accounts of groups of companies. Virtually all published accounts of companies quoted on stock exchanges are for groups of companies.

Part III covers a number of special topics in accounting. Chapters 13 to 17, most of which are short, deal with incomplete records, accounts of clubs, societies and charities, branch accounts, computerised accounting and auditing. The section on charities is new, reflecting the size and importance of charities today. Computerised accounting, and the linked section in auditing, are also new, reflecting the fact that most accounting systems are now computerised.

In Part IV ‘Analysing and understanding financial statements’, we first consider, in Chapter 18, the limitations of the conventional accounting model. Recent events have shown how financial statements may, accidentally or deliberately, mislead users. Further, we make some suggestions as to how financial reporting might be improved. Thereafter, we provide an overview of financial accounting of countries other than the UK. A large proportion of financial statements which you will come across as a student – and more importantly in business – are accounts of companies or groups based outside the UK. We complete Part IV, and the book, by considering ways of analysing and understanding a firm’s results. Firstly, we deal with cash flow statements in Chapter 20, and then devote two chapters to the analysis and understanding of financial statements, which is, ultimately, the aim of the book.

*Please note:* all companies discussed in this text are fictitious and are not intended to bear any resemblance to an existing company.

# 1

## The nature of accounting

### Introduction

In this first chapter we discuss the purposes of accounting, who uses accounting statements and why they use them. We also explain, briefly, the distinction between financial and management accounting. A short history of accounting is included to help you to see modern accounting in the context of the way it developed. Perhaps the most important section is the discussion of the conventions of accounting, because these conventions underlie all the aspects of accounting dealt with in later chapters.

### Learning objectives

At the end of this chapter, after completing the checkpoint questions and exercises, you should be able to:

- explain the main purposes of accounting;
- describe the main users of accounts and explain why they need accounting statements;
- explain what is meant by 'planning and control';
- explain the main difference between financial accounting and management accounting;
- explain what 'conventions' are and describe the main ones;
- explain how conventions may conflict with each other;
- explain what is meant by a 'firm';
- describe the sources of the various rules and regulations that govern the preparation and publication of financial accounting statements.

### 1.1 Purposes of accounting

Accounting is not merely a collection of arithmetical techniques but a set of complex processes depending on and prepared for people.

- Accounting reports are prepared in order to help people make decisions.
- Accounting reports are based on activities that have been carried out by people.

Also, as we shall see later, most accounting reports depend to a large measure on judgements and estimates made by people.

But what, specifically, is accounting? It is difficult to find an all-inclusive definition, but we can say that accounting is concerned with the provision of information in financial terms which will help in decisions concerning resource allocation and in the preparation of reports in financial terms describing the effects of past resource allocation decisions. 'Resource allocation' means the application of money (or other resources) to a particular purpose. Examples of resource allocation decisions include the following:

- Should an individual invest money in a company?
- Should a bank lend money to a firm?
- How much tax should a company pay?
- Should a company build a new factory?

Accounting is necessary in any society needing resource allocation. Its usefulness is not confined to 'capitalist' or 'mixed' economies; however, business accounting has developed mainly in such economies. An accountant is concerned with the provision and interpretation of financial information. He or she does not, as an accountant, make decisions. Many accountants do of course get directly involved in decision-making, but when they do they are performing a different function.

Current decisions about resource allocation are concerned with the future, but accounting is also concerned with reporting on the effects of past decisions. However, we should consider whether this is done for its own sake or in order to provide information which should prove helpful in current and future decisions. Knowledge of the past is relevant only if it can be used to help make current and future decisions. We can influence the future by making appropriate decisions but we cannot change the past. Therefore the measurement of past results is a subsidiary role, but because of the historical development of accounting and, perhaps, because of the limitations of the present state of the art, 'backward'-looking accounting can sometimes seem to be an end in itself and not a means of helping to achieve better results in the future.



### Checkpoint questions

- 1.1 Discuss the main purposes of accounting.
- 1.2 Explain what is meant by 'resource allocation'.

### Key terms

- A **shareholder** is a person who owns shares in a limited company. A **limited company** is created by law. It is said to be incorporated. Such a company is a legal entity which is separate and distinct in law from its owners.
- A **creditor** is a person or firm to whom money (a debt) is owing.
- To **give credit** is to allow a person or firm to purchase goods or services, payment being due at a date later than the delivery of the goods or the performance of the services.
- A **firm** is an organisation set up by its owner or owners to provide goods or services with a view to making a profit.

The example below illustrates how the growth (and eventual dissolution) of a firm generates the need for accounting information.

<i>Stages in development</i>	<i>How accounting helps</i>
1. Leon, a skilled furniture maker, is made redundant by his employer. He decides to start his own business and starts making furniture for sale at craft fairs and exhibitions.	Helps Leon to judge the success of his business; in particular helps him to decide how much he can withdraw from the firm to spend on himself. Provides the basis on which Leon is taxed.
2. Leon meets Angela, who also makes furniture. They decide to become business partners.	Provides the basis for dividing the profit between the partners.
3. The business is successful and the firm expands. In order to finance the expansion, Leon and Angela borrow money from the bank and run up large amounts owing to their suppliers.	Helps to establish the creditworthiness of the firm.
4. Leon and Angela can no longer do all the work themselves so they employ staff.	Helps the partners to decide the level of payment to staff. The payments may include bonuses calculated on the basis of the profit shown in the accounts of the firm.
5. For taxation and other reasons the partners decide to set up a limited company to replace the partnership. Instead of being partners in the firm, Leon and Angela hold shares in the limited company.	The law requires that accounting information is publicly available. The main reason for this is that the owners of the shares are not personally liable for the company's debts. Creditors therefore need to see the accounts in order to judge the firm's creditworthiness.
6. The firm is now so large that a number of different departments are needed and managers have to be employed to run them.	Reports on the results of the different departments.
7. Leon and Angela each sell some of their shares in the company to friends, thus increasing the number of shareholders.	Helps to arrive at the appropriate price for the shares. Satisfies the stewardship function in respect of the new shareholders, who do not take part in the management of the company. Helps to decide how much should be paid to shareholders each year by way of dividends.
8. The firm continues to expand. In order that the company may raise further funds, additional shares are issued. This is done in such a way that the shares may be traded on the Stock Exchange.	Regular accounting information is required to ensure that there is a market for the shares.
9. In due course, the business becomes insolvent and the company is wound up.	Helps to decide how any cash realised from the sale of the assets should be distributed.

## 1.2 Users of accounts

The main users of accounts are as follows.

### Existing shareholders

In larger firms the shareholders take no part in the day-to-day running of the business and so they have to rely on the information contained in the accounts. The decisions that these shareholders face include the following:

- whether to sell, keep or increase their shareholding;
- the annual voting on the re-election of directors, acceptance of the accounts, fixing the remuneration of the auditors, the declaring of the dividend (sometimes called the consumption decision, i.e. how much of the resources should be taken out of the business in the form of dividends);
- whether to call special meetings of the shareholders to remove the directors and bring in new management with more acceptable business policies or abilities.

### Potential shareholders

Stock market investors are continually appraising firms whose shares are quoted on a stock exchange to see if their shares are worth buying. The financial accounts of a firm provide what is perhaps the most important of the basic information used by investors in analysing companies. Financial accounts also provide the basic data used in ascertaining the value to be placed upon unquoted shares.

### Creditors

Banks and other lending firms use the data contained in financial accounts to help forecast the future profitability and liquidity of the firm. On the basis of this assessment the bank or lender can reach decisions as to whether to lend money and on what terms and conditions. In many cases the bank or lender will be able to get more detailed accounting information from the firm than is published generally. Trade creditors may also utilise a firm's accounts in assessing the firm's creditworthiness. This is most likely to happen when a supplier contemplates giving credit to the firm for the first time.

### Investment and credit analysts

These analysts work for investors and creditors, hence they use accounts in the same way as described above. Because the analysts are usually highly trained they are able to make fairly sophisticated interpretations of accounting information.

### The government

The government has a direct responsibility for the control of the economy and, in carrying this out, requires as much relevant information as possible. The civil service extracts information from the accounts of companies, and from this various conclusions are reached regarding growth, liquidity, profitability etc., of industrial sectors

and private enterprise industry as a whole. By using these accounting data in conjunction with other economic information, the government can then make its economic policies and decisions.

## The Inland Revenue

Taxes of business enterprises are based on annual financial accounts, although these are adjusted to comply with the tax laws.

## Employees

Employees, especially through their trade unions, take an interest in the financial accounts of their firms. The accounts give information which the employees, or their trade unions, use in assessing employment prospects and whether the firm will be able to pay increased wages.

## Society at large

The financial accounts provide significant information that is made publicly available by companies. From this and other published information, public opinion may be turned against or in favour of the firm, and the pressure may be severe enough to make the company change its policies.

### ? Checkpoint question

1.3 List the users of accounts for business firms and explain briefly why they need accounting statements.

## 1.3 Planning and control

We may describe the making of current decisions as planning and should consider how the reporting of past activities can help in the planning process. A knowledge of the past might help in the estimation of future outcomes. For example, a manager wishing to estimate the costs of manufacturing a new product would find it helpful to know the cost of manufacturing similar products in the past.

Another purpose in measuring past results is control. Here, past results are compared with a pre-set target or standard; knowledge of the difference between the actual results and the target may be used in various ways to improve future performance as follows:

- If past results are not as good as expected then (assuming the expectations are reasonable) remedial action needs to be taken and this will give rise to a current (planning) decision.
- The difference between actual and target results may suggest that errors have been made in past planning decisions, and this knowledge can serve to refine the planning process.

Thus planning and control are very closely linked; indeed it could be argued that they are indivisible. Notice that planning and control are both kinds of decision-making.



In 'planning' we make a number of decisions about what we want to do and how we intend to achieve our objectives; in 'control' we make decisions about remedial action to be taken, changes to be made to the plan, and so on.

## 1.4 Financial and management accounting

A distinction is often made between *financial* and *management* accounting. Financial accounting consists basically of the preparation of financial statements which cover the whole of the activities of a business, charity, golf club etc. (or *entity*) and which are primarily intended for use by people outside the entity. Management accounting, on the other hand, is usually concerned with parts of the entity as well as the whole, and is intended to help decision-making by those who are inside the firm.

However, too much can be made of this distinction, for the same basic information is used for both financial and management accounting, and both insiders and outsiders have to make decisions which are of the same fundamental nature.

The concept of an entity is important in accounting. Economic activity is carried on through specific units or entities. The results of the accounting process are expressed in terms of specific entities, the basic units of economic organisation. Any report should clearly identify the particular entity involved. It is the entity concept which justifies the preparation of financial statements which deal only with the business activities of a sole trader, ignoring the owner's non-business assets and liabilities, even though the business entity (the firm) has no separate legal existence.

### Key term

■ An **entity** is something which has a separate and distinct existence (not necessarily a separate legal existence). In this context 'entity' means an organisation set up for some purpose. In business the main purpose is the making of profit; such an entity is known as a firm.



### Checkpoint question

1.4 What is meant by an 'entity'?

## 1.5 Financial accounting for past activities

In this book we are concerned with financial accounting, concentrating on the reporting of past activities. We will concentrate in the first place on accounting for one of the simpler forms of business entity: the sole trader. Although limited companies now make up the majority of business enterprises in the UK, dealing with sole traders first enables us to explain the basic concepts and procedures of accounting without the complications caused by the law relating to limited companies.

### Key term

■ A **sole trader** is an individual carrying on business on his or her own account, with a view to profit, without any other persons being involved in the ownership of the business.

Financial accounting may be seen as consisting of recording, classification, presentation and interpretation of financial information. In order to understand the sort of information that is recorded, classified and presented, it will be useful to consider the immediate aim of the financial accounting process. This is the preparation of balance sheets and profit and loss accounts. These will be discussed fully later, but it is useful to outline the main features of a balance sheet at this stage.

A balance sheet is a statement of assets (amounts owned by an entity) and liabilities (things owed by an entity) at a point in time, with the difference between the assets and liabilities being known as owner's equity. The difference between owner's equity at the start and at the end of a period gives the profit for the period (if we assume that the owner does not introduce additional resources or withdraw any resources).

## 1.6 A brief history of accounting

### Ancient accounting records

Some of the earliest written records known to us are accounting records. They come from the Middle Eastern civilisations of Mesopotamia, Egypt, Crete and Mycenae. The earliest records were in physical quantities only, but the later Greek and Roman records were expressed in terms of money as well as other goods. The ancient documents helped people to keep track of their assets and made it easier to exercise control over those who had been entrusted with other people's money and property. This latter purpose is called the *stewardship* function of accounting.

#### Key terms

■ A **steward** is a person employed to manage another's property. The responsibility for the other's property is known as **stewardship**.

Early accounting statements were based on the charge and discharge principle. A charge and discharge statement covered a given period of time and was in two parts: the 'charge', showing goods and cash held by the steward on behalf of the owner at the start of the period, together with cash and goods collected by the steward during the period; and the 'discharge' which showed the cash and goods expended by the steward on behalf of the owner as well as any assets transferred to the owner. The balancing figure was the amount owing to the owner at the end of the period.

### Renaissance Italy

The Italian city states of the thirteenth and fourteenth centuries produced the next important advance in accounting technique: double entry bookkeeping. The need for better financial records arose out of the rapid developments in trade, banking and manufacturing during this period. The increased size of firms and the more widespread use of credit meant that it was more necessary to have a satisfactory method of recording assets and liabilities. The earliest known textbook describing double entry bookkeeping is *Summa de Arithmetica, Geometria, Proportioni et Proportionalita* (*Everything about Arithmetic, Geometry and Proportion*) by Luca Pacioli, a Franciscan friar and mathematician, published in 1494 at Venice. The book was mainly a mathematical

text but it included a section on bookkeeping called ‘De Computis et Scripturis’ (‘Of Reckonings and Writings’) which was translated and imitated in many languages. In this way the book was largely responsible for the spread of bookkeeping throughout Europe. However, the method was not universally adopted at that time.

## Later developments

Accounting continued to develop in response to the changing needs of business. This was especially noticeable in Great Britain, firstly following the developments in agriculture and trading in the sixteenth and seventeenth centuries, and then, more importantly, following the Industrial Revolution in the nineteenth century.

In the sixteenth and seventeenth centuries, improved records were needed to keep track of expanding trade. However, the profit and loss account was not considered particularly important. Generally, businesses were run by their owners. Profit and loss statements and the value of the business assets are of little interest to an owner who works in the business and who is therefore in close contact with the business operations. Also, at a time when additional funds were needed, the lender was primarily interested in the balance sheet which gave an indication of the available cover for the loan.

Technological advances and the rapid expansion of business activities in the nineteenth and early twentieth centuries meant that firms needed more funds than the entrepreneurs could supply from their own resources. The owners therefore needed to raise funds from outsiders, who would become part-owners of the firm but would not take part in its management. Few people would be prepared to invest on these terms if they risked not only the amount invested but also all their personal assets by assuming responsibility for the whole of the debts of the firm, as do sole traders and partners in a firm. In order to encourage outsiders to invest, the concept of limited liability was introduced. This enabled individual investors who bought shares in a limited liability company to do so without becoming personally liable for the firm’s debts. These new investors were interested in the profitability of the firm. The profit figure naturally came to be seen as the main indicator of the profitability of the operation, generating funds for the payment of dividends to the investors. It seems that from an early date the profit figure set the upper limit for dividends. This convention is based on the sensible observation that, if dividends exceeding profit were paid out, the operating funds (the ‘capital’) of the business would be reduced.

It is interesting to note that legal provisions for disclosure in accounts progressed quite slowly and did not affect the underlying conventions of accounting (see below). In particular, there was originally no requirement in law for a profit and loss account. The profit and loss account required by the Companies Act 1948 provided very little information. The first requirement for a profit and loss account which we would recognise as such today came as recently as 1967, about a century after the introduction of limited liability. This lack of interest in the profit in early accounting is significant: the focus was on wealth and therefore on the balance sheet. As we shall see, this led to problems in measuring profit which are still plaguing us today. The current legal position is described later in the chapter.

## 1.7 Conventions

We will be concentrating on accounting based on historical cost (see ‘Objectivity’ below) as this is the basis of accounting used by the majority of companies. An important point that must be understood at the outset is that a historical cost balance sheet is not a statement showing the current economic values of the assets or the current economic value of the business as a whole. To see what bases are used in balance sheets (and profit and loss accounts), it is necessary to study accounting conventions or, as they are sometimes misleadingly called, principles. These conventions may be viewed as the rules of the game, but rules which are sometimes broken for the most respectable of reasons by the most respectable of accountants. Broadly, the rules would be broken if, by doing so, a more meaningful picture were presented by the accounting statements (this is known as presenting a ‘true and fair’ view of the results).

There is a good deal of disagreement about conventions. There is no authoritative list of conventions. Indeed, there is no agreement among authors as to the name to give to these ideas; they are variously described as ‘conventions’, ‘postulates’, ‘rules’, ‘assumptions’ or ‘concepts’. We use the term ‘convention’, i.e. a custom or usage, to stress that there is nothing fixed and unchangeable about them. They are the ‘rules of the game’ which accountants have generally come to accept over the years. There is, however, greater consensus as to what is meant by an ‘accounting policy’. As we will see later in this chapter, an accounting policy is a convention or rule that has been used by an entity in preparing its financial statements.

### ? Checkpoint questions

1.5 What do we mean by a ‘convention’?

1.6 Why might accountants, quite properly, break the ‘rules’?

The following is a list of important conventions. The first four (going concern, accruals, consistency and prudence) were considered sufficiently important for them to be adopted as Accounting Principles by the Companies Act 1985, giving them the force of law. It is interesting to note that none of the earlier Acts made any mention of the principles to be adopted when preparing accounting statements. Also, it is difficult to see the logic underlying the choice of these particular principles. For example, all accountants are taught to try to prepare accounts which are ‘objective’, i.e. free from bias (see below). It is difficult to see why objectivity is not included.

### Going concern

Unless there is evidence to the contrary, the entity is viewed as remaining in operation indefinitely (that is, for a period of time not yet determined, not for ever). On the other hand, if there is evidence that the entity or a significant part of it has a limited life (for example where the owner is about to retire and close the business, or where a limited company is to be liquidated), this should be taken into account and the entity should not be viewed as remaining in operation indefinitely.

## Accruals

Revenue and expenses are *accrued*, that is they are recognised in the accounts as they are earned or incurred, not as the money is received or paid.

### Key terms

■ In this context, **revenue** is ‘earned’ normally when the goods or services sold are delivered or provided, whether or not they are paid for at that time. **Expenses** are ‘incurred’ immediately the firm accepts liability for the cost, whether or not the amount is paid at that time.

The revenue and expenses are *matched* with each other so as to bring them into the period to which they relate; thus profit (revenue minus expenses) for the period can be ascertained. The *accruals* concept and the *realisation* and *matching* conventions are of particular importance and are dealt with in detail later. The realisation convention – the idea that revenue should not be recognised in the accounts until realised and expenses should not be recognised until incurred – could well be said to be the key convention (or concept) in conventional, historical cost accounting.

## Consistency

We will see later that there are numerous instances where an entity can choose between different accounting methods. In general, the entity should adopt a consistent approach to similar items within each accounting period and from one period to the next, so that the results may be compared.

## Prudence

Revenue and profits are not anticipated but are recognised in the profit and loss account only when realised. Faced with a choice, accountants will usually take the pessimistic view, showing the lowest reasonable figure of current profit; they will always ensure that all losses are recorded in respect of any period but will not take account of any profit which is not yet certain. The reasons for this are in part historical, arising, for example, from the need not to mislead creditors into overestimating the creditworthiness of a firm. The limitations of the undue exercise of prudence and the damage that may result are increasingly being recognised.

## Objectivity

Accountants seek to prepare accounting statements that are as free as possible from personal opinion or bias. An important extension of this is that assets are recorded at their original acquisition cost, or historical cost, rather than at their current values.

## Verifiability

So far as possible, figures used in accounting statements should be capable of independent verification. It can be seen that objectivity and verifiability are allied to each other.

## Unit of measure

Money is the common denominator in terms of which goods and services are measured. Any report must clearly indicate which currency (for example pounds sterling, US dollars, the euro) is being used.

## Time period

Economic activity is carried on during specific periods of time. Any report should specify the period of time involved.

## Duality

Accounting regards every transaction as having two aspects. For example, if a business buys machinery for cash, the asset ‘machinery’ is increased and the asset ‘cash’ is decreased. We do not take the view that cash is ‘converted’ directly into machinery, which could be said to have only one aspect. The specific technique which reflects the concept of duality is known as *double entry bookkeeping*, which will be dealt with in detail later in the book.

## Materiality

The accountant will not necessarily take special notice of a given item if it is not material in the context of the firm, its business and its size, for example an item of an unusual nature which would normally require separate display may be included as part of sundry expenses if the amount involved is insignificant compared with the overall size of the undertaking.

## Relevance

Information which is relevant to the needs of the users should be presented to them, that is it should be capable of influencing their behaviour through helping them to make decisions. For instance, the figures in the balance sheets and income statements should help them to decide whether to invest in a business or to lend money to it.

All of the above conventions and ‘concepts’ apply to all methods of accounting. There is one additional convention which is particularly relevant to conventional, historical cost accounting.

## Stable money unit

It is assumed that money is a stable measuring unit, i.e. that pounds sterling of different periods can be added in the same way as last year’s metres can be added to this year’s metres. (Obviously this is not the case; we shall return later to the problems this causes.)



### Checkpoint question

1.7 List and explain, briefly, the main conventions of accounting.

Because conventions have no consistent logical basis it is not surprising that they are often in conflict with each other, as with the following, for instance:

- Deciding to take the conservative or prudent view of results involves making a *subjective* judgement, which conflicts with objectivity.
- Deciding which items are material involves *subjective* judgement, conflicting with objectivity.
- The use of old, *historical costs* is usually not relevant to current decisions.
- Use of a *stable money unit* in times of inflation leads to overstatement of profit, which is not *prudent*.

It must not be thought that the conventions came first, with accounting practice being based on them. On the contrary, these conventions may be thought of as being a rationalisation of what accountants actually do. The situation may be likened to the painting of road signs stating the speed limits. The equivalent road sign to accounting conventions would be prepared by someone who has watched the traffic in a built-up area for a while and eventually paints a sign saying ‘Speed limit about 37 miles per hour or, sometimes, 60’.

## 1.8 Rules and laws

This book is concerned with the basic principles of financial accounting as well as the business environment which accounting serves. It is not about the detailed rules and laws which govern accounting, but it is necessary from time to time to make some reference to those who set the rules and laws. Hence it would be helpful to introduce readers to some of the more important of the rule and law makers who control accounting in the UK.

There are numerous laws which affect in particular the form and content of the published financial statements (accounts) of limited companies and these are in the main to be found in the Companies Acts 1985 and 1989. The European Union (or Commission) also has a part to play, and the Union’s directives are now incorporated into UK law.

The rule makers are the various senior professional accountancy bodies, of which there are six in the UK, who act collectively in this matter through the Accounting Standards Board (ASB). The ASB publishes the rules in various Financial Reporting Standards (FRSs). Before issuing an FRS the ASB publishes a draft standard in the form of a Financial Reporting Exposure Draft (FRED) on which the business community is invited to comment.

Financial Reporting Standards apply to all forms of business entity, not just limited companies, but do not have the force of law. In theory the professional accounting bodies can discipline any of their members who are associated with the preparation of a set of financial statements which does not comply with the FRSs, but in practice they are reluctant to take such action.

The current system, established in 1990, is a development of a regime first introduced in 1970. The predecessor of the ASB was the Accounting Standards Committee (ASC) which worked in much the same way as the Board. The ASC issued Statements of Standard Accounting Practice (SSAPs). The ASB adopted the SSAPs which remain in

force until withdrawn by the ASB, and this normally only happens when the SSAP is replaced by an FRS.

A more recent development is that of international harmonisation whereby the same financial reporting standards are used by all countries that subscribe to the programme. The International Accounting Standards Board (IASB) works in much the same way as the ASB in that it issues International Accounting Standards (IASs). As part of the harmonisation programme the ASB is reviewing all its standards with the intention that they should correspond to the equivalent IAS. It has not yet proved possible to achieve full harmonisation, but where there are differences, the UK standard provides a detailed explanation of the nature of the differences and the reasons why the ASB disagrees with the position taken by its international colleagues.

Finally, those entities whose shares are traded on a stock exchange are subject to the exchange's regulations relating to the publication of financial statements. Given the importance of financial standards, stock exchange regulations now have a limited impact on the content of financial statements. The main impact of such rules is the requirement for the publication of interim financial statements.



### Checkpoint questions

- 1.8 Explain briefly why conventions may conflict with each other.
- 1.9 If there is a conflict between conventions, which convention is likely to prevail, if it is one of those involved?

### Summary

**In this chapter we have discussed the main purposes of accounting, which may be summarised by stating that accounting statements are produced to help the users of accounts make decisions of various kinds. We then went on to list the users of accounts, explaining how they use the statements. The chapter also included brief discussions of planning and control and the distinction between financial and management accounting. This was followed by a brief history of accounting, intended to help you put modern accounting practice into its historical context.**

**The part of the chapter on conventions, rules and laws is perhaps the most important for you to understand as the conventions discussed underlie the whole of accounting practice and methods.**

### Review questions

- 1.1 To whom do you think financial accounting is most useful? Explain why and give examples.
- 1.2 Explain what is meant by 'planning and control' and discuss the role of accounting in this context.
- 1.3 Raul, a farm owner, used to employ a farm manager, but when he saw the financial statements for the last year, Raul dismissed the manager. Assuming that Raul is a rational person, explain in which ways his action in dismissing the manager shows planning and control.





## Exercises

**Solutions to exercises whose number is in colour can be found at the end of the book.**

**1.1** Tick the answer which you consider to be correct.

- (a) In accounting, if we give credit to someone it means that
  - (i) we think that they have done a good job;
  - (ii) we know that they have money in the bank;
  - (iii) they will be allowed to pay later for goods or services already supplied;
  - (iv) we think they are of good character.
- (b) Which of the following is not included as one of the conventions of accounting?
  - (i) materiality
  - (ii) simplicity
  - (iii) objectivity
  - (iv) relevance
- (c) The main purpose of management accounting, as distinct from financial accounting, is
  - (i) to help decision-making within the company;
  - (ii) to assess the amount of tax a company has to pay;
  - (iii) to ascertain the value of the company's shares;
  - (iv) to assess the company's creditworthiness.
- (d) Financial accounting reports are prepared primarily
  - (i) to value the property of the company;
  - (ii) to show managers the results of their departments;
  - (iii) to help people make decisions about resource allocation;
  - (iv) to show the value of the shares in the company.
- (e) A company had bought some widgets, intended for resale, at a purchase price of £20 each. They can now be sold for only £17 each. In valuing the widgets for the purposes of preparing the financial accounts, which is the overriding convention?
  - (i) materiality
  - (ii) matching
  - (iii) prudence
  - (iv) going concern

**1.2** Jack and Jill own a bucket which cost them £5. The bucket has not yet been used. They also have £3 in cash. (Ignore any other assets which they might have.) They have decided to go into business buying and selling water. They estimate that the bucket will last for 10,000 journeys to the well to fetch water. Jack and Jill found that they had to pay £2 to the water seller at the well to fill their bucket.

Returning from the well, Jack collided with a passer-by and broke his glasses. He promised to pay for the damage. The passer-by said that he thought the glasses could be repaired for between £4 and £6. When Jack and Jill arrived at the bottom of the hill they found someone who paid them £10 for half the water in the bucket. Other potential customers are approaching, and Jack and Jill have heard that the water seller may now be charging £3 for a bucket full of water. They have also found out that the price of buckets has doubled since they started business.

*Required:*

- (a) List Jack and Jill's assets and liabilities at this time and work out how much better (or worse) off they have become since they started business. In doing this, list whichever accounting conventions you have used and explain why you consider them to be appropriate.
- (b) Work out, from the figures you have produced, a statement of assets and liabilities at the end of the period for which Jack and Jill have been trading. Also produce a statement showing how the profit (or loss) was made during the period.
- (c) Discuss whether or not the statements give a realistic picture of what has happened and the position of Jack and Jill at the end of the period.



# Part I



## Preparing financial statements: the basics

<b>2 The accounting equation: balance sheets and profit and loss accounts</b>	<b>19</b>
<b>3 The extended accounting equation: debits and credits</b>	<b>37</b>
<b>4 Accounting systems and financial statements: the basics</b>	<b>47</b>
<b>5 Accrual accounting</b>	<b>63</b>
<b>6 Fixed assets and depreciation</b>	<b>82</b>
<b>7 Bad and doubtful debts and control accounts</b>	<b>100</b>
<b>8 Cost of goods sold</b>	<b>121</b>
<b>9 Preparation of financial statements</b>	<b>136</b>



# 2

## The accounting equation: balance sheets and profit and loss accounts

### Introduction

In the first part of this chapter we introduce the accounting equation, showing how it is built up and how it shows the relationship between assets, liabilities and equity. We then show that these elements are the basis of a balance sheet, before going on to demonstrate how business transactions may be analysed in terms of the equation so as to produce a profit and loss account and a balance sheet.

### Learning objectives

At the end of this chapter, after completing the checkpoint questions and exercises, you should be able to:

- explain what is meant by an 'entity' and why we account for its transactions separately from those of its owner(s);
- explain the logical basis of the accounting equation and why the balance sheet must balance;
- define 'assets' and 'liabilities';
- explain what is meant by 'profit and loss account';
- analyse transactions in terms of their effects on the balance sheet.

## 2.1 The accounting equation

### The firm

The main purpose of accounting is to report on the success, or otherwise, of a business. When the business activities are carried out by a legal entity, such as a limited company, which is separate from its owners in law, then it is clear that we should report the effects of the transactions entered into by the company. However, many smaller businesses are not carried out by separate legal entities but by individuals who often intermingle their 'private' transactions with those of the business. For example, they might use the same car for both private and business purposes. In preparing accounts in such cases the accountant seeks to treat the business as a separate entity. As far as possible, a distinction is made between the business and private elements of

the affairs of the owner(s); only those elements that relate to the business are reported upon.

### The accounting equation

In order to start business, the owner or owners of the business will need some *assets*, which might include stock and other assets such as machinery and vehicles. In order to buy such assets, *funds* are needed. There are two possible *sources* of funds: the owner(s) of the business and outsiders. The owner will have to bring in some funds from his or her own resources in order to start the business; this is called *equity*. If, as is often the case, this does not provide enough funds, the business must raise funds from an outsider, for instance a bank. This source is called a *liability*. Notice that it is not possible to have any other source: every provider of resources must be either an owner (equity) or not an owner (liability) (Figure 2.1).

From these observations we can derive the following relationship (Figure 2.2):

**the total of the assets must equal the total of the sources**

or

**total assets must equal total equity plus total liabilities**

This may be expressed in the form of an equation. If total assets equals  $A$ , total equity equals  $E$  and total liabilities equals  $L$ , then

$$A = L + E$$

These elements form the basis of a balance sheet, which is made up of lists of assets, liabilities and equity arranged into two columns (assets and sources of assets) so that the balance sheet ‘balances’, that is the totals of the columns are equal. While this may impress non-accountants, a balance sheet balances because by definition it must. It is

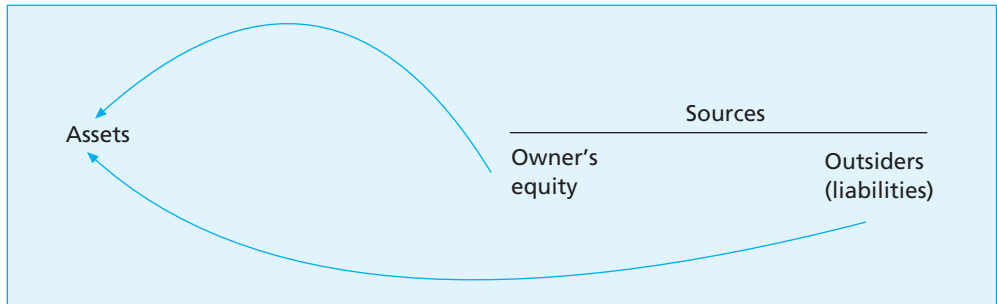


Figure 2.1 Sources of funds

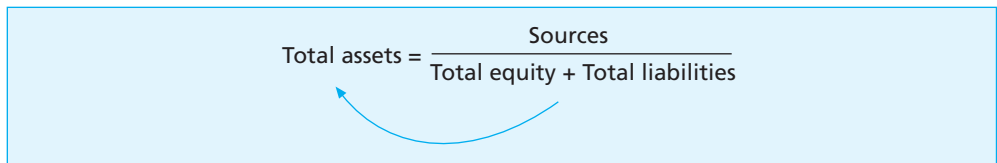


Figure 2.2 Total assets must equal total sources

important in studying accounting to understand why this is so. The reason is that, as we have shown, each asset owned by the entity has a source; since the amount of the source must equal the cost of the assets funded by the sources, the balancing of the balance sheet is ensured.

**Key term**

■ Stated simply, an **asset** is owned by its owner and is worth something to its owner. More formally, an asset is any right which is of economic value to its owner. The right may be general or specific. If you have cash you may buy goods and services: you have general power to command resources. An example of a specific right is an insurance premium, which is always paid in advance; this provides the specific economic benefit of being insured for the period covered by the payment.

This is a good enough general definition of an asset, but for accounting purposes we need to be more exact when deciding whether to recognise an asset for inclusion in the records. The conditions we need to apply are as follows:

- The asset must be acquired for a measurable cost, so that there is an amount in money which can be entered in the books of account.
- The asset must be capable of yielding future economic benefits. There are two points here:
  - (a) the asset must still be of some use, in that it will produce benefits in the future;
  - (b) the benefits must be of an economic nature such that the cash flow to the business would be reduced if the business were deprived of the use of the asset without compensation.

We return to the question of assets and their relationship to expenses later.

**Key terms**

■ As explained above, we can see that **liabilities** are the source of funds from outsiders. Since the providers of the funds will expect to be repaid in cash or in kind, it follows that liabilities represent amounts ‘owed’ to people or firms outside the business.

Liabilities can be of different kinds including: amounts owed in respect of goods or services provided on credit; loans of cash; and obligations to provide a service in future, e.g. subscriptions to a magazine paid in advance where the liability is the obligation to deliver future copies of the magazine.

■ **On credit** means that there is an agreement between the buyer and seller that the goods or services may be paid for at a date later than that on which they were delivered or provided to the buyer.

■ A **creditor** is a person or firm to whom money (a debt) is owing. Where the amount owed is in respect of goods for resale, the creditor is known as a **trade creditor**.

Returning to the accounting equation  $A = L + E$ , we can now look at an example. Before doing so, we want to remind you that we will be dealing with the accounts of sole traders before going on to deal with the accounts of partnerships and limited companies. This is in order to avoid the complications which arise because of the existence of more than one owner, in the case of partnerships, and the various legal requirements which apply to limited company accounts.



- Key terms**
- A **partnership** is a business carried on by two or more individuals, sharing in the ownership of the business.
  - A **limited company** is set up by law; it is said to be incorporated. Under the law it is seen as a ‘legal person’, separate from its owners. The owners, known as shareholders, have the benefit of ‘limited liability’, that is they can lose only the funds they have already invested; the creditors cannot proceed against them but only against the company.

### Example 2.1

The owner of a business, Arvin Patel, started a business by paying £10,000 into the business bank account on 1 March 20X1.

Assets	£		Sources	£
Cash	10,000	equals	Equity	10,000
Suppose the bank lent the business £5,000 on 31 March 20X1, then				
Cash	15,000	equals	Equity	10,000
			plus	
			Liability	<u>5,000</u>
	<u>15,000</u>			15,000

## 2.2 The balance sheet

The balance sheet and the profit and loss account form the basic accounting statements of the firm. A balance sheet is a list of the assets, liabilities and equities of the firm. One of the accepted balance sheet layouts, the ‘horizontal’ form, shows assets, liabilities and equity in the same way as the basic accounting equation  $A = L + E$ .

### Example 2.2

#### Balance sheet of Patel’s business as at 31 March 20X1

Assets	£	Liabilities	£
Cash	15,000	Bank	5,000
		Equity	<u>10,000</u>
	<u>15,000</u>		15,000

As you can see, the assets and the sources of funds for the assets are clearly shown. This type of layout is widely used in continental Europe but is seldom, if ever, used in the UK where the ‘vertical’ layout is preferred (see below).

In order to arrive at the figures for the vertical balance sheet we need to rearrange the equation, as the vertical form shows the liabilities deducted from the assets to show the ‘net asset’ figure.

- Key term** ■ The **net assets** figure equals the total assets less the total liabilities.

Rearranging the equation

$$A = L + E$$

we get

$$A - L = E$$

that is, total assets less total liabilities (i.e. net assets) equals total equity. Arranging the equation vertically we get

total assets	<i>A</i>
<i>Less: total liabilities</i>	<u><i>L</i></u>
	<i>A - L</i>
equals total equity	<u><i>E</i></u>

Rearranging the figures in Example 2.2:

	£
Assets	
Cash	15,000
<i>Less: Liabilities</i>	
Bank	<u>5,000</u>
	<u>10,000</u>
Equity	
Patel	<u>10,000</u>

This layout has the advantage of showing the net assets clearly, and separating the equity from the outside liabilities. We will be using the vertical layout throughout the rest of the text, as it is the preferred layout in the UK.

The balance sheet will not show the specific source of a given asset. For instance, if the firm then bought stock for £9,000 cash on 4 April 20X1, we would have, as at 4 April 20X1:

Assets	
Cash	6,000
Stock	<u>9,000</u>
	15,000
<i>Less: Liabilities</i>	
Bank	<u>5,000</u>
	<u>10,000</u>
Equity	
Patel	<u>10,000</u>

We can see that cash has been exchanged for stock, but not the source of the particular funds which were eventually spent on stock.

#### Key term

■ Stock consists of goods intended for resale by the firm. 'Stock' is the term usually used in the UK; in the United States, for example, it is known as 'inventory'.

If the following transactions then take place, we can analyse them by using a worksheet, starting from the balance sheet above:

Assets	£	–	Liabilities	£	=	Equity	£
Cash	6,000		Bank	5,000		Patel	10,000
Stock	<u>9,000</u>						
	<u>£15,000</u>	–		<u>£5,000</u>	=		<u>£10,000</u>

The firm purchased, on 10 April, some more stock from Iglor Trading for £4,500, payment to be made in one month's time. In other words, the goods have been bought 'on credit'.

Assets	£	–	Liabilities	£	=	Equity	£
Cash	6,000		Bank	5,000		Patel	10,000
Stock	<u>13,500</u>		Iglor Trading	<u>4,500</u>			
	<u>£19,500</u>	–		<u>£9,500</u>	=		<u>£10,000</u>

This gives the following balance sheet.

**Balance sheet as at 10 April 20X1**

Assets		£	
Cash		6,000	
Stock		<u>13,500</u>	
		19,500	
Less: Liabilities			
Bank	5,000		
Iglor Trading	<u>4,500</u>		
		<u>9,500</u>	
		<u>£10,000</u>	
Equity			
Patel		<u>£10,000</u>	

*Note:* For the moment we are reverting to the basic equation  $A = L + E$  so that you can be sure that you fully understand it.

**? Checkpoint question**

**2.1** Brown started business by paying £20,000 into a business account. He then purchased goods for resale (stock) for £7,000 cash. Immediately after that he bought £5,000 of stock from Smith Supplies, on credit.

Analyse these transactions into assets, liabilities and equity, showing that the equation  $A = L + E$  is satisfied.

The following is a more complex example. We have analysed the transactions using an analysis sheet (Figure 2.3). The effect of each transaction is shown in the plus and minus columns for assets, liabilities and equity. Note how, at all times, the equation  $A = L + E$  is maintained. In the analysis sheet you will see that cumulative columns are provided for  $A$ ,  $L$  and  $E$ . The figures in these columns at any point in time will give the balance sheet totals.

	A	B	C	D	E	F	G	H	I	J	K	L
1		MacKendrick										
2												
3		Date		Assets			Liabilities			Equity		L+E
4			+	-	Cumulative	+	-	Cumulative	+	-	Cumulative	Cumulative
5												
6	1	1 Jan.	10,000		10,000				10,000		10,000	10,000
7			(cash)						(capital)			
8	2	2 Jan.	3,000	3,000	10,000						10,000	10,000
9			(stock)	(cash)								
10	3	3 Jan.	4,000		14,000	4,000		4,000			10,000	14,000
11			(stock)			(Jones)						
12	4	4 Jan.	2,000		16,000			4,000	2,000		12,000	16,000
13			(car)						(capital)			
14	5	6 Jan.		2,500	13,500		2,500	1,500			12,000	13,500
15				(cash)			(Jones)					
16	6	6 Jan.		1,500	12,000			1,500		1,500	10,500	12,000
17				(cash)						(capital)		
18	7	7 Jan.	5,000		17,000	6,000	1,000	6,500			10,500	17,000
19			(cash)			(Smith)	(Jones)					
20												

Figure 2.3 An analysis sheet for MacKendrick

### Example 2.3

- MacKendrick started a business on 1 January 20X0 with cash of £10,000; he paid this into a newly opened business bank account.
- He purchased some goods for resale for £3,000 for cash on 2 January 20X0.
- On 3 January 20X0 he purchased some more goods for £4,000, but this time his supplier, Jones, allowed him credit.
- MacKendrick decided that in order to sell his goods he would need a car. He already owned a car, and decided that, as from 4 January 20X0 this car should be treated as an asset of the business instead of being considered a private asset. It would cost about £2,000 to purchase a car of the same model and condition as MacKendrick's.
- On 6 January 20X0 MacKendrick paid Jones £2,500.
- The original capital contribution of £10,000 had left MacKendrick with too little cash so, on 6 January 20X0, he took £1,500 out of his business bank account for his personal living expenses.
- MacKendrick decided that he would need more cash in order to run his business and so approached his friend Smith and asked him for a loan. Smith agreed and said that he would give MacKendrick £5,000 in cash and would himself pay Jones £1,000. This he did on 7 January 20X0.

We can see that as at the close of business on 7 January the equation is satisfied, i.e.

$$A = L + E$$

$$£17,000 = £6,500 + £10,500$$

These figures are merely the balance sheet totals but with some analysis we can prepare a balance sheet.

**MacKendrick**  
**Balance sheet as at 7 January 20X0**

	£
Assets (from columns C and D, Figure 2.3)	
Car	2,000
Stock (3,000 + 4,000)	7,000
Cash (10,000 – 3,000 – 2,500 – 1,500 + 5,000)	<u>8,000</u>
	<u>17,000</u>
Financed by	
Liabilities (from columns F and G)	
Trade creditor (Jones) (4,000 – 2,500 – 1,000)	500
Loan (Smith)	<u>6,000</u>
	6,500
Owner's equity (column K)	<u>10,500</u>
	<u>£17,000</u>

The analysis sheet is cumbersome and is not used in practice. However, it does provide clear insights into the workings of the accounting method. You should work through it carefully, item by item, making sure you understand the treatment of each; make sure that you know where each figure comes from.

### ? Checkpoint question

**2.2** Show how the following transactions increase or decrease assets, liabilities and equity.

- (a) Jones starts a business by paying £100,000 into a new business bank account.
- (b) He then purchases goods for resale, on credit from Koslowski, for £3,500.
- (c) A freezer is needed in the business. Jones has such a freezer at home, so he decides to transfer it to the business. He estimates that it would cost £400 to buy a similar second-hand freezer.

### More about liabilities

In Example 2.3 we differentiated between two sorts of liabilities: trade creditors, the source resulting from suppliers providing goods or services before they are paid for, and loans where (in general) cash is provided by the outsider in exchange for a promise that the cash will be repaid (with interest) in the future. Trade credit, which is usually interest-free, lasts for a comparatively short time (although it is continually being renewed), whereas loans may be for any length of time, depending on the agreement between the borrower and the lender.

A liability may be recognised even if the actual sum involved cannot be determined with accuracy. For example, a business might offer a guarantee when selling goods, and although it may only be able to make a very rough estimate of the costs that it will have to incur in carrying out its obligation, it should still recognise the liability. This type of liability is described as a ‘provision’; it is known to exist but the amount cannot be determined with any reasonable degree of accuracy.

### Comments

At all times,  $A = L + E$ . There are nine ways in which the identity can be manipulated.

These are:

	From Figure 2.3
1. Increase asset and decrease asset	(2)
2. Increase asset and increase liability	(3)
3. Increase asset and increase equity	(1)
4. Decrease asset and decrease liability	(5)
5. Decrease asset and decrease equity	(6)
6. Increase liability and decrease liability	(7)

The following are not illustrated in Example 2.3:

7. Increase liability and decrease equity.
8. Decrease liability and increase equity.
9. Increase equity and decrease equity.

An example of item 7 would be the business taking over a ‘private’ liability of MacKendrick’s, whereas item 8 could be the reverse, i.e. MacKendrick himself taking over a liability of the business. Since, with a sole trader, no attempt is made to distinguish between different sorts of owner’s equity, it is not possible to think of an example of item 9 in this context. However, such a transaction would be relevant in the case of a limited company, where it is meaningful to talk about different forms of owner’s equity.



### Checkpoint question

2.3 Give examples of transactions which

- (a) increase assets and decrease assets;
- (b) increase assets and increase liabilities;
- (c) increase liabilities and decrease liabilities;
- (d) decrease assets and decrease liabilities;
- (e) increase assets and increase equity;
- (f) decrease assets and decrease equity.

## 2.3 The profit and loss account

The profit and loss account is a summary of the revenue (sales of goods or services, royalties, etc.) and expenses of the business. The revenue minus the expenses equals the profit of a given period of time, year, month, etc. The workings of the profit and loss account and its relationship with the balance sheet are best explained through an example. We shall continue with MacKendrick.

Let us suppose that on 8 January 20X0 MacKendrick sold, for £1,500 cash, goods which originally cost him £1,000. We shall now consider in detail the effect of that transaction (transaction number 1).

Assets, in total, have been increased by £500, the asset ‘cash’ having been increased by £1,500 and the asset ‘stock’ decreased by £1,000. What is the source of this increase in assets? The source is the owner. Through trading, the business has made a profit; the owner could have withdrawn that profit, but as he had not done so he has allowed the business to increase its assets by £500.

It is better to think of the transaction as being split into two parts as follows:

$$\begin{array}{rcl} A & = & L + E \\ +£1,500 & = & +£1,500 \\ \text{(cash)} & & \text{(revenue: sales)} \end{array}$$

and

$$\begin{array}{rcl} A & = & L + E \\ -£1,000 & = & -£1,000 \\ \text{(stock)} & & \text{(expenses: cost of goods sold)} \end{array}$$

The £1,500 is known as the revenue, and the £1,000 that was used up in earning that revenue is called an expense. Revenue and expenses are part of owner's equity, but it is convenient to keep them separate from the rest of the owner's equity, and from each other in the first place, to facilitate the preparation of the profit and loss account.

If MacKendrick had sold the goods on credit instead of for cash there would be no significant difference, for instead of having an increase in cash he would have a new asset: debtors.

### ? Checkpoint question

2.4 Analyse the following in terms of increases/decreases in  $A = L + E$ .

- (a) J. Francois purchases goods for resale, on credit from Schmidt, for £6,600.
- (b) Francois then sells half the goods, for cash, for £5,200.

MacKendrick's transactions continue below. Revenue and expenses are now included, revenue increasing equity and expenses decreasing equity.

2. On 8 January he paid rent of £200 for the week ending 13 January.
3. On 9 January MacKendrick purchased more goods on credit from Tree for £2,500.
4. On 10 January he sold, for £3,000, some goods to Rolt on credit; they had cost him £2,000.
5. He purchased petrol for the car belonging to the business for £50 on 13 January, for cash.
6. On 13 January MacKendrick paid £80 cash to an assistant, for wages.
7. On 13 January he received an invoice from Smith for interest on the loan, for the week, amounting to £60.
8. Also on 13 January he drew £500 from the business bank account to pay for his own living expenses.

From the cumulative totals in Figure 2.4 we can see the outline of the balance sheet, as at 13 January 20X0.

$$\begin{array}{rcl} \text{Assets} & = & \text{Liabilities} + \text{Equity} \\ £20,170 & = & £9,060 + £11,110 \end{array}$$

We may, by arranging the analysis sheets in a different way, see how the balance sheet stands, in more detail, after each transaction (Figure 2.5). By analysing the figures in the analysis sheets we can find the details. MacKendrick's balance sheet is given on page 31 but, at the moment, we want to concentrate on the change in owner's equity.

	A	B	C	D	E	F	G	H	I	J	K	L
1		MacKendrick										
2												
3		Date		Assets			Liabilities			Equity		L+E
4												
5			+	-	Cumulative	+	-	Cumulative	+	-	Cumulative	Cumulative
6												
7	b/f from 2.3				17,000			6,500			10,500	17,000
8	1(a)	8 Jan.	1,500		18,500			6,500	1,500		12,000	18,500
9			(cash)						(sales)			
10	1(b)	8 Jan.		1,000	17,500			6,500		1,000	11,000	17,500
11				(stock)						(cost of goods)		
12	2	8 Jan.		200	17,300			6,500		200	10,800	17,300
13				(cash)						(rent)		
14	3	9 Jan.	2,500		19,800	2,500		9,000			10,800	19,800
15			(stock)			(Tree)						
16	4(a)	10 Jan.	3,000		22,800			9,000	3,000		13,800	22,800
17			(Roll)						(sales)			
18	4(b)	10 Jan.		2,000	20,800			9,000		2,000	11,800	20,800
19				(stock)						(cost of goods sold)		
20												
21	5	13 Jan.		50	20,750			9,000		50	11,750	20,750
22				(cash)						(petrol)		
23	6	13 Jan.		80	20,670			9,000		80	11,670	20,670
24				(cash)						(wages)		
25	7	13 Jan.			20,670	60		9,060		60	11,610	20,670
26						(Smith)				(interest)		
27	8	13 Jan.		500	20,170			9,060		500	11,110	20,170
28				(cash)						(drawings)		
29												
30												

Figure 2.4 A further analysis sheet for MacKendrick

	A	B	C	D	E	F	G	H	I
1		MacKendrick							
2									
3	Date		Assets		Liabilities		Equity		
4	1 Jan.	Cash	10,000			Capital	10,000		
5									
6	2 Jan.	Cash	7,000						
7		Stock	3,000						
8		Total	10,000				10,000		
9									
10	3 Jan.	Cash	7,000						
11		Stock	7,000	Jones	4,000				
12		Total	14,000		4,000		10,000		
13									
14	4 Jan.	Cash	7,000						
15		Stock	7,000						
16		Car	2,000						
17		Total	16,000		4,000		12,000		
18									
19	6 Jan.	Cash	4,500	Jones	1,500				
20		Stock	7,000						
21		Car	2,000						
22		Total	13,500		1,500		12,000		
23									
24	6 Jan.	Cash	3,000			Capital	10,500		
25		Stock	7,000						
26		Car	2,000						
27		Total	12,000		1,500		10,500		
28									

Figure 2.5 MacKendrick's balance sheet



2 • The accounting equation

	A	B	C	D	E	F	G	H	I
29	Date		Assets		Liabilities		Equity		
30	7 Jan.	Cash	8,000	Jones	500				
31		Stock	7,000	Smith	6,000				
32		Car	2,000						
33		Total	17,000		6,500		10,500		
34									
35	8 Jan.	Cash	9,500			+ sales minus			
36		Stock	6,000			cost of goods			
37		Car	2,000			sold £500	11,000		
38		Total	17,500		6,500		11,000		
39									
40	8 Jan.	Cash	9,300			- rent			
41		Stock	6,000			£200	10,800		
42		Car	2,000						
43		Total	17,300		6,500		10,800		
44									
45	9 Jan.	Cash	9,300	Jones	500				
46		Stock	8,500	Smith	6,000				
47		Car	2,000	Tree	2,500				
48		Total	19,800		9,000		10,800		
49									
50	10 Jan.	Cash	9,300			+ sales minus			
51		Stock	6,500			cost of goods			
52		Car	2,000			sold £1,000	11,800		
53		Rolt	3,000						
54		Total	20,800		9,000		11,800		
55									
56									
57	13 Jan.	Cash	9,250			- petrol £50	11,750		
58		Stock	6,500						
59		Car	2,000						
60		Rolt	3,000						
61		Total	20,750		9,000		11,750		
62									
63	13 Jan.	Cash	9,170			- wages £80	11,670		
64		Stock	6,500						
65		Car	2,000						
66		Rolt	3,000						
67		Total	20,670		9,000		11,670		
68									
69	13 Jan.	Cash	9,170	Jones	500	- interest £60	11,610		
70		Stock	6,500	Smith	6,060				
71		Car	2,000	Tree	2,500				
72		Rolt	3,000						
73		Total	20,670		9,060		11,610		
74									
75	13 Jan.	Cash	8,670			- drawings £500	11,110		
76		Stock	6,500						
77		Car	2,000						
78		Rolt	3,000						
79		Total	20,170		9,060		11,110		
80									
81									

Figure 2.5 (continued)

**MacKendrick**  
**Balance sheet as at 13 January 20X0**

Equity section	£
Owner's equity as at 8 January 20X0	10,500
Add: Revenue minus expenses for the period 8–13 January*	<u>1,110</u>
	11,610
Less: Drawings	<u>500</u>
Owner's equity as at 13 January 20X0	<u>11,110</u>
*Details from column F of worksheet:	
8 Jan. Sales minus cost of goods sold	+500
Rent	–200
10 Jan. Sales minus cost of goods sold	+1,000
13 Jan. Petrol	–50
Wages	–80
Interest	<u>–60</u>
	<u>1,110</u>

**Key terms**

- **Drawings** represents the amount of cash withdrawn by the owner for his/her own use. Goods or services provided by the firm for the owner would also be treated as drawings.
- **Debtors** are persons or firms which owe money (or equivalent other resources) to the business.

We can see that £1,110 represents that part of the change in owner's equity due to the trading operation for the period. The function of the profit and loss account is to explain the composition of this figure. In contrast to the balance sheet, the profit and loss account covers a period of time and this should always be shown in its heading. With some further analysis to find out the cash balance etc., we are now in a position to produce the financial statements.

**MacKendrick**  
**Profit and loss account for the period 8–13 January 20X0**

	£	£
Sales*		4,500
Less: Cost of goods sold**	3,000	
Rent	200	
Petrol	50	
Wages	80	
Interest	<u>60</u>	
		<u>3,390</u>
		<u>1,110</u>
*Sales: 8 January 1,500		
10 January	<u>3,000</u>	
	<u>4,500</u>	
**Cost of goods sold 8 January 1,000		
10 January	<u>2,000</u>	
	<u>3,000</u>	

## Balance sheet as at 13 January 20X0

Assets		
Car		2,000
Stock		6,500
Trade debtors (Rolt)		3,000
Cash		<u>8,670</u>
		<u>20,170</u>
Financed by:		
Liabilities		
Trade creditors (Jones & Tree)	3,000	
Interest payable	60	
Loan (Smith)	<u>6,000</u>	9,060
Owner's equity		
Capital as at 8 January 20X0	10,500	
Add: Profit for the period	<u>1,110</u>	
	11,610	
Less: Drawings	<u>500</u>	<u>11,110</u>
		<u>£20,170</u>

Any amount taken out of the business by its owner is described as drawings. It is not included in the profit and loss accounts, but is deducted from the equity directly. This is true even if the owner works in the business and considers the amounts withdrawn as his/her wages. This practice is in some ways misleading, since without a charge for the owner's time (which is often the most significant item), the expenses of earning revenue are understated. The reason the practice is adopted is that there is no reason to suppose that the amount withdrawn by the owner is anything like the amount that would have to be paid to a manager to do the work. This amount can be estimated, but this estimate would not be considered to be sufficiently objective for inclusion in the financial statements. The practice of not charging anything for owner's wages can be particularly unfortunate when a major decision has to be made, e.g. to sell or buy a business, as the profit is overstated, often very significantly.

If you look at the owner's equity section of MacKendrick's balance sheet you will see that there are a number of items. The actual balance sheet figure is £11,110 but it is the practice to show how the balance of owner's equity reconciles with the opening owner's equity, i.e. that shown on the last balance sheet.

## Summary

In this chapter we considered the need to deal with a business, the firm, separately from its owner. We recognised that this may be difficult in the case of a sole trader because the affairs of the firm are likely to be mixed in with those of the owner. Nevertheless, the accountant needs to distinguish between them as best he or she can.

We went on to introduce and explain the accounting equation and showed how the equation is the basis of the balance sheet. Indeed it is the basis of the accounting method; it is therefore most important that you understand it thoroughly. We then demonstrated how transactions may be analysed in terms of the equation so as to produce a profit and loss account (which explains the change in owner's equity during the accounting period) and balance sheet, using a systematic (but cumbersome) method of analysis. We shall be introducing a more streamlined method, based on the same model, later in the text.

## Review questions

- 2.1** Explain why the profit figure is added to equity in the balance sheet.
- 2.2** Discuss the problems which may arise because drawings are not included in the profit and loss account.
- 2.3** A company producing and selling computer software has sent a number of its staff on training courses near the end of the accounting period. The courses contained a number of general business matters, but also included specialised material relating to the design and production of software. The amount spent on the courses amounted to £70,000.  
Discuss whether or not the expenditure has resulted in the creation of a business asset which would be shown in the balance sheet of the company at the end of the accounting period.
- 2.4** You are the owner of a small shop. Consider the following events and say whether each event has improved the prospects of the business, that is, do you believe that the event would increase the sum you would receive if you sold the business, even if only by a small amount?
1. You purchase, on credit, chocolate for resale, for £500.
  2. You pay business rates of £2,000 for six months in advance.
  3. You receive a legacy of £10,000 which you pay into the business bank account.
  4. You sell goods which cost you £300 for £400, half for cash and half on credit.
  5. You purchase a delivery van for £8,000 cash.
  6. The bus company has moved a bus stop, previously 200 metres away, to a new position immediately outside your shop.
  7. Your supplier of crisps has increased the price of a packet of crisps by 50 per cent; the supplier now recommends selling a packet for 50 per cent more also. You have in stock 500 packets bought at the old price.
  8. A national supermarket chain is building a supermarket 500 metres down the road.

## Exercises

**Solutions to exercises whose number is in colour can be found at the end of the book.**

- 2.1** You are given the following information, all of which relates to 31 December 20X1, in respect of Nina's Dress Shop.

	£
Stock	9,000
Creditors	6,000
Delivery van	10,000
Wages due	500
Debtors	1,000
Nina's capital account	16,300
Prepaid rent	800
Cash	?

Prepare Nina's balance sheet as at 31 December 20X1.

2.2 From the following information find  $x$ :

	£
Assets at 31 December 20X1	70,000
Loss for the year ended 31 December 20X1	20,000
Owner's equity at 1 January 20X1	60,000
Capital introduced during the year ended 31 December 20X1	10,000
Capital withdrawn during the year ended 31 December 20X1	30,000
Liabilities at 31 December 20X1	$x$

2.3 Alberta Schwartzkopf started business on 1 January 20X4 by paying £100,000 into a newly opened business bank account. Her transactions during the first two weeks of business were as follows.

1. 2 Jan. Purchased furniture for £4,000 cash.
2. 3 Jan. Purchased goods for resale for £10,000 cash.
3. 4 Jan. Purchased goods for resale, on credit from Schmidt, for £20,000.
4. 6 Jan. Sold all the goods she bought on 3 January (purchase price £10,000) for £15,000, to Weiss on credit.
5. 12 Jan. Paid Schmidt £15,000.
6. 12 Jan. Paid wages to staff £1,000.

Using an analysis sheet, show how the assets, liabilities and equity are affected by each transaction, showing how the balance sheet identity would appear after each transaction.

2.4 Arthur Moore commenced business on 1 October 20X2 by paying £50,000 into a newly opened business bank account. His transactions during the first three weeks of business were as follows:

- 2 Oct. Purchased furniture for cash £5,000.
- 4 Oct. Purchased goods for resale for cash £3,500.
- 7 Oct. Purchased goods for resale, on credit from H. Verity, for £12,000.
- 8 Oct. Purchased delivery vehicle, on credit from Ivan Karic, for £11,000.
- 10 Oct. Paid H. Verity £12,000.
- 11 Oct. Borrowed £5,500 from Laurent Fortune and made a first payment to Ivan Karic of £5,500.
- 14 Oct. Sold all the goods he bought on 4 October (purchase price £3,500) for cash £6,000.
- 15 Oct. Paid wages to staff £900.
- 16 Oct. Sold half of the goods bought from H. Verity on 7 October, to N. Kay on credit for £9,000.
- 17 Oct. Arthur agreed to allow his cousin John Moore to join him in the business. John brought £5,000 of his own money into the business, which is used to pay part of the amount owed to Karic.
- 18 Oct. Because of John Moore's carelessness, a potential customer, Mr Lee, fell in Moore's office and broke his arm. Lee threatened to sue the firm, so Arthur promised to pay Lee £3,000 for medical treatment.
- 21 Oct. Arthur felt that he wished to reduce his investment in the firm. He therefore sold half his interest in the firm to his uncle, Arthur Teak, for £25,000.

Using an analysis sheet, show how the assets, liabilities and equity are affected by each transaction, showing how the balance sheet would appear after each transaction.

**2.5** Deborah started business on 1 January 20X0. On that day she transferred £150,000 from her personal account to a newly opened business bank account. Her transactions during January were as follows:

- 1 Jan. Paid rent on the business premises, £12,000 in respect of the six months to 30 June 20X0.
- 2 Jan. Purchased goods on credit from Dawe for £17,500.
- 3 Jan. Purchased goods for cash £23,000.
- 4 Jan. Ordered a van, priced at £40,000 from Ivor on credit.
- 7 Jan. Sold half the goods bought on 2 January to Anne on credit for £12,000.
- 11 Jan. Sold for cash all the goods bought on 3 Jan. for £30,000.
- 14 Jan. Took delivery of the van from Ivor; there were extras amounting to £120 which Deborah paid in cash.
- 21 Jan. Drew £6,000 from the business bank account for her own use.
- 25 Jan. Anne returned one quarter of the goods sold to her on 7 January, claiming that they were defective; Deborah agreed that the goods were defective.
- 28 Jan. The goods returned by Anne were returned to Dawe, who agreed that they were defective.
- 29 Jan. Paid staff wages for the month £7,500.

Consider how the assets, liabilities and equity are affected by each transaction, showing how the balance sheet would stand after each transaction.

**2.6** Treat each of the following transactions separately.

- 1. On 3 November 20X3 Williams sold goods, for £7,000 cash, the cost of the goods to him being £5,000.
- 2. He received a legacy of £2,000 which he paid into his business bank account on 7 February 20X4.
- 3. He ordered a new van costing £9,000 on 15 March 20X4.
- 4. He received £13,000 from a customer on 1 November 20X3 in settlement of a debt.
- 5. In December 20X3 Williams sent the wrong type of goods to Smith. The goods which had cost Williams £2,500 were invoiced to Smith at £3,000. In January, Smith drew Williams's attention to the error and Williams agreed the fault was his. Smith, who had not paid for the goods, returned them to Williams in January. Analyse the January transaction.
- 6. As (5) except that Smith had paid for the goods before discovering the error.
- 7. Williams paid his rent in arrears. On 2 January 20X4 he paid £5,000 for the quarter from 1 October 20X3 to 31 December 20X3.
- 8. On 13 October 20X3 Williams withdrew £500 from his business bank account for his own use.
- 9. Some of the goods sold on 5 November 20X3 by Williams to Jones were defective. The selling price of the goods was £10,000, the cost price was £8,000. After some correspondence, Williams agreed, on 1 December, that the matter would be settled by his reducing the selling price from £10,000 to £9,500. Jones had not paid for the goods by 1 December. Analyse the December transaction.
- 10. Davies ordered 2 gross of goods from Williams in December 20X3. Since Williams did not know Davies, he asked Davies to pay a deposit of £3,000 which Davies did on 18 December 20X3; Williams thereupon ordered the goods from his supplier on 20 December 20X3. He received the goods on 5 January 20X4; the goods cost Williams £4,500. Williams sent them to Davies on 12 January, invoicing him for

£6,000. Williams paid his supplier on 10 February 20X4 and Davies paid Williams the balance due on 22 February 20X4. Analyse all the above transactions.

Complete an analysis sheet (as used in Figure 2.3, but keeping each transaction separate), recording the above transactions.

**2.7** Clive started business as a seller of automatic cameras on day 1 by transferring £50,000 from his private bank account to a newly opened business bank account.

From the start he employed an assistant, Steve. Clive agreed to pay him £30 per day, the payments being made every three days, i.e. days 3, 6, 9, etc.

Clive's other transactions for the period day 1 to day 10 were as follows:

1. Day 1 Acquired, for cash, the lease of a shop for £20,000.
2. Day 1 Acquired, on credit from XP Limited, fixtures and fittings for the shop, amounting to £10,000.
3. Day 1 Acquired, on credit from SA Limited, 50 automatic cameras at £80 each.
4. Day 1 Acquired, for cash, 12 cameras at £70 each. Clive also paid £120 for the carriage of these goods to his shop.
5. Day 2 Sold, on credit to CA, 4 cameras for £120 each.
6. Day 3 Sold, on credit to CB, 6 cameras for £120 each.
7. Day 3 Purchased, on credit from SB Limited, 10 cameras at £100 each.
8. Day 4 Clive agreed that two of the cameras sold to CA were defective and they were returned to him. One of them was repaired by Steve. This required the purchase (for cash) of sundry materials of £20. The repaired camera was retained in stock. The other camera was returned to the original supplier, SA Limited.
9. Day 5 Sold, for cash, 10 cameras for £140 each.
10. Day 6 Sold, on credit to CC, 20 cameras. The selling price was £140 each but as CC is Clive's wife's cousin, Clive agreed that CC could have a discount of 10 per cent.
11. Day 7 Received £500 from CB on account.
12. Day 7 Received from CA the total amount due from him.
13. Day 9 Sold, for cash, 4 cameras at £150 each.
14. Day 10 Clive withdrew £200 for his own use.
15. Day 10 Paid XP Limited £5,000 and SB Limited the whole amount due.

Clive's sundry expenses, which are outstanding at the end of day 10, are £50 per day.

Assume that the cameras are sold in the order in which they were acquired. (This is known as the 'first in first out' method.)

*Required:*

- (a) Complete the analysis sheet (as used in Figure 2.3 in the text), recording the above transactions.
- (b) Prepare Clive's balance sheet as at day 10 and his profit and loss account for the period day 1 to day 10.

# 3

## The extended accounting equation: debits and credits

### Introduction

In this chapter we explain how to extend the accounting equation in order to provide further analyses and introduce the accounting terms 'debit' and 'credit'. We then show how to carry out the analysis of transactions using these tools. Finally we introduce ledger accounts and the T account, show how to make entries into the T accounts and prepare accounting statements from them.

### Learning objectives

At the end of this chapter, after completing the checkpoint questions and exercises, you should be able to:

- explain the structure of the extended accounting equation and analyse transactions in terms of their effects on the balance sheet and the profit and loss account;
- explain the meaning of 'debit' and 'credit' in accounting and show how debit and credit entries increase or decrease assets, liabilities, equity, revenue and expenses;
- explain what is meant by a ledger account and enter debit and credit items arising from a firm's transactions.

### 3.1 The extended accounting equation

The method of analysis used earlier in this book is cumbersome. In part this is because we needed to make a further analysis of the equity section in order to produce a profit and loss account. We can deal with this problem by extending the equation. Let us say that revenue =  $R$ , expenses =  $X$  and profit =  $P$  (which also equals revenue minus expenses). Then, let us look at a given period of time, say one year. At the start of the year

$$A = L + E$$

but we want to look at the change in the owner's equity which arises through trading throughout the year. So let us use the symbol  $E'$  to represent the owner's equity at the start of the year. If trading is successful, a profit will be made. This will result in an increase in the net assets (assets less liabilities) of the business. In other words the firm



will be 'better off'. This increase belongs to the owner; in other words, his or her claim on the business (the amount the firm 'owes' him or her) is increased. Therefore the owner's equity increases by the same amount as the increase in the net assets. So, for the period we can say that, if we use  $P$  to represent profit

$$A = L + (E' + P)$$

i.e. profit has been added to equity.

Since profit equals revenue minus expenses:  $P = R - X$ . So we can substitute

$$A = L + E' + (R - X)$$

which we can rearrange as

$$A + X = L + E' + R$$

This is the *extended accounting equation*.

The rearrangement of the equation is easy enough to follow for anyone who has an understanding of even the most simple algebra. However, it may seem to have produced an odd result. Does it seem sensible that assets, which we want to have, and expenses, which we would rather avoid, are both on the left-hand side? Also, is it right that revenue, which we want to earn, and equity, which we want to increase, are on the right-hand side together with liabilities, which we think we should like to avoid? The answer is that assets and expenses are both *costs* which have to be funded; and that liabilities, equity and revenue are all *sources* of those funds. To put it more simply, equity and liabilities and revenue 'pay for' assets and expenses.

## Making a loss

If the firm should make a loss, then we can show that the extended accounting equation still works. A loss occurs when expenses exceed revenue:

$$\text{Loss} = X - R$$

A loss decreases equity, so

$$A = L + (E' - \text{loss})$$

Substituting  $X - R$  for loss, then

$$A = L + E' - (X - R)$$

removing the brackets:

$$A = L + E' - X + R$$

rearranging:

$$A + X = L + E' + R$$

as before.

### ? Checkpoint question

3.1 Explain in words the meaning of the extended accounting equation.

## 3.2 Debit and credit

The method of analysis used earlier in this chapter forms the basis of *double entry bookkeeping* which is the basis of all accounting records. This remains true for computerised accounting: the *basis* remains the same although the computer processes the information electronically. In accounting we consider that every transaction has two aspects. So, if the firm buys a vehicle for cash, we do not think of the cash being exchanged for the vehicle, but rather that the asset ‘cash’ is decreased while the asset ‘vehicles’ is increased by the same amount. It is helpful to give names to the two sides of the equation and the way that transactions will affect them. We therefore introduce the words *debit* and *credit*.

### Key term

■ **Double entry bookkeeping**, which was originally literally written in a book, is now taken to mean any accounting system which follows the convention of duality, entering both a debit and a credit item (or more than one debit and/or credit) in respect of each transaction.

Returning to the equation

$$A + X = L + E' + R$$

the items on the left-hand side are said to be *debits* and the items on the right-hand side are said to be *credits*. It follows that any effect of a transaction which *increases* the left-hand side is called a debit and any effect of a transaction which *increases* the right-hand side is called a credit. Logically, it also follows that any effect which *decreases* the left-hand side is called a credit and any effect which *decreases* the right-hand side is a debit. Remember that every transaction has two effects because of duality.

So, to summarise (Figure 3.1):

- Debits increase the left-hand side or decrease the right-hand side.
- Credits increase the right-hand side or decrease the left-hand side.

So, a debit is the aspect of a transaction which involves

- an increase in assets, or
- a decrease in liabilities, or
- a decrease in owner’s equity because of an increase in expenses (reducing profit), or
- a decrease in revenue (reducing profit),

and a credit is the aspect of a transaction which involves

- a decrease in assets, or
- an increase in liabilities, or

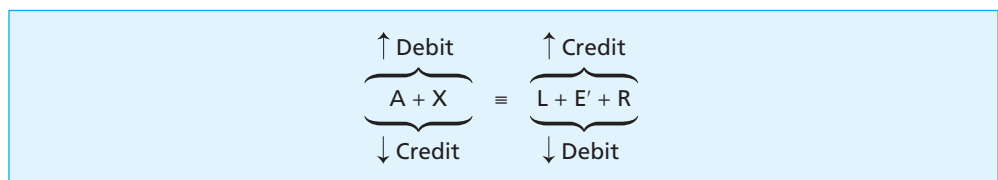


Figure 3.1 Debits and credits

- an increase in owner's equity because of the issue of new, additional, shares, or
- a decrease in expenses (increasing profit), or
- an increase in revenue (increasing profit).

### ? Checkpoint question

3.2 Consider whether the following statements are correct or incorrect. A debit item will

- (a) decrease assets,
- (b) decrease liabilities,
- (c) decrease equity,
- (d) decrease revenue.

A credit item will

- (e) increase assets,
- (f) increase liabilities,
- (g) increase equity,
- (h) increase expenses,
- (i) increase revenue.

We can now look at an example of the analysis of transactions into the extended accounting equation and into debit and credit.

### Example 3.1

1. George buys stock, on credit from Joe, for £3,000.
2. He then sells half of the stock for £2,000, on credit to Kay.
3. He receives a telephone bill amounting to £150.
4. He pays wages of £300, in cash.

We can analyse the above as follows.

Assets	+	Expenses	=	Liabilities	+	Equity	+	Revenue
1. Dr stock				Cr creditor (Joe)				
£3,000 increase in asset (stock)				£3,000 increase in liability (creditor)				
2. Dr debtor (Kay)						Cr sales		
£2,000 increase in asset (debtor)						£2,000 increase in revenue (sales)		
Cr stock		Dr cost of goods sold						
£1,500 decrease in asset (stock)		£1,500 increase in expenses (cost of goods sold)						
3.		Dr telephone		Cr creditor (telephone co.)				
		£150 increase in expenses (telephone)		£150 increase in liability (creditor)				
4. Cr cash		Dr wages						
£300 decrease in asset (cash)		£300 increase in expenses (wages)						

### 3.3 The ledger and T accounts

In the preceding part of the chapter you have learnt how to tell the difference between debit and credit and how to identify the effects of transactions which increase or decrease debits or credits. We now need to go on to show how we use this knowledge to keep track of individual assets, liabilities, revenues and expenses and owner's equity. To do this, we use *ledger accounts* where all the entries which relate to a particular type of asset, liability, etc. are recorded so that all such transactions are brought together, so that we can see the total of each type. The ledger could be a book entered by hand or a file in a computer. A convenient and useful way of representing any of these types of ledger account is by means of a 'T account'. This is a useful tool in learning accounting, which is also used by professional accountants to analyse or explain accounting entries. This is because T accounts contain and convey information in convenient form for a number of different purposes.

A T account looks like this:



#### Key term

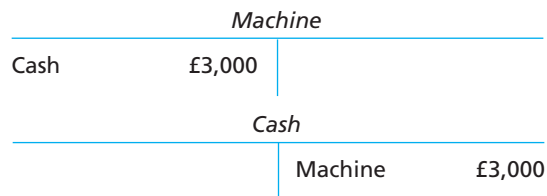
■ A T account is so called because it looks like a letter T. It is a record of all debits (left-hand side) and credits (right-hand side) in respect of a particular, defined, type of transaction.

In order to record a transaction we have, first of all, to analyse it in terms of debit and credit and then to enter the debit part into the left-hand side of one account and the credit part into the right-hand side of another account. This is best explained through an example.

If Peter purchased a machine for £3,000 cash, we should analyse the transaction as follows:

Debit machine (asset)	£3,000
Credit cash (asset)	£3,000

The entries in the T accounts would be



Notice that we have written the name of the other account involved in the double entry against each item. In practice much more sophisticated methods of cross-referencing are used. We are using this simple method because it is clear and useful for learning purposes, so that you can easily keep track of the two sides of each entry.

A further example will help you to understand this method of recording transactions in the books.

**Example 3.2**

Andrew sold goods, which originally cost £1,000, to Albert for £1,500 on credit.

Debit Albert (debtor)	£1,500	
Credit sales (revenue)		£1,500

and

Debit cost of goods sold (expense)	£1,000	
Credit stock (asset)		£1,000

<i>Albert</i>		<i>Sales</i>	
Sales	1,500		Albert
			1,500
<i>Cost of goods sold</i>		<i>Stock</i>	
Stock	1,000		Cost of goods sold
			1,000

There are no detailed rules in the UK regarding the use of ledger accounts. In general, the way they are set up and used depends on the needs of the particular firm.

We end this chapter with a longer example on the use of T accounts (Example 3.3).

**Example 3.3**

1. Arthur starts a business by paying into the new firm's bank account the amount of £100,000. (All entries are in £s.)

<i>Bank</i>		<i>Capital</i>	
Capital	100,000		Bank
			100,000

2. Arthur also pays cash into the business to be held to cover small items of expenditure. (Actual cash on hand, as opposed to the balance in the bank, is called *petty cash*.)

<i>Petty cash</i>		<i>Capital</i>	
Capital	500		Bank
			100,000
			Petty cash
			500

3. The firm purchases goods for resale for £20,000, on credit.

<i>Stock</i>		<i>Creditors</i>	
Creditors	20,000		Stock
			20,000

4. The firm sells the above goods for £23,000, on credit.

<i>Sales</i>		<i>Debtors</i>	
		Debtors	23,000
		Sales	23,000
<i>Stock</i>		<i>Cost of sales</i>	
Creditors	20,000	Cost of sales	20,000
		Stock	20,000

5. Having engaged staff, the firm pays £1,000 in wages, drawing the money from the bank.

<i>Wages</i>		<i>Bank</i>	
Bank	1,000	Capital	100,000
		Wages	1,000

6. The firm pays out £50 for small sundry expenses.

<i>Sundry expenses</i>		<i>Petty cash</i>	
Petty cash	50	Capital	500
		Expenses	50

7. Fixtures and fittings are purchased for £10,000, payment being by cheque.

<i>Fixtures and fittings</i>		<i>Bank</i>	
Bank	10,000	Capital	100,000
		Wages	1,000
		Fixtures and fittings (F&F)	10,000

8. Arthur withdraws £10,000 for his own use.

<i>Drawings</i>		<i>Bank</i>	
Bank	10,000	Capital	100,000
		Wages	1,000
		F&F	10,000
		Drawings	10,000

9. A creditor is paid £15,000 by cheque.

<i>Creditors</i>		<i>Bank</i>	
Bank	15,000	Capital	100,000
Stock	20,000	Wages	1,000
		F&F	10,000
		Drawings	10,000
		Creditors	15,000

10. A debtor pays £18,000 by cheque.

<i>Debtors</i>		<i>Bank</i>	
Sales	23,000	Capital	100,000
Bank	18,000	Debtors	18,000
		Wages	1,000
		F&F	10,000
		Drawings	10,000
		Creditors	15,000

**?** Checkpoint question

3.3 Joan Smith bought goods for resale for £2,500, on credit from Mahommed Qureshi. She immediately sold them on credit to Anne Smith for £4,000. Show the necessary entries in Joan's ledger, in T account form.

## Summary

In this chapter we introduced the extended accounting equation, which gave us a more flexible and powerful tool for analysing transactions. We also introduced debit and credit, which are convenient names for the two sides of the equation, making the handling of the figures more straightforward. We went on to demonstrate how to use these tools in analysing a firm's transactions and preparing accounting statements from the analyses, still in a rather long-winded way. Finally, we introduced ledger accounts and showed how to produce them in T account form. In the next chapter we shall show how we can use these T accounts as the basis of a more streamlined method for preparing accounting statements.

## Review questions

- 3.1 Explain why assets and expenses appear together on one side of the extended accounting equation, while revenue, liabilities and equity appear together on the other side.
- 3.2 Why is it useful to use T accounts when they are little used in practice?
- 3.3 Why is it necessary for a firm to have a number of separate ledger accounts in its books of account?
- 3.4 How would an accountant working for a business go about deciding which ledger accounts to open?

## Exercises

Solutions to exercises whose number is in **colour** can be found at the end of the book.

- 3.1 Using the information given in exercise 2.5, analyse the transactions in debit/credit form showing, in each case, that the extended accounting equation is maintained, e.g.

Deborah purchased a computer for £1,000 cash					
Debit	£1,000	increase assets (computer)			
Credit	£1,000	decrease assets (cash)			
↑ £1,000					
A	+	X	=	L	+ E' + R
↓ £1,000					

- 3.2 Using the information given in exercise 2.5 (also used as a basis for exercise 3.1), record the transactions in T accounts.

- 3.3** Using the information given in exercise 2.6, analyse the transactions in debit/credit form showing, in each case, that the extended accounting equation is maintained, e.g.

Williams bought a car for £10,000 cash, on 1 February 20X4.

Debit           £10,000 increase assets (car)

Credit           £10,000 reduce assets (cash)

↑ £10,000

A           +   X   =   L   +   E'   +   R

↓ £10,000

- 3.4** There are a number of errors in the T accounts shown below. Note the transactions have been numbered in chronological order and that the cash account is correct.

*Required:*

- (a) List the errors and show the corrected T accounts.  
 (b) Show that, after correcting the errors, debits = credits.

*Capital*

		£
	1 Cash	100,000

*Cash*

	£		£
1 Capital	100,000	2 Stock	4,500
5a Sales	8,000	7 Sundry expenses	200
8 Debtors	15,000	10 Motor vehicles	40,000
		12 Creditors	8,000

*Cost of goods sold*

	£		£
5b Stock	5,000	6b Stock	12,000

*Creditors*

	£		£
3 Motor vehicles	20,000	4 Stock	10,000
12 Cash	8,000	11 Stock	9,000

*Debtors*

	£		£
5a Sales	8,000	9 Sales	3,000
6a Sales	20,000		
8 Cash	15,000		



3 • The extended accounting equation: debits and credits

<i>Stock</i>			
	£		£
2 Cash	5,400	5b Cost of goods sold	5,000
4 Creditors	10,000		
6b Cost of goods sold	12,000		
11 Creditors	9,000		

<i>Motor vehicles</i>			
	£		£
10 Cash	40,000	3 Creditors	20,000

<i>Sales</i>			
	£		£
9 Debtors	3,000	5a Cash	8,000
		6a Debtors	20,000

- 3.5** Using the information given in exercise 2.7,  
 (a) record the transactions in T accounts;  
 (b) show that the total of the debits equals the total of the credits.
- 3.6** Analyse the information given in exercise 2.4 in terms of the extended accounting identity and record the transactions in T accounts. Having done so, prepare the firm's profit and loss account for the period ended 31 October and the balance sheet as at that date.
- 3.7** MacPherson started business as a sole trader on 1 July 20X0. He immediately paid £60,000 from his private bank account into a new business bank account. Further transactions during July were as follows.

		£
1 July	Purchased furniture on credit from MacDuff for	16,000
4 July	Bought goods for resale on credit from Harris for	10,000
7 July	Sold goods on credit to McDougall, which cost £2,500, for	3,500
10 July	Paid sundry expenses	1,200
20 July	Sold goods for cash, which cost £2,000, for	3,600
28 July	Received payment from McDougall	3,500
30 July	Paid wages to staff	1,800

Analyse the above transactions in terms of the required debit and credit entries.

# 4

## Accounting systems and financial statements: the basics

### Introduction

In the first part of this chapter we consider the practicalities of double entry bookkeeping and describe how it is actually done. We concentrate on manual bookkeeping systems (that is, systems written by hand into books) for two reasons. The first is that the underlying principles of computerised and manual systems are the same. The second is because if you are familiar with a manual system and understand how it works, you will have no difficulty in understanding a computerised system, because you will know what the computer is actually doing. On the other hand, those who are familiar only with the use of software packages on a computer will not generally be able to convert to a manual system. Perhaps more importantly, it is much more difficult to understand the processes taking place in a computerised system because so many of them are 'hidden' in the operation of the software, which automatically carries out many aspects of the double entry system.

We describe the basic components of any bookkeeping system: the books of prime entry and the ledger accounts, and show how they are used. In the second part of the chapter we demonstrate how to 'balance' the T accounts introduced in Chapter 3 and how to draw up a trial balance from the balanced accounts. In the third section we show how to draw up a set of financial statements, starting with a trial balance, using a practical and reliable method known as the extended trial balance.

### Learning objectives

At the end of this chapter, after completing the checkpoint questions and exercises, you should be able to:

- understand the basic principles underlying accounting systems and be familiar with the terminology;
- understand the way in which the data flow through the system from the original entry to the final accounts;
- explain what is meant by a 'trial balance';
- calculate the balances on the ledger accounts and identify whether they are debit or credit balances;
- transfer the balances to the trial balance and add up the two columns to show that they balance;
- explain what is proved by a trial balance balancing and which types of error it will not show up;

- prepare financial statements, i.e. profit and loss account and balance sheet, from the trial balance.

## 4.1 Accounting systems

The basic elements of all accounting systems, whether manual or computerised, are the same. The purpose of an accounting system is to record the firm's assets and liabilities, revenue and expenses, and owner's equity. This is done by bringing together the aspects of all transactions, relating to a particular item, in one place, the ledger account. The ledger account will, as appropriate, be debited or credited and the balance of the account will, so long as the record-keeping is up to date, reveal the total figure for that particular element.

**Key terms** ■ A **manual accounting system** is one where the transactions are physically entered into a book (or similar medium). A **computerised system** relies on the entries reflecting the transactions being keyed into preprogrammed software which contains the whole of the accounting system, much of the information being processed automatically following the initial entries.

We have already introduced the basic idea of ledger accounts in the guise of T accounts, but when using T accounts we entered the transactions directly into the accounts. In practice, a more systematic method is needed. This is provided by the use of the books of prime entry. As the name implies these are the places where the

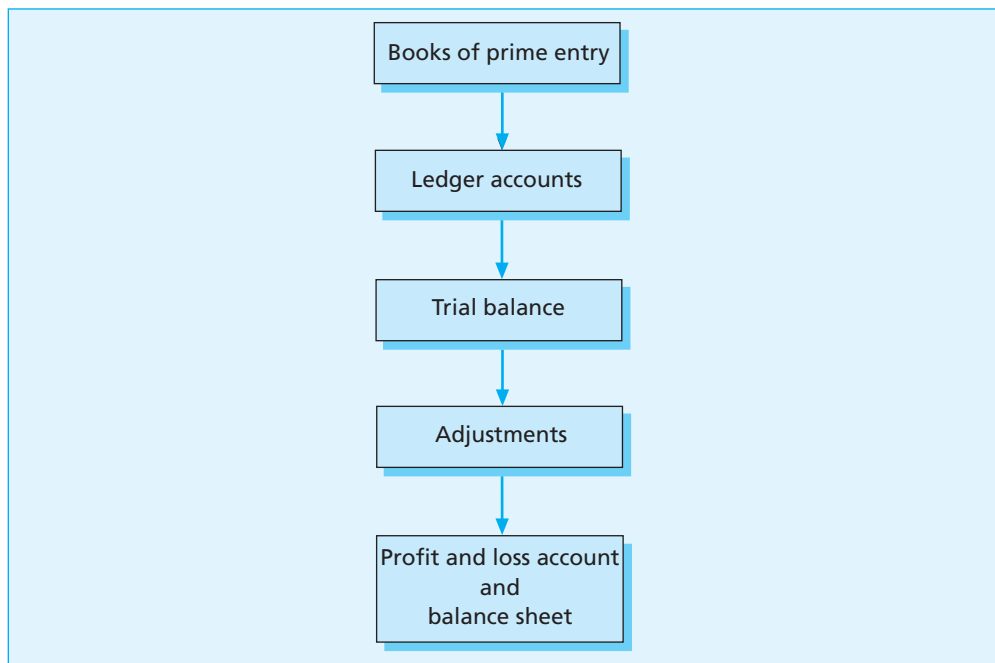


Figure 4.1 Flow of data through the accounting system

accounting transaction or event that is to be recognised is first recorded in the accounting system. As we shall show, the purpose of the books of prime entry is to summarise the transaction or event to be recorded, in accounting language: that is, in terms of debits and credits. Each entry in the books is thus an instruction telling the accountant (or computer operator) which account(s) to debit and which to credit. The flow of data through the system is illustrated in Figure 4.1.

## Books of prime entry

### The journal

The essential features of a book of prime entry are illustrated in Figure 4.2. We finish with a narrative which explains what we are doing and stating the authority for us to do it.

A book of prime entry of this type is called a *journal* and can be used to give instructions to enter any sort of transaction in the ledger. Although the journal is in debit/credit form it is not an account, merely a set of instructions.

### Other daybooks

It would be time consuming to prepare journal entries of the above type for every one of the firm's transactions. So, special types of journal are used when a firm has a considerable number of transactions of the same type. For example, a firm will probably purchase a large number of items on credit, so these will be recorded in a special journal called the *purchases daybook* (or purchases journal). An outline of such a book is shown in Figure 4.3.

(i)	(ii)	(iii)	(iv)	(v)
Date		Fo.	£	£
1 Apr. X2	Motor vehicle account Manuel Costa Limited (Creditor)	M. 1 C. 1	7, 500	7, 500
Being the purchase of a motor vehicle on credit per invoice number 75,326 and Director's Minute 357.				
<b>Notes:</b>				
(i) It is useful to know when.				
(ii) The names of the accounts to be debited and credited. It is the custom to put the account to be debited first and to indent the name of the account to be credited.				
(iii) These are numbers of the ledger accounts; they make it easier to find the entry at a later date. Fo. is short for folio or page.				
(iv) The amount to be debited.				
(v) The amount to be credited. It is necessary to repeat the figures because a transaction may, for example, require us to debit an account with £7,500 (as above) but to credit more than one account, e.g. Cash £500 (Deposit), Creditor £7,000. The total of the credits must be £7,500, of course.				

**Figure 4.2** Essential features of a book of prime entry

Date		Invoice Number*	Fo.	£
1 Jan. X2	W.P. Limited	37,432	W. 4	1, 253
1 Jan. X2	R.P. & Co. Limited	37,433	R. 2	642
		⋮	⋮	⋮
31 Jan. X2	T.M. Limited	37,611	T. 5	6, 231
				<u>£153, 432</u>

\* The purchaser stamps his or her own number on the supplier's invoice which accounts for the fact that the numbers are all in sequence.

Figure 4.3 Outline of a purchases daybook

The accounts of the suppliers are credited individually but the total of the credit purchases for January, £153,432, is posted to the debit of the stock account in one figure. The time interval does not have to be a month, of course.

Most firms will also have a sales daybook or sales journal to record the sales made on credit.

**The wages book**

One book of prime entry which most businesses find necessary is the wages book. A salaries book recording the salaries of monthly paid staff is often kept separately but it is used in exactly the same way as the wages book.

A wages book is shown in Figure 4.4. Its complexity arises from the government's insistence that the business must act as an (unpaid) collector of taxes and contributions to the National Insurance scheme.

Gross pay is the amount which would be payable to the employee in the absence of deductions. It might include bonuses and overtime etc., in addition to basic pay, and some companies show items other than basic pay in a separate column or columns. This is for the information of both the employee (whose payslip is usually a duplicate of his or her entry in the wages book) and the employer.

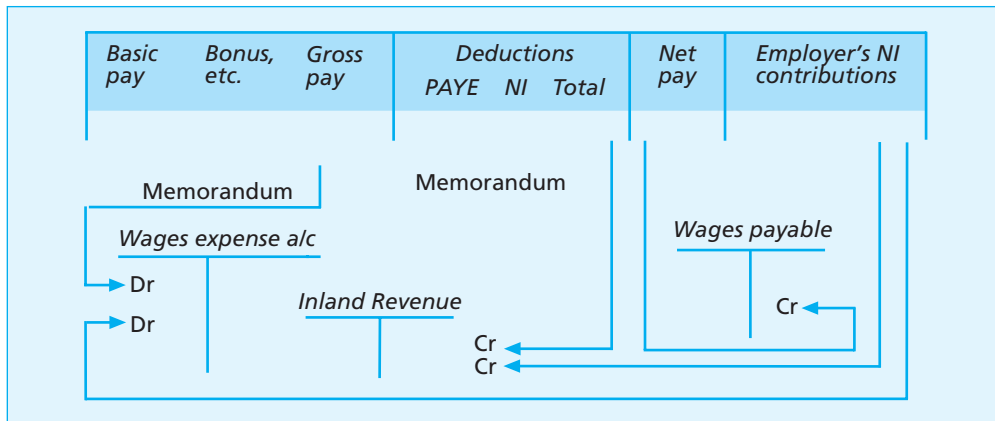


Figure 4.4 A wages book

The next set of columns details the deductions. PAYE stands for Pay As You Earn and is the employee's income tax which the employer must calculate and pay to the Inland Revenue. National Insurance (NI) is the contribution which the employee must make to the scheme. The employer adds the above deductions to his/her own NI contribution (see below) and makes one payment to the Collector of Taxes.

An employee may agree that his or her employer can make other deductions from their wages for such things as trade union contributions, savings etc. If this is the case, the wages book would have to be provided with additional deduction columns.

Net pay is gross pay less deductions and is the amount which the employee actually receives.

The last column represents the contribution which the employer is required to make to the NI scheme.

When the wages book has been written and added up, the totals are posted as follows:

	<i>Debit</i>	<i>Credit</i>
Gross pay	Wages expense account	
Deductions: PAYE		Inland Revenue (creditor)
National Insurance		Wages payable (creditor)
Net pay		

(Note: Since gross pay = net pay plus deductions the debits will equal the credits)

Employer's contributions	Wages expense account	Inland Revenue (creditor)
National Insurance		
The creditor accounts will be cleared as follows:		
PAYE	Monthly payment by cheque to Collector of	
National Insurance	Taxes	
Wages payable	The payment of the net wages	

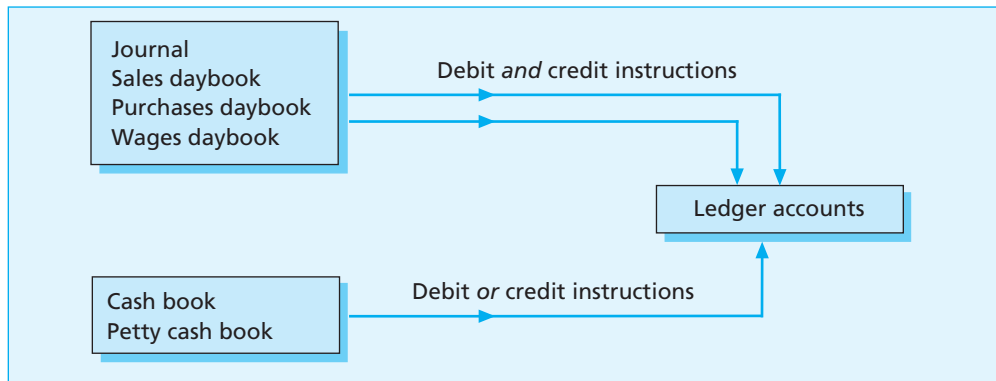
In each case when payment is made, the cash account will be credited and the creditor accounts debited. We are then left with one account, the wages expense account, which will show the wages expense for the period.

### The cash book

This is also a book of prime entry but it may also be an account forming part of the double entry system. The cash book does not record cash but is concerned with the firm's bank account which may be an asset but which can be a liability, i.e. an overdraft. The book of prime entry/account which deals with actual cash is the *petty cash book*.

How can the cash book be both a book of prime entry and an account? Say, for example, a cash sale is made: the entry on the debit side of the cash book records the increase in an asset (or the reduction of a liability if the firm has an overdraft); but the entry is also an instruction to make a posting to a ledger account, in this case to the credit of the sales account. The same principle applies to the petty cash book.

Many firms use the cash book and petty cash books as straightforward books of prime entry in that they provide both debit and credit instructions. In such cases, ledger accounts will be maintained to record the balance at bank and cash in hand.



**Figure 4.5** Relationship between books of prime entry and ledger accounts

The relationship between the books of prime entry and the ledger accounts is illustrated in Figure 4.5.

### The treatment of routine transactions

The entries in the daybooks will be made regularly and at intervals, say monthly, quarterly or annually, the totals will be added up where necessary and the entries will be made in the ledger accounts.

### The ledger

The basic function of a ledger account was described earlier when we presented the T account. One form of a ledger account, the traditional form, is shown in Figure 4.6.

The basic structure of the T account has been maintained. The dates may be either the actual date of the transactions or the date to which the entries are made (i.e. the date shown would be the end of the month or quarter etc.).

The narrative columns show the book of prime entry which originated the entry and the folio (Fo.) columns tell us on which page of the book we shall find the entry. However, when learning accounting or when using T accounts to help in the analysis of accounting problems, it is often useful to enter the name of the other account forming part of the double entry in the narrative column (see Chapter 3). We shall use this method. But the narrative column of a real ledger account should give the source of the entry, since this makes it easier to trace it in order to understand its meaning and to find the evidence or authority supporting it.

X Account							
Date		Fo.	£	Date		Fo.	£
30 June X5	Journal	37	47.20	30 Sept. X5	Cash book	117	35.93

**Figure 4.6** Traditional form of a ledger account

The *ledger* is the name given to the totality of ledger accounts. It is rather redolent of a big leather-bound book whose pages serve as the ledger accounts. The leather-bound book has virtually disappeared, but the name remains.

Special names are given to separate sections of the ledger. The accounts of customers and suppliers are called personal accounts. The totality of the personal accounts of customers is called the *debtors* (or sales) ledger. The section of the ledger dealing with the accounts of suppliers is called the *creditors* (or bought or purchase) ledger. Some companies have adopted the US terminology of ‘receivables’ and ‘payables’ which is perhaps clearer. The rest of the ledger, not including the personal accounts, is often called the *nominal* or *general* ledger. Finally, to add an old-fashioned touch, references may still be found, in some companies, to the private ledger which includes those ledger accounts that contain particularly sensitive information, such as directors’ expenses, which it is thought should be available to only a select few.

## Discounts

A cash discount is an encouragement to the customer to pay his or her debts quickly. For example, if A sells B goods for £100 she will send B an invoice for £100; she might add that a discount will be granted of, say, 2 per cent if payment is made within, say, seven days. In outline, the way in which cash discounts are recorded is as follows:

When the sale is made it is recorded at its gross amount, i.e.

	£	£
Debtor	100	
Sales		100

If customer B takes advantage of the discount, he will pay only £98 and the balance on his account will have to be cleared by a transfer to an account which is usually called the discounts allowed account. The entry is:

	£	£
Cash	98	
Discount allowed	2	
Debtor		100

The same method is used in the books of the purchaser and the accounting entries would be:

	£	£
On purchase: Stock (or fixed assets, etc.)	100	
Creditor		100
On the payment of cash:		
Creditor	100	
Cash		98
Discount received		2

## Discounts and books of prime entry

Since discounts received and allowed are recorded at the same time as the associated payments and receipts, it is sensible to use the cash book as the book of prime entry, giving it two extra columns as shown in Figure 4.7. When a net payment is received, it is entered in the cash received column and the discount put into the discount allowed column.



<i>Cash book</i>				
	<i>Discounts allowed</i>	<i>Receipts</i>	<i>Discounts received</i>	<i>Payments</i>
B	2	98		

**Figure 4.7** Cash book discounts columns

When posting from the cash book to the ledger, the individual items in the discounts allowed column are entered in the credit of the debtors' accounts and the total of the column is debited to the discounts allowed account.

Similarly the amounts in the discounts received column are individually entered in the debit of the creditors' accounts, while the total is entered in to the credit of the discounts received account.

### ? Checkpoint questions

- 4.1 What are the main functions and features of books of prime entry?
- 4.2 Explain why cash books and petty cash books can serve as both books of prime entry and ledger accounts.

## 4.2 The trial balance

You have already learnt how to record the transactions of a firm by making entries in the ledger accounts. You have seen how the dual aspect of the transactions is reflected in the accounts, using debit and credit entries. It follows that, since each transaction involves equal debit and credit entries, the total of all the debits must equal the total of all the credits. We could check that this is so by adding up all the debits and all the credits to see whether the totals are equal. However, there is a way of checking this arithmetical accuracy which is more convenient and, as we shall see later, more useful. This is done by 'balancing' each account and then listing and adding up the balances. By balancing, we mean adding up the debits and the credits in an account separately and then deducting the smaller total from the larger. The difference is the *balance*. If the debit total is larger there is a *debit balance* and if the credit total is larger there is a *credit balance*.

### Example 4.1

The following are the T accounts which we constructed in Example 3.3. We show below how the accounts are balanced. (The balances are shown in italics. Notice that Cr = credit and Dr = debit.) We then demonstrate how a trial balance (TB) is extracted from the balanced T accounts. (All figures are in £.)

<i>Capital</i>	
Bank	100,000
Petty cash	500
<i>Cr 100,500</i>	

<i>Sales</i>					
		Debtors	23,000		
		<i>Cr 23,000</i>			
<i>Stock</i>				<i>Cost of sales</i>	
Creditors	20,000	Cost of sales	20,000	Stock	20,000
<i>Nil balance</i>				<i>Dr 20,000</i>	
<i>Wages</i>					
Bank	1,000				
<i>Dr 1,000</i>					
<i>Sundry expenses</i>				<i>Petty cash</i>	
Petty cash	50			Capital	500
<i>Dr 50</i>				<i>Dr 450</i>	Expenses
<i>Fixtures and fittings</i>					
Bank	10,000				
<i>Dr 10,000</i>					
<i>Drawings</i>					
Bank	10,000				
<i>Dr 10,000</i>					
<i>Creditors</i>					
Bank	15,000	Stock	20,000		
		<i>Cr 20,000 – 15,000 = 5,000</i>			
<i>Debtors</i>				<i>Bank</i>	
Sales	23,000	Bank	18,000	Capital	100,000
<i>Dr 23,000 – 18,000 =</i>				Debtors	18,000
<i>5,000</i>					
					Wages
					1,000
					F&F
					10,000
					Drawings
					10,000
					Creditors
					<u>15,000</u>
				<u>118,000</u>	<u>36,000</u>
				<i>Dr 118,000 – 36,000 = 82,000</i>	

By listing the debit and credit balances in two columns, forming the TB, we can demonstrate that the accounts balance, i.e. the total debits equal the total credits.

	<i>Dr</i>	<i>Cr</i>
Capital account		100,500
Sales		23,000
Stock	–	
Cost of sales	20,000	
Wages	1,000	
Expenses	50	
Petty cash	450	
Fixtures and fittings	10,000	
Drawings	10,000	
Creditors		5,000
Debtors	5,000	
Bank	<u>82,000</u>	
	<u>128,500</u>	<u>128,500</u>

If the totals are equal we say that the ‘trial balance balances’. If they are not equal, a mistake has been made and the figures must be checked and corrected so that it does balance. The fact that the trial balance balances tells us that the total of the debit entries equals the total of the credit entries and that the arithmetic in the accounts is correct.

### ? Checkpoint question

**4.3** What is a trial balance and why must it balance (if no mistakes have been made)?

The TB does *not* reveal some possible errors. These include the following.

1. *The omission of a transaction from the books.* For instance, suppose that an invoice for goods for £500 was received but the invoice was mislaid before it had been entered. Then the books would still balance although incorrect: £500 debit to stock and £500 credit to the supplier’s account would both be omitted. This type of error is an ‘error of omission’.
2. *Debiting or crediting the wrong account but with the right amount.* If the invoice in (1) above were entered to the account of a different supplier, the books would be incorrect but would still balance. This is an ‘error of commission’.
3. *Debiting or crediting the wrong type of account.* For instance, if the £500 in (1) above had been credited to sales (a revenue account) rather than to a supplier (a liability account) then an ‘error of principle’ has been committed, but the books would still balance.
4. *Compensating errors.* These are unconnected errors which, by chance, cancel each other out. For instance, if the rent account were added up so that the total came to £10 too much, and the sales account were also £10 overstated, then the books would balance. There would be too much debit on the rent account and too much credit on the sales account.
5. *Entering the wrong amount.* Suppose that the amount of the invoice above in (1) had been misread as £600; the stock account would be debited and the supplier credited with £600; the books would still balance.
6. *Reversal of the entry.* If the supplier had been debited and stock credited with the £500, the books balance although both accounts involved are incorrect.

### ? Checkpoint question

**4.4** List the types of error which will not show up if the trial balance balances. Give examples of each type of error (not those given above) and explain why they will not throw the trial balance out of balance.

## 4.3 The preparation of financial statements from a trial balance

In section 4.2 you learnt how to extract a trial balance from the ledger accounts. As well as proving the arithmetical accuracy of the accounts, the trial balance serves as the starting-point from which to prepare the financial statements. By taking the balances

	A	B	C	D	E	F	G	H
1		Arthur's	Extended trial balance					
2			Trial balance		Profit & loss account		Balance sheet	
3	Capital account	equity		100,500				100,500
4	Sales	revenue		23,000		23,000		
5	Stock	asset	—					
6	Cost of sales	expense	20,000		20,000			
7	Wages	expense	1,000		1,000			
8	Expenses	expense	50		50			
9	Petty cash	asset	450				450	
10	Fixtures and fittings	asset	10,000				10,000	
11	Drawings	equity (minus)	10,000				10,000	
12	Creditors	liability		5,000				5,000
13	Debtors	asset	5,000				5,000	
14	Bank	asset	82,000				82,000	
15								
16			128,500	128,500	21,050	23,000	107,450	105,500
17								
18	Difference	being profit			1,950			1,950
19								
20					23,000	23,000	107,450	107,450

Figure 4.8 Trial balance figures identified as profit and loss or balance sheet

from a trial balance and dividing them up between *revenues* and *expenses* (profit and loss account items), and *assets*, *liabilities* and *equity* (balance sheet items), we can conveniently prepare the financial statements. For example, starting with Arthur's TB we identify whether the figures are profit and loss (P&L) or balance sheet (BS) and then enter them in the appropriate column (Figure 4.8).

Notice that the difference between the two columns of the P&L is the same amount as the difference between the two BS columns. Arithmetically this must be so because we have divided the two balancing columns of the TB into four columns. The difference in the P&L columns represents the amount by which revenue (right-hand column) exceeds expenses (left-hand column), i.e. it is the *profit*. The same figure entered into the right-hand column of BS represents *the increase in equity* caused by the making of the profit. We can now extract Arthur's profit and loss account and balance sheet from the appropriate columns in the extended trial balance, as follows:

**Arthur's profit and loss account**

	£	£
Sales		23,000
Cost of sales	20,000	
Wages	1,000	
Expenses	<u>50</u>	<u>21,050</u>
Profit		<u>£ 1,950</u>

**Balance sheet**

	£	£
Fixtures and fittings		10,000
Debtors		5,000
Cash at bank		82,000
Petty cash		<u>450</u>
		<u>£97,450</u>
Creditors		5,000
Capital account	100,500	
Add: Profit for the period	<u>1,950</u>	
	102,450	
Less: Drawings	<u>10,000</u>	<u>92,450</u>
		<u>£97,450</u>

**Summary**

In this chapter we considered the practical aspects of accounting systems usually known as double entry bookkeeping. We based our explanations on manual systems because you can see what is going on, unlike computerised systems where much of the activity is hidden from sight in the software package, despite being built on the same logical basis. We therefore dealt with the basic components of a manual bookkeeping system.

We went on to show how to balance the ledger accounts and how to balance the T accounts and extract a trial balance from them. We pointed out that a TB only shows that total debits equal total credits and that the arithmetic is correct. We then explained how there may be errors in the accounts which are not revealed, even if the TB balances. We also demonstrated how to construct a profit and loss account and balance sheet (financial statements) from the TB. A particularly important aspect of the method used is the way it brings out clearly the relationship between the profit and loss account and the balance sheet. You should make sure that you understand this relationship before going on to more complex examples.

**Review questions**

- 4.1 Explain why it is thought more effective to study manual systems of bookkeeping rather than starting with computerised systems.
- 4.2 Explain what is meant by a 'ledger'. Do you think that an equivalent to a leather-bound ledger exists in a standard accounting software package?
- 4.3 We have seen that a trial balance that balances may not reveal certain types of error. What is the limitation of the TB method that causes this to be possible?

## Exercises

Solutions to exercises whose number is in colour can be found at the end of the book.

- 4.1** Emma began business as a retailer on 1 January 20X1. During January 20X1 she carried out the following transactions:

*1 January 20X1*

- Paid £35,000 into the business bank account, of which £20,000 was from personal savings and £15,000 was a loan from the bank at 12 per cent per annum interest.
- Rented a shop for a monthly rent of £3,500 payable in advance.
- Bought fixtures and fittings for £7,500, paid for from the business bank account.
- Bought 10,000 units at a price of £2.00 each.

*14 January 20X1*

- Sold 4,000 units at £4.50 each for cash and paid the proceeds into the business bank account.
- Paid the following expenses from the business bank account:

Wages	£1,100
Lighting and heating	£900
Other expenses	£1,200

*31 January 20X1*

- Sold 5,000 units for £5.00 each on credit to Samuel.
- Bought a further 3,000 units on credit for £2.50 each from Basil.
- Paid the following expenses from the business bank account:

Interest on loan	£150
Wages	£1,300
Telephone	£200
Other expenses	£1,700

Record the above transactions in the T accounts. Prepare a trial balance as at 31 January 20X1.

- 4.2** Sarah has been in business for some years. Her trial balance at 31 December 20X2 was as follows:

	<i>Dr</i>	<i>Cr</i>
	£000	£000
Cash at bank	6	
Buildings	50	
Capital		50
Creditors		24
Debtors	30	
Stock	15	
Drawings	40	
Heating and lighting	10	
Other expenses	25	
Cost of goods sold	200	
Sales		400
Wages and salaries	<u>98</u>	
	<u>474</u>	<u>474</u>

*Required:* Prepare Sarah's profit and loss account for the year ended 31 December 20X2 and her balance sheet as at that date.

- 4.3** Using the information in exercises 2.5 and 3.1 enter the figures into T accounts, balance them and draw up a trial balance.
- 4.4** Using the information in exercises 2.6 and 3.3 enter the figures into T accounts.
- 4.5** The following trial balance was extracted from the books of P. Woodman as at 31 December 20X0:

	£	£
Balance at bank	8,000	
Capital account at 1 January 20X0		23,000
Cash in hand	1,200	
Cost of goods sold	80,000	
Insurance: expense	3,000	
prepaid	500	
Stock	9,000	
Sales		125,400
Sundry expenses	5,000	
Sundry expenses payable		1,000
Trade creditors: Smith		4,000
Jones		2,000
Trade debtors: Jarvis	8,200	
Driot	200	
Wages	39,300	
	<u>£154,400</u>	<u>£155,400</u>

Woodman's bookkeeper noted the difference in the trial balance and opened an account, which he called 'difference on trial balance account', debiting it with £1,000.

Woodman noted this account, sacked the bookkeeper, and called in a firm of accountants who made extensive tests in the course of which they discovered the following:

1. Woodman had introduced capital of £1,000 in June 20X0; it had been credited to the sales account.
2. Wages payable of £700 as at 31 December 20X0 were completely omitted from the above.
3. The debit side of the cash book had been undercast by £2,000. To 'cast', in accounting terms, is to add up.
4. After a physical count of the stock it was agreed that it should be restated at £8,800.
5. A cash sale of £600 had been debited to cash but had not been credited.
6. Of the £500 balance on the insurance prepaid account, £200 was the balance at the start of year representing the premium for the period 1 January 20X0 to 30 June 20X0.
7. Woodman's drawings of £30,000 had been debited to wages expense.
8. A payment of £200 received from Jarvis had been posted to the debit of his account.
9. In December, Woodman paid Smith £900 for goods, but because the goods concerned had been mislaid, their purchase had not been recorded nor had they been included in the stock check referred to in (4) above.
10. Some goods sold to Driot in November 20X0 for £500 had proved to be defective and Woodman agreed that the price charged to Driot should be reduced by £300; this had not been reflected in the books.

*Required:*

- Prepare journal entries to record the above corrections.
- Prepare a corrected trial balance as at 31 December 20X0.
- Prepare Woodman's profit and loss account for the year ended 31 December 20X0 and his balance sheet as at that date.

- 4.6** The following balances appeared in the books of J. Wagstaff at 1 January 20X4 after the preparation of the financial statements for 20X3:

	£	£
Balance at bank		3,000
Capital account		8,000
Electricity payable		150
Stock	6,450	
PAYE and National Insurance payable		200
Rates prepaid	400	
Trade creditors: S. Black		3,000
T. Brown		1,000
Trade debtors: J. Ford	6,000	
F. Bridges	<u>2,500</u>	
	<u>£15,350</u>	<u>£15,350</u>

1. During the month ended 31 January 20X4:

- (a) Wagstaff made the following purchases:

From S. Black	10 January £5,000	18 January £7,000
From T. Brown	12 January £3,000	17 January £2,000

- (b) He made the following sales:

Cash sales	11 January £7,500
Credit sales	
J. Ford	20 January £6,000
F. Bridges	12 January £9,000
M. Ohlsson	15 January £11,000

- A physical check of the stock at 31 January revealed a stock of £4,500 stated at cost.
- Wagstaff employs only one worker, T. Last. Last's wage slips for the four pay days in January were as follows:

<i>Date</i>	<i>Gross wages</i>	<i>Income tax</i>	<i>National Insurance</i>	<i>Net wages</i>
	£	£	£	£
Friday, 5 January	300	30	20	250
Friday, 12 January	360	40	20	300
Friday, 19 January	300	30	20	250
Friday, 26 January	300	10	20	270

The net wages were paid on the above dates.

- Assume that the employer's contribution to the National Insurance scheme is £30 per week.
- The additional wages payment for the week ending 12 January was for overtime. Last did not do any more overtime in January.



6. Cash receipts for the month:

		£
11 January	Cash sales	7,500
12 January	J. Ford	5,500
21 January	F. Bridges	10,000

7. Cash payments for the month (in addition to net wages):

		£
2 January	S. Black	3,000
5 January	T. Brown	1,000
15 January	Collector of Taxes	200
18 January	Electricity (based on the meter reading on 10 January)	300
26 January	Drawings	4,000
31 January	Sundry expenses	1,000

8. Rates expense for January: £80.

9. Electricity used in the period 11–31 January was £130.

*Required:*

(a) Record the above in the following books of prime entry:

- Purchase daybook
- Sales daybook
- Wages book
- Cash book
- Journal

(When designing the wages book, assume that it is to be used by a firm employing some 20 workers.)

(b) Post from the books of prime entry to the ledger accounts.

(c) Prepare Wagstaff's trial balance at 31 January 20X4.

(d) Prepare Wagstaff's profit and loss account for the month ended 31 January 20X4 and his balance sheet as at that date.

**4.7** Using the information given in exercises 2.7 and 3.5 draw up a trial balance.

# 5

## Accrual accounting

### Introduction

In this chapter we discuss the need to prepare periodic financial statements and the problems which arise in allocating revenue and expenses to each period covered by the statements. The distinction between cash accounting, where payments and receipts are included, and accrual accounting, which includes amounts earned and incurred, is explained. We go on to explain how revenue is recognised and how the related expenses are matched to it in a given period. The preparation of accounts including adjustments on an accrual basis (accrued and prepaid expenses) is explained and demonstrated.

### Learning objectives

At the end of this chapter, after completing the checkpoint questions and exercises, you should be able to:

- explain what is meant by 'accrual accounting';
- define 'revenue' and 'expense';
- define and discuss the realisation and matching conventions;
- explain what is meant by 'accrued expenses' ('accruals') and 'prepaid expenses' ('prepayments');
- prepare financial statements from a trial balance, including adjustments in respect of accruals (accrued expenses) and prepayments (prepaid expenses).

### 5.1 The accruals basis of accounting

The existence of the firm is continuous from the time it is set up to the time business ceases and the firm is wound up. Preparing financial statements for the whole life of the firm would be quite simple. The firm would have been set up by the owner(s) putting in cash; and when the firm is wound up, all the assets would be sold and the liabilities settled, leaving a balance of cash. Then all we should have to do would be to compare the cash at the beginning with the cash at the end, and the difference would be the profit or loss for the whole life of the business.

**Key terms**

■ To **wind up** is to close down. In a business context it also implies the sale of the assets and settlement of the debts of the firm; and also the distribution to the owner or owners of any balance of cash left over. Another term in use is to **liquidate** the firm, meaning to dissolve and realise. However, this term is usually used in connection with limited companies, set up under the law, where a **liquidator** has to be appointed to wind up the firm. This is a qualified person who takes control of the company in order to realise its assets, pay its debts and distribute any cash balance.

We should, of course, have to make adjustments for any further cash introduced or drawn out by the owner(s). For example, suppose that George had set up a business by investing £5,000,000 and had not, during the next five years, invested or drawn out any further cash. If, when the business was wound up, it realised £6,200,000 then the profit for the five years would be:

	£
Amount realised	6,200,000
Original investment	<u>5,000,000</u>
Profit for the five years	<u>1,200,000</u>

If, however, George had invested a further £500,000 and had drawn out £600,000, then:

	£
Amount realised	6,200,000
Add: Cash drawn out	<u>600,000</u>
Total cash withdrawn	6,800,000
	£
Original investment	5,000,000
Further investment	<u>500,000</u>
	<u>5,500,000</u>
Profit for the five years	<u>1,300,000</u>

The problem is that it is not much use to the owner to know that he or she has made this profit once business has ceased. In order to take action to improve the business he or she needs to know the results much more frequently: every year, or every quarter, month or even every week. Some figures may well be needed daily. In practice most well-run firms have their accounting statements produced at least once a month. This means that we shall have to divide the firm's continuous life into arbitrary periods in order to produce the statements. This causes nearly all of the problems we have to face (and much of the interest) in accounting.

**Checkpoint question**

**5.1** Anna invested £100,000 into a new business. During the next six years she drew out a total of £66,000 for her living expenses. She also made a further investment in the firm of £9,000. At the end of the six years, she wound up the business, realising £200,000. Calculate her profit for the six years.

The first step is to break the time stream into sections. Ideally the periods should be selected so that the results of one time period can be compared, within reason, with the

results of other time periods. In practice, all firms produce accounts at least once a year. Depending on the law in each country in which the firm is set up, this may be necessary under legal requirements and/or as a basis for the charging of tax. A year is a good choice so far as comparability is concerned; all years are the same length (at least within a day) and seasonal variances are automatically dealt with. In any case, no firm should go for longer than one year without checking how well or badly it is doing. Without regular accounts the owner or manager may not detect an adverse trend in time to do anything about it, so accounting reports are needed more frequently.

So, let us suppose that we have to produce a firm's accounts for year 4; they need to be made up in such a way as to be consistent with years 3, 2 and 1 so that the results may be compared with those of the previous years. In order to make sense of the accounts for any year (for instance year 4) we shall need to try to report the profit earned in year 4 and exclude any figures which belong to the previous year or the year following. This means that we have to include in year 4 only the revenue and expenses which relate to that year. In order to do this properly, we need to understand what is meant by 'revenue' and 'expense'.

### ? Checkpoint question

5.2 Explain why the owner(s) of a business need frequent accounting statements.

## Revenue

If we apply the rules of the accounting equation we can see that the increase in net assets must equal an increase in owner's equity. So, if the firm sells a widget for £5 in cash we should have, in terms of the extended equation,

$$\begin{array}{rcl} A + X & = & L + E' + R \\ + 5 & = & + 5 \\ \text{cash} & & \text{revenue (sale of widget)} \end{array}$$

There is, of course, an associated expense, i.e. the cost of the widget. If the widget had cost £3, then

$$\begin{array}{rcl} A & + & X & = & L + E' + R \\ - 3 & & + 3 & & \\ \text{asset (stock)} & & \text{expense (cost of sales)} & & \end{array}$$

### Key terms

■ **Revenue** is the gross increase in net assets which occurs as the result of selling goods or services. By 'gross' we mean 'before deducting expenses'. **Net assets** are total assets less total liabilities.

### ? Checkpoint questions

5.3 Angie sells goods for £500 cash which had cost her £300. Show the result of this transaction in terms of the extended accounting equation.

5.4 What is the definition of 'revenue'?

## Expenses

Expenses may arise by using up assets. Generally, assets acquired by the firm will be used up in earning revenue. The two important aspects are the acquisition of the asset and its use. An asset will have a historical cost, i.e. the amount that is paid or will be paid in order to acquire it. However, no expense arises because of the ownership of the asset; an expense arises when the asset is used up in earning revenue. We may define the expense as the amount of the asset which is used up during the accounting period. This part of the cost of the asset will be included in the profit and loss account, reducing the profit. Any part of the asset which has not been used up at the end of the period remains an asset at the end of the period and will be included in the balance sheet. We can say that the part of the asset which has been used up is the *expired cost* and the part of the asset which has not been used up is the *unexpired cost*.

### Key terms

■ An **expense** is a cost which relates to the earning of revenue during a given accounting period.

■ An **expired cost** is one which has been used up in the process of earning revenue for a given period. This is an **expense** of the period. An **unexpired cost** is one which has not been used up by the end of the period. It is therefore still an **asset** at the end of the period. (Assets may be ‘used up’ in some other way which is not part of the revenue-earning process, e.g. they are lost or stolen; these are known as losses.)

We can express the using-up of assets in the form of an equation, as follows:

Historical cost of asset – Expense (or loss) for the period = Asset at the end of the period

For the next period:

Asset at start of the period – Expense (or loss) for the period = Asset at end of period

For example, suppose a trader buys goods for resale (stock) for £50,000 cash in year 2; if he sells one-fifth of the goods in year 2, then we should have

$$\begin{array}{rclcl} \text{Historical cost} & & \text{Expense for} & & \text{Asset at end} \\ \text{of asset} & & \text{the year} & & \text{of year} \\ \text{£50,000} & - & \text{£10,000} & = & \text{£40,000} \end{array}$$

Or, in terms of the extended equation

$$\begin{array}{rclcl} A & + & X & = & L & + & E & + & R \\ +£50,000 \text{ stock} & & & & & & & & \\ -£50,000 \text{ cash} & & & & & & & & \end{array}$$

then

$$-£10,000 \text{ stock} + £10,000 \text{ cost of goods sold}$$

Of course the firm would have earned revenue when selling the goods; we should credit the amount of the sale to revenue and debit cash or debtors, as appropriate. So, for instance, if the above stock had been sold for £16,000 on credit:

$$\begin{array}{rclcl} A & + & X & = & L & + & E & + & R \\ +£16,000 & & & & & & & & +£16,000 \\ \text{debtors} & & & & & & & & \text{sales} \end{array}$$

An expense may also arise when the expense gives rise to a liability. For instance, as the business uses electricity it is incurring a liability, in that money is owed to the electricity supply company, and it is incurring an expense which is equal to the liability. For example, if the electricity used cost £120:

$$\begin{array}{ccccccc}
 A & + & X & = & L & + & E' & + & R \\
 & & +£120 & & +£120 & & & & \\
 & & \text{electricity} & & \text{electricity} & & & & \\
 & & & & \text{supply} & & & & \\
 & & & & \text{company} & & & & 
 \end{array}$$

### ? Checkpoint question

5.5 Annie MacPherson bought stock for £21,000 at the start of year 1. She sold one-third of the goods during the year. Show the asset at the start of the year, the expense for the year and the asset at the end of the year.

## 5.2 Accrual accounting

The simplest way of reporting on the results of an accounting period is to list the cash received and the cash paid. Such a statement is valuable and has the merit of being reliable. Very small entities such as social clubs use such statements (known as receipts and payments accounts) as their main accounting statements, whereas larger enterprises publish such statements (known as cash flow statements) as important supplementary statements to their main financial statement. Valuable as they are, cash flow statements are not adequate as the primary financial statements (except for the very smallest of entities) showing the results of an accounting period. There are a number of reasons for this, as follows:

- Most business is conducted on credit, that is assets are bought and sold, or services performed, for payment at a date later than the delivery of the goods or rendering of the services. In virtually all cases the most significant event, in business terms, is the purchase or sale, not the flow of cash.
- Money might be borrowed and it would be misleading to show the inflow of cash without recording the fact that it will have to be repaid. Similarly services, such as the supply of electricity, may be obtained on credit and it would be misleading to record the benefit of receiving the service but not the obligation to pay for it.
- Many assets may be acquired which will benefit the firm over a number of accounting periods; it would be misleading to show the payment for the asset and not to record the benefits which the business will receive in the future.

So, rather than rely entirely on cash accounting, firms use accrual accounting, which focuses on the assets and services sold by the firm during the accounting period and the assets and services consumed by it in that period in order to achieve those sales.

### ? Checkpoint question

5.6 Describe the advantages of cash accounting and explain why cash accounting is not adequate to the needs of firms.

We now have to examine the methods of including, in a particular time period, the figures which belong to that period. That is, we shall be using ‘accrual accounting’. It is not the normal practice, for the reasons given above, to use the amounts received and paid in the period, but the amounts earned and incurred in the period.

### Key terms

■ **Earned** means that an amount has become payable to the firm following the delivery of goods or the performance of a service, regardless of whether the amount is payable immediately or at a later date.

■ **Incur** in this context means ‘become liable to pay for’; so if the firm takes delivery of goods or accepts performance of services it becomes liable to pay for them from the date of the acceptance, even if the supplier allows the firm to pay, say, one month later.

Accrual accounting is based on two key conventions: *realisation* and *matching*.

## The realisation convention

### Recognition of revenue

The normal rule in accrual accounting is that ‘revenue should not be recognised until it is realised’.

### Key terms

■ **Recognise**, in this context, means ‘include in the books of account’. **Realise**, in this context, means to convert into money (or equivalent resources). In simple terms ‘to become payable’.

The question here is: at which point in time should we consider that realisation takes place? In reality, revenue is earned gradually through all the processes of business: for example, buying raw materials; processing the materials into finished goods; advertising the goods for sale; transporting the goods to the customer; invoicing the customer; and collecting the cash. The realisation convention assumes that the revenue arises all at once at one point in time, usually when the goods or services have been delivered and the invoice sent out to the customer.

### Key terms

■ An **invoice** is a document which sets out the amount owing from the customer or client following the delivery of goods or performance of services. **Invoicing** is the act of preparing an invoice and sending it to the customer.

This rule is convenient and in most cases quite sensible. The goods have left the firm and have been accepted by the customer, who has been charged for them. Unless the customer challenges the invoice, it is reasonable to suppose that he or she has accepted the increased value of the goods (or services) and that there is, therefore, some objective evidence that the sales value has been accepted. This valuation is normally sufficiently objective to be recorded in the accounting records, but such a valuation cannot be entirely objective. For instance, when the customer tries to use or sell the goods they may turn out to be faulty; they would then be returned to the seller. Again, there is no certainty that the customer will be able and willing to pay for the goods. The value of

the debt depends on the probability that it will be paid. This would have to be estimated, bringing in subjective judgement.

While most firms follow the rule that profit is taken once the goods are sold or the service rendered, there are a few exceptions. Two of the more important are as follows.

1. Companies which undertake large contracts which last more than one year normally recognise a proportion of the total revenue for the contract, together with the associated proportion of the profit, at the end of each year. If they waited until the completion of the contract all the profit would appear in the final year and nothing in the earlier years. In fact, the profit has been earned throughout the term of the contract.
2. Hire purchase and mail order companies, among others, may have difficulty in collecting all of the cash owing to them (in other words they have substantial 'bad debts'). Such companies may decide not to recognise the profit until they receive the cash.



### Checkpoint question

- 5.7 Explain when and why revenue is usually recognised. Also give two exceptions to that rule.

## The matching convention

### Matching of expenses with revenue

This means that we should recognise the expenses incurred in earning revenue in the same period as we recognise the revenue; in other words we should 'match' the expenses to the revenue. It is convenient and useful to split expenses into 'product' and 'period' expenses.

Product costs include such items as the cost of the goods or services supplied and some of the costs of selling them such as sales commissions payable to staff. Period costs include such items as rent, telephone and telefax costs, salaries of office staff, and so on. The conversion from asset to expense (or the incurring of a liability, giving rise to an expense) is done on the basis of time periods rather than being directly related to particular items of revenue. This is a compromise, and may not be entirely realistic. The expenses incurred in a given time period are not necessarily incurred in earning the revenue for that period. For example, the advertising costs incurred towards the end of an accounting year are likely to be related to sales of the following year.

### Key terms

■ **Product expenses** (usually referred to as 'product costs') can be specifically attached to particular goods or services. **Period expenses** ('period costs') cannot be directly attached to any particular sale. They can only be identified as taking place within the period in which the revenue was earned.



### Checkpoint question

- 5.8 Explain why the inclusion of period costs is likely to involve more estimation than the inclusion of product costs.



### 5.3 Preparation of financial statements including accrual accounting adjustments

Remember that the trial balance is a summary of the transactions which have been entered into the books of account up to the end of a given accounting period. In order to convert these figures into accounts on an accrual accounting basis, we shall have to make some adjustments. These will first of all be in respect of expenses incurred in the period which have not yet been recorded in the books. These are known as ‘accrued expenses’ or ‘accruals’.

#### ? Checkpoint question

**5.9** Didier Toubon pays his firm’s rent quarterly in arrears. For the year ended 31 January 20X1 the rent amounted to £9,000 per annum; for the year to 31 January 20X2 the rent was £12,000 per annum. Didier’s accounting year ends on 31 December. Calculate the accrued rent as at 31 December 20X1 and the rent expense for the year ended on that date.

**Key terms** ■ **Accrued expenses, or accruals**, are expenses which relate to the accounting period but which have not yet been brought into the books of account at the end of the period.

For example, George pays his staff wages at the end of every week. The weekly cost is £1,000 for five days. Now, suppose that George’s accounting year ends on a Wednesday; he will then owe his staff three days’ wages, amounting to £600. This amount must be added to wages expense for the year and will also appear as a liability in the balance sheet:

$$\begin{array}{rccccccc}
 A & + & X & = & L & + & E' & + & R \\
 & & +£600 & & +£600 & & & & \\
 & & \text{wages} & & \text{staff} & & & & 
 \end{array}$$

Secondly, we shall usually have some items which have been recorded in the books for the period but which relate, at least in part, to a later period. These are called ‘prepaid expenses’ or ‘prepayments’.

**Key terms** ■ The terms **prepaid expenses** or **prepayments** are, unfortunately, like a number of accounting terms, rather misleading. The reason is that they refer to items recorded in the books, whether paid or not, which relate wholly or partly to a later accounting period than the one in which they were recorded.

So, if George’s accounting year ends on 31 December and he paid three months’ rent, amounting to £6,000, in advance on 1 November, the payment would cover November and December (this year) and January (next year). So, we need to reduce rent expense for the year by £2,000 (one-third of the total) and show this amount as an asset in the balance sheet at 31 December:

$$\begin{array}{rccccccc}
 A & + & X & = & L & + & E' & + & R \\
 +£2,000 & & -£2,000 & & & & & & \\
 \text{prepaid rent} & & \text{rent expense} & & & & & & 
 \end{array}$$

### ? Checkpoint question

5.10 Jesus-Maria Fernandez pays his business insurance premium one year in advance on 1 October each year. Fernandez's accounting year ends on 31 December. The premium for the year commencing 1 October 20X3 was £14,400. The premium for the preceding year was £12,000. Calculate the prepayment as at 31 December 20X3 and the insurance expense for the year ending on that date.

An example demonstrates the application of the accrual concept to the preparation of accounting statements, starting with a trial balance.

### Example 5.1

Jacques Delalande's trial balance as at 30 June 20X2 was as follows:

	£		£
Debtors	15,100	Capital account as at 1 July 20X1	19,500
Cost of goods sold	96,000	Bank overdraft	4,500
Stock	26,000	Sales	162,000
Motor vehicle	14,000	Creditors	14,000
Wages expense	9,500		
Other expenses	7,000		
Rent expense	9,000		
Insurance expense	2,000		
Drawings	<u>21,400</u>		
	<u>200,000</u>		<u>200,000</u>

The following information is relevant:

1. Wages payable but unpaid at 30 June 20X2 amounted to £500.
2. Rent accrued and unpaid to 30 June 20X2 amounted to £2,000.
3. The figure of insurance includes an amount of £600 which relates to the year commencing 1 July 20X2.

In order to bring the accounts on to an accruals basis we must:

1. Increase wages expense by £500 to £10,000 and recognise that there is a liability of £500.
2. Increase rent expense by £2,000 to £11,000 and recognise the liability of £2,000.
3. Reduce the insurance expense by £600 to £1,400 and recognise the asset of £600.

After making these adjustments the company's financial statements will appear thus:

#### Jacques Delalande Profit and loss account for the year ended 30 June 20X2

	£	£
Sales		162,000
Less: Cost of goods sold		<u>96,000</u>
Gross profit		66,000
Less: Expenses		
Wages (9,500 + 500)	10,000	
Rent (9,000 + 2,000)	11,000	
Insurance (2,000 – 600)	1,400	
Other expenses	<u>7,000</u>	
Net profit		<u>36,600</u>

## Balance sheet as at 30 June 20X2

Assets			
Motor vehicle			14,000
Stock			26,000
Prepaid expenses (insurance)			600
Debtors			<u>15,100</u>
			<u>55,700</u>
Liabilities			
Creditors	14,000		
Accrued expenses (rent 2,000 + wages 500)	2,500		
Bank overdraft	<u>4,500</u>	21,000	
Capital account as at 1 July 20X1	19,500		
Add: Profit	<u>36,600</u>		
	56,100		
Less: Drawings	<u>21,400</u>		<u>34,700</u>
			<u>55,700</u>

## Using the extended trial balance

The use of an extended trial balance (ETB) is the most reliable method for preparing accounting statements. As you will see, arithmetical errors and ‘one-legged entries’ are very easily seen. (A one-legged entry is one where only one side of the necessary debit and credit is entered, throwing the ETB out of balance.)

The procedure is as follows:

1. Draw up a worksheet, entering the figures from the trial balance into the first two columns (see Figure 5.1). Add up the two columns to make sure that you have copied the figures correctly. (If you are preparing the ETB by hand, leave extra spaces

	A	B	C	D	E	F	G	H	I	J
1		Delalande		Extended trial balance		Year ended 30.6.20X2				
2			Trial	balance		Adjustments	Profit & loss account		Balance sheet	
3	Debtors		15,100							
4	Capital account			19,500						
5	Cost of goods sold		96,000							
6	Bank overdraft			4,500						
7	Sales			162,000						
8	Creditors			14,000						
9	Stock		26,000							
10	Motor vehicle		14,000							
11	Wages expense		9,500		(1) 500					
12	Other expenses		7,000							
13	Rent expense		9,000		(2) 2,000					
14	Insurance expense		2,000			(3) 600				
15	Drawings		21,400							
16										
17										
18										
19	Sundry creditors and accrued expenses					(1)+(2) 2,500				
20	Sundry debtors and prepaid expenses				(3) 600					
21										
22			200,000	200,000	3,100	3,100				

Figure 5.1 ETB worksheet: trial balance entries and adjustments

between items to allow for several adjustments affecting any one account. Also, leave plenty of space at the bottom for new accounts which you will have to create. Using a computer spreadsheet you can easily insert extra rows if they are needed.)

2. Enter the necessary adjustments into the second pair of columns (see Figure 5.1 – the numbers in brackets refer to the adjustments in Example 5.1).
  - (a) Accrued expenses: the amounts of the adjustments are entered in the debit column against the appropriate expense accounts, increasing the expenses, and the total of the accrued expenses is entered in the credit column against a new account, which we have called ‘Sundry creditors and accrued expenses’. The result is that we have increased the expenses and have also recorded the amounts owed as a liability. Notice that the method we have used in the spreadsheet is to give all the accrued expenses the same reference number, add them up at the end and enter the total as a credit in the adjustments column, using the same reference number.
  - (b) Prepaid expenses: the adjustments are entered in the credit column of the adjustments, decreasing the expense, and entered into the debit column against a new account which we have called ‘Sundry debtors and prepaid expenses’.

### Arithmetic accuracy

We have always ensured that the debit entries equalled the credit entries. Check this by adding up the two adjustment columns to see that the totals are equal.

### Profit and loss account and balance sheet columns

You will see that the last two pairs of columns are labelled ‘Profit and loss account’ and ‘Balance sheet’. We need to enter all revenue and expense items into the profit and loss account columns and all assets, liabilities and equity items into the balance sheet columns (see Figure 5.2). You will notice that there is a difference between the totals of

	A	B	C	D	E	F	G	H	I	J
1		Delalande		Extended trial balance		Year ended 30.6.20X2				
2			Trial	balance		Adjustments	Profit & loss account		Balance sheet	
3	Debtors		15,100						15,100	
4	Capital account			19,500						19,500
5	Cost of goods sold		96,000				96,000			
6	Bank overdraft			4,500						4,500
7	Sales			162,000				162,000		
8	Creditors			14,000						14,000
9	Stock		26,000						26,000	
10	Motor vehicle		14,000						14,000	
11	Wages expense		9,500		(1) 500		10,000			
12	Other expenses		7,000				7,000			
13	Rent expense		9,000		(2) 2,000		11,000			
14	Insurance expense		2,000			(3) 600	1,400			
15	Drawings		21,400						21,400	
16										
17	Sundry creditors and accrued expenses					(1)+(2) 2,500				2,500
18	Sundry debtors and prepaid expenses				(3) 600				600	
19			200,000	200,000	3,100	3,100	125,400	162,000		
20	Difference being									
21	profit						36,600			36,600
22							162,000	162,000	77,100	77,100

Figure 5.2 ETB worksheet: profit and loss account and balance sheet entries

each pair of columns and that the differences are equal but on different sides. In the profit and loss columns the credit total exceeds the debit total by £36,600; this is the *profit* for the period as the revenue exceeds the expenses by that amount. The debit total of the balance sheet columns exceeds the credit total, also by £36,600. This is the amount by which the profit has *increased the equity*; we therefore enter the amount in the credit column of the balance sheet, thus balancing both sets of columns.

We may now extract the balances from the two pairs of columns and arrange them into the accounting statements shown in Example 5.1 above.

### ? Checkpoint question

**5.11** Explain the function of accrued and prepaid expenses in the matching process and the preparation of accounts on an accruals basis.

### Summary

**In this chapter we introduced accrual accounting. After the accounting equations, this is the key chapter in the book, dealing as it does with the basis of accounting used by virtually all business enterprises and many others, such as universities and hospitals. We also introduced the twin conventions of realisation and matching which underlie the accrual accounting method. Accrual accounting attempts to bring in to an accounting period all those revenues and expenses which relate to that period and to include in the balance sheet those assets, liabilities and equity items which exist at the end of the period. This should be compared with the cash basis, where revenue is recognised when the cash is received and the expenses are recognised when the cash is paid. As we shall see in the later chapters, nearly all the problems in accounting arise from the attempt to make accounting more relevant to the firm's needs through the adoption of the accruals basis.**

**The preparation of financial statements (profit and loss account and balance sheet) including accruals and prepayments was also explained and demonstrated, including the use of the extended trial balance.**

### Review questions

- 5.1** Explain the main differences between accrual accounting and cash accounting.
- 5.2** Explain what is meant by realisation and matching.
- 5.3** We have said that accrual accounting gives rise to most of the difficulties in accounting. Why do you think this is so?
- 5.4** What have assets and expenses in common? How do they differ?
- 5.5** Discuss the statement that 'revenue should not be recognised until it is realised'.

## Exercises

Solutions to exercises whose number is in colour can be found at the end of the book.

5.1 Malcolm's trial balance as at 30 June 20X1 was as follows:

	£	£
Capital account as at 1 July 20X0		29,000
Creditors		21,000
Debtors	22,650	
Cost of goods sold	144,000	
Drawings	32,100	
Sales		243,000
Stock	36,000	
Vehicles	21,000	
Wages expense	14,250	
Sundry expenses	3,000	
Rent expense	13,500	
Insurance expense	2,000	
Cash at bank	<u>4,500</u>	
	293,000	<u>293,000</u>

The following information is relevant:

1. Wages payable but unpaid at 30 June 20X1 amounted to £750.
2. Rent accrued and unpaid to 30 June 20X1 amounted to £3,000.
3. The figure of insurance expense includes a prepayment at 30 June 20X1 of £400.

Prepare Malcolm's profit and loss account for the year ended on 30 June 20X1 and his balance sheet as at that date.

5.2 St John is a professional man who has hitherto produced his accounts on a cash basis (i.e. revenue is recognised when the cash is actually received and expenses are recognised when they are paid).

His income statement (on a cash basis)\* for the year ended 30 June 20X3 is as follows:

	£	£
Fees		180,000
Less: Rent	12,000	
Rates	8,000	
Wages (including National Insurance)	28,000	
Sundry expenses	<u>20,000</u>	<u>68,000</u>
Surplus		<u>£112,000</u>

During the year St John withdrew £100,000 from his business bank account to pay his living expenses. ➤

\*Income statements based on cash accounting are usually called receipts and payments accounts.

St John was persuaded by his accountant to change from cash to accrual accounting and it was decided that the new basis should be applied for the year ended 30 June 20X3. The following information as at 1 July 20X2 is relevant:

	£
Debtors for fees	60,000
Business bank account (overdrawn)	40,000
PAYE and NI payable	200
Rent payable	2,000
Prepaid rates	3,000

Fee income (on an accrual basis) for the year ended 30 June 20X3: £210,000. Rent expense (on an accrual basis) for the year ended 30 June 20X3: £12,000. As at 30 June 20X3:

	£
PAYE and NI payable	120
Prepaid rates	4,000

*Required:*

- Prepare (on the basis of the information provided) St John's balance sheet as at 30 June 20X3 and his profit and loss account for the year ended on that date.
- Are there any other assets or liabilities which you might expect to find?
- What arguments might St John's accountant use when persuading him to change from cash to accrual accounting? Are there any arguments against making the change? If so, what are they?

- 5.3** Mr Marchesi has always kept his accounts on a cash basis. His new accountant has persuaded him to change to an accruals basis. His income and expenditure account, on a cash basis, for the year ended 31 March 20X0 is as follows:

	£	£
Fees received		230,000
Rates	12,000	
Wages	40,000	
Insurance	6,000	
Lighting and heating	3,000	
Other expenses	<u>20,000</u>	
		<u>81,000</u>
		<u>£149,000</u>

During the year Marchesi drew £110,000 from the business account to cover his private expenses. The following information is relevant:

At 1 April 19X9:	£
Debtors for fees	50,000
Balance on business bank account	4,000
Prepaid rates	3,500
Prepaid insurance	1,200
Wages payable	800





A consulting civil engineer visited a number of the sites on 31 December of some years and issued certificates showing his estimates of the 'value' of the work done to date. The following schedule gives details of the certificates issued:

<i>Date</i>	<i>Contract</i>	<i>(£000)</i>
31 Dec. year 2	2	300
31 Dec. year 2	3	600
31 Dec. year 4	4	350
31 Dec. year 5	4	500*
31 Dec. year 5	5	400
31 Dec. year 6	4	1,000*
31 Dec. year 6	5	700*
31 Dec. year 6	7	400
31 Dec. year 7	8	350

\* These are cumulative figures.

*Required:*

(a) Show Black's profits for the years 1 to 8 inclusive using the following methods:

- (i) The revenue for each contract is recognised in the year in which the contract is completed (i.e. all the profit on a contract is taken in the year in which the contract is completed).
- (ii) Black estimates the total profit on each contract and allocates that profit between the years on the following basis:

Profit recognised during the year

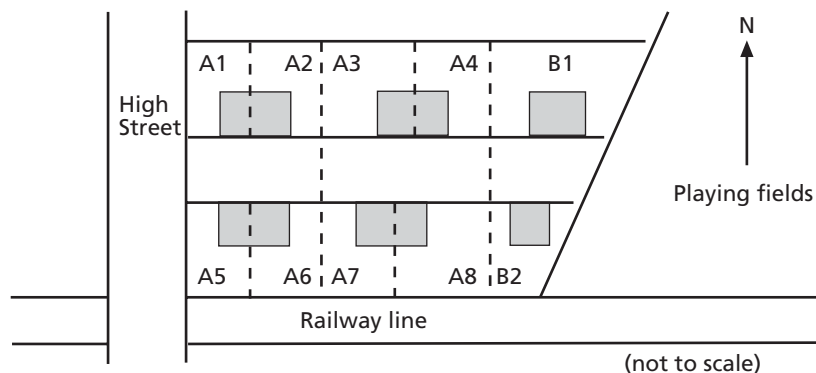
$$= \text{Estimated total profit} \times \frac{\text{Expenditure on contract for the year}}{\text{Estimated total expenditure}}$$

Assume that Black's estimates are completely accurate.

- (iii) Uncompleted contracts are 'valued' on the basis of the certificates or, if one has not been issued, on the total expenditure to date.

(b) Discuss the comparative advantages and disadvantages of the above methods.

**5.5** Towards the end of 20X0 Marcel purchased a plot of land, known as Lake Rise, on which he proposed to build, for sale, a number of houses. His architects drew up the following plan:



The following estimates were made of the revenue and costs for this development:

<i>Revenue</i>	£	£	£
Detached houses B1		380,000	
B2		<u>340,000</u>	
			720,000
Semi-detached houses			
A1		240,000	
A2, A3, A4 – 3 @ £260,000		780,000	
A5		200,000	
A6, A7, A8 – 3 @ £220,000		<u>660,000</u>	
			<u>1,880,000</u>
			2,600,000
 <i>Costs</i>			
Purchase of land (including legal expenses)		600,000	
Levelling of land		100,000	
Roads and services		300,000	
<i>Construction costs</i>			
Semi-detached houses			
8 @ £60,000	480,000		
Detached houses			
2 @ £110,000	<u>220,000</u>	700,000	
 <i>Selling expenses</i>			
General promotional expenses	40,000		
Commission to estate agents (10 per cent of selling price)	<u>260,000</u>	<u>300,000</u>	<u>2,000,000</u>
Estimated profit on the development			<u><u>£600,000</u></u>

Marcel has a number of other developments on hand and he employs a small number of ‘head office’ staff including the architects. Marcel’s architects were fairly hard pressed with work on existing projects and so when the Lake Rise development appeared, Marcel was persuaded to engage an additional architect at a salary of £30,000 per annum. Marcel’s chief architect’s argument was that although the Lake Rise development would not, in itself, use up the whole time of the new man, his employment would mean that the quality of the work on the other projects could be improved. In addition, the new man would be very useful when work started on a major new development which was expected to start in 20X2. Accordingly, a new architect was engaged on 1 January 20X1.

The levelling costs referred to above were mainly caused by the need to remove a small hillock on the site of house B1.

Work started on the Lake Rise development in January 20X1 and by the end of 20X1 the following payments had been made:

	£
Purchase of land	600,000
Levelling of land (completed)	120,000
Roads and services (uncompleted)	200,000

	£	£
<i>Construction costs</i>		
B1 (completed)		120,000
B2 (uncompleted)		40,000
A3 (completed)		70,000
A4 (completed)		60,000
A8 (uncompleted)		20,000
General promotional expenses		30,000
Agents' commission B1	38,000	
A4	<u>26,000</u>	64,000
Damaged caused to a neighbour's property due to a mishap with a bulldozer (not covered by insurance)		5,000

During 20X1 Marcel sold B1 and A4 for the original estimated prices. By the end of 20X1 Marcel was running short of cash and so in order to sell the other completed house, A3, quickly he offered to pay the purchaser's legal expenses. He sold A3 on these terms at the end of 20X1 and the purchaser's legal expenses are estimated to amount to £1,000.

Discuss the problems involved in estimating Marcel's profit and loss for 20X1 on the Lake Rise development. In your answer you should attempt to provide at least one estimate of Marcel's profit or loss.

- 5.6** After one month's trading, Deborah's trial balance as at 31 January 20X1 appeared as follows:

	<i>Dr</i>	<i>Cr</i>
	£	£
Bank	131,380	
Capital account		150,000
Rent	12,000	
Stock	8,750	
Creditors		55,312
Vans	40,120	
Sales		39,000
Drawings	6,000	
Wages	7,500	
Debtors	9,000	
Cost of goods sold	<u>29,562</u>	
	<u>244,312</u>	<u>244,312</u>

The following information is relevant:

1. The rent of £12,000 is in respect of the six months to 30 June 20X1.
2. Telephone charges for the month are estimated to be £100.

Prepare Deborah's profit and loss account for the month to 31 January 20X1 and her balance sheet as at that date.

- 5.7 Theodore has run a management consultancy for a few years. His trial balance at 31 December 20X2 was as follows:

	<i>Dr</i>	<i>Cr</i>
	£	£
Cash at bank		33,400
Freehold property	180,000	
Capital at 1.1.X2		73,000
Long-term loan		100,000
Creditors		5,000
Debtors	38,000	
Fees earned		225,000
Interest paid	9,000	
Drawings	32,000	
Heating and lighting	9,600	
Other office expenses	22,800	
Wages and salaries	<u>145,000</u>	
	<u>436,400</u>	<u>436,400</u>

The following information is available:

1. Theodore owes a further £1,000 in interest at 31 December 20X2.
2. Office expenses include a payment for rates of £4,500 covering the period from 1 October 20X2 to 31 March 20X3.
3. Office expenses amounting to £3,000 have been incurred but not entered in the books at 31 December 20X2.

Prepare Theodore's profit and loss account for the year ended 31 December 20X2 and his balance sheet as at that date.

# 6

## Fixed assets and depreciation

### Introduction

In the first part of this chapter we discuss the nature of fixed assets and why they are depreciated in the accounts. We then explain the nature of depreciation in accounting terms. In the second part we show the bases on which it may be calculated. We then demonstrate and explain how to deal with the entries in the books of account to record depreciation, including the entries on the sale of assets. We go on to discuss what depreciation is *not*, dealing with some of the common misconceptions about its purpose. Finally, we demonstrate how to prepare financial statements including adjustments for depreciation.

### Learning objectives

At the end of this chapter, after completing the checkpoint questions and exercises, you should be able to:

- explain the distinction between fixed and current assets;
- explain the nature of depreciation in accounting terms;
- explain the straight-line and accelerated depreciation methods and make the calculations;
- compare the results of using the various methods;
- explain the possible justifications for the use of the different methods;
- record depreciation in the books of account, including the disposal of fixed assets;
- explain 'what depreciation is not';
- prepare financial statements including depreciation.

## 6.1 Nature of depreciation and methods of calculation

### Fixed and current assets

Depreciation applies to the type of long-lived assets known as 'fixed assets'. It is therefore necessary to distinguish between fixed assets and the shorter-term assets known as 'current assets'.

Whether an asset is fixed or current depends on the way it is to be used rather than the nature of the asset. So, in the case of a firm selling furniture, the furniture used in the office would be *fixed*, whereas the furniture held in stock for resale would be *current*.

Similarly, some costs which would normally be considered to be expenses of the period may well be treated as expenditure on fixed assets. Thus, anything spent on a fixed asset which is intended to improve the asset would be added to the cost of the asset. This could arise, for instance, where machinery is overhauled. Most of the cost would consist of repairs, intended to keep the machinery operating as before; this would be treated as an expense. There might also be some expenditure which takes place at the same time which is intended to upgrade the machinery, for instance by enabling it to work faster. Strictly, this should be added to the assets. (In practice it is often difficult to decide how much relates to improvements, so unless the amount involved is very substantial the whole is often treated as an expense.) Costs of delivery and installation would also be treated as part of the cost of an asset.

### Key terms

- **Current assets** consist of cash plus assets which the firm expects to sell, use up or convert into cash within one year, or within the normal operating cycle of the firm. Normally, current assets include:
  - stock (which will be sold);
  - debtors (which will be converted into cash);
  - prepaid expenses (which will be used up);
  - cash at bank and in hand.
- **Fixed assets** include those which will not be used up during one year (or during the business cycle) but which will continue to be used in the business, usually over more than one year. Such assets may include both tangible and intangible assets.
- ‘Tangible’ literally means ‘capable of being touched’; so a **tangible asset** is material or corporeal.
- **Intangible assets** are those that are not tangible, such as patents and trademarks. Investments which the firm intends to hold for more than one year would also be included in fixed assets.

In this chapter we will be concentrating on tangible assets. These are such items as land, buildings, machinery, vehicles, furniture, etc.



### Checkpoint question

6.1 Distinguish between fixed and current assets.

### What is depreciation?

Fixed assets are those which are intended to provide services to the firm over a number of years. If we were to treat the whole cost of such an asset as an expense in the year it was purchased, we should be understating the profit of that year (because too much is charged as an expense) and overstating the profits of later years (because nothing would be charged as expense in those years) during which the asset would be used in

the business. For example, if a firm bought an asset for £10,000 which is expected to be used over four years and assuming that the firm expects a constant profit of £20,000 per annum:

	Year 1	Year 2	Year 3	Year 4
	£	£	£	£
Profit before depreciation	20,000	20,000	20,000	20,000
Cost of asset	<u>10,000</u>			
Net profit	<u>10,000</u>	<u>20,000</u>	<u>20,000</u>	<u>20,000</u>

On the other hand, if we were to wait until the asset was disposed of (when we should know exactly what the asset had cost the firm over the years), we should be overstating profits of earlier years and understating the profit of the year of sale. For example, using the above figures and assuming the asset was scrapped at the end of the four years, proceeds being nil:

	Year 1	Year 2	Year 3	Year 4
	£	£	£	£
Profit before depreciation	20,000	20,000	20,000	20,000
Cost of asset				<u>10,000</u>
	<u>20,000</u>	<u>20,000</u>	<u>20,000</u>	<u>10,000</u>

We wish, therefore, to spread the cost of the asset over the years of its use. This spreading of the cost is called ‘depreciation’. Further, because we cannot know the final, total cost to the business until the asset is sold or scrapped, this depreciation charge is an estimated amount. In other words, it is our best guess at the cost relating to a particular year. An adjustment to the figures provided is made at the end, when the firm disposes of the asset.

### ? Checkpoint question

6.2 Explain why it is necessary to charge depreciation of fixed assets in the accounts.

## 6.2 Bases of calculation

Because there is no precise way of measuring depreciation, various methods are used to calculate the estimated figures. The most common methods are ‘straight-line’ and ‘accelerated’ depreciation.

### Straight-line basis

Straight-line depreciation tries to spread the cost evenly over the life of the asset. This is done by dividing the expected cost, i.e. original cost minus expected residual value, over the years of expected use of the asset:

$$\frac{\text{Original cost minus expected residual value}}{\text{Expected number of years in use}}$$

#### Key term

■ The **expected residual value** is the amount for which it is believed the asset could be sold at the end of its useful life.

So, if an asset cost £5,100 with an expected residual value of £100 and an expected useful life of five years:

$$\frac{£5,100 - £100}{5} = £1,000 \text{ per annum}$$

The assets would be depreciated as follows:

	£
Cost of asset	5,100
Depreciation year 1	<u>1,000</u>
Net book value at end of year 1	4,100
Depreciation year 2	<u>1,000</u>
Net book value at end of year 2	3,100
and so on.	

### Key term

■ The **net book value** is the balance at the end of a period after charging depreciation for the period or periods since the purchase of the asset. ‘Net book amount’ would be a more accurate description, as the asset is not revalued.



### Checkpoint question

**6.3** A fixed asset is purchased for £13,700. It is expected to be of use in the business for six years and the expected residual value is £1,700. Calculate the depreciation charge per annum on a straight-line basis.

## Accelerated bases

With accelerated depreciation bases the depreciation charges are greater in the earlier years. The intention is to recognise that the firm is likely to get more benefit from the asset when it is new. Following this approach, the depreciation charge for each year is a fixed percentage of the ‘net book value’ of the asset at the beginning of the year. The net book value is equal to the original cost less total accumulated depreciation to date. For example: cost of the asset £2,000, fixed percentage 10 per cent:

	£
Cost of asset	2,000
Depreciation year 1 = 10% of £2,000 =	<u>200</u>
Net book value, end of year 1	1,800
Depreciation year 2 = 10% of £1,800 =	<u>180</u>
Net book value, end of year 2	1,620
and so on.	

## The reducing balance method

The fixed percentage to be charged is found by applying a formula:

$$r = \left( 1 - \sqrt[n]{\frac{s}{c}} \right) \times 100$$

where  $r$  is the desired rate,  $n$  is the number of periods of expected asset life,  $s$  is the expected residual value and  $c$  is the cost of acquisition.



## Sum of the years' digits method

Let  $n$  be the asset's life; the years are each represented by a digit: 1, 2, 3, 4, ...,  $n$ . Having fixed on  $n$ , the digits are summed and the fractions of the asset cost are charged to the years in reverse order so that the earlier years are charged more than the later years. For example, if the expected life is three years:

Year	Digit
1	1
2	2
3	<u>3</u>
Sum of digits	6
Total net cost	£12,000

The depreciation charges for each year are

Year		£
1	$3/6$ of £12,000 =	6,000
2	$2/6$ of £12,000 =	4,000
3	$1/6$ of £12,000 =	<u>2,000</u>
		<u>£12,000</u>

There is no logical basis for the sum of the years' digits method; it is just a convenient way of ensuring that more depreciation is charged in the earlier years.

### ? Checkpoint question

**6.4** What is the main difference between the straight-line and the accelerated methods of depreciation?

Notice that the assets are not *revalued* each year: the intention is to spread the original cost in some sensible way across the years of use, *not* to arrive at the market value of the assets. Further, notice that the provision of depreciation does *not* provide cash for the replacement of the asset. Indeed, it has no cash effect at all, the cash movements taking place when the asset is bought and when it is sold. The provision for depreciation is only a bookkeeping entry which does not affect the cash account.

### ? Checkpoint question

**6.5** The cost of a fixed asset is £5,000. The rate of depreciation on the reducing balance method is 20 per cent per annum. Calculate the depreciation charge for each of the first three years the asset is owned, together with the net book value at the end of each of those years.

## Comparison of methods

### Example 6.1

Cost of asset £5,250. Estimated residual value £250. Estimated life 5 years.

Periods	Straight-line		Sum of years' digits		Reducing balance*	
	Opening balance	Charge for period	Opening balance	Charge for period	Opening balance	Charge for period
£	£	£	£	£	£	£
Year 1	5,250	1,000	5,250	1,667	5,250	2,395
Year 2	4,250	1,000	3,583	1,333	2,855	1,302
Year 3	3,250	1,000	2,250	1,000	1,553	708
Year 4	2,250	1,000	1,250	667	845	385
Year 5	1,250	1,000	583	333	460	210
Balance	250		250		250	
Total depreciation		£5,000		£5,000		£5,000

\* The fixed percentage is 45.62 per cent.



### Checkpoint question

**6.6** Explain why charging depreciation in the accounts does or does not involve revaluation of the fixed assets.

There are two possible justifications for the use of accelerated methods:

1. It may be assumed that the revenue which the asset helps to generate falls as the asset gets older and that, following the matching convention, it is reasonable to charge higher depreciation in the years in which the revenue is higher and vice versa. Although it is true that in some cases revenue will fall, e.g. if competitors bring out a rival product, it should be noted that this fall will, in general, be irregular and there is little reason to suppose that the fall will follow the same path as the reduction in the depreciation charge.
2. As the asset gets older, the maintenance costs increase; so the use of accelerated depreciation means that the total expense in each year will be approximately constant. Obviously it would be a considerable coincidence if this happened.

Straight-line depreciation may be justified when the contribution made by the asset remains roughly constant over its life; however, it is likely that the main reason why straight-line depreciation is the most widely used method in the UK is that it is simple and easy to understand.

In the United States, accelerated depreciation is much more popular because its use gives a considerable taxation advantage: a greater charge against taxable income is allowed in the earlier years of ownership; so the payment of tax is delayed. In the UK this does not happen because, for taxation purposes, depreciation is replaced by capital allowances, the rates of which are specified by the taxation statutes and are not affected by the depreciation method used by the tax-paying company.

### ? Checkpoint question

6.7 What are the possible justifications for using the various bases of charging depreciation?

#### A practical note

In practice, assets are, in general, not written off over a period which reflects their individual expected life. Instead they may be classified into, say, five-year 'assets' (to be written off over five years), 'ten-year assets', etc., and an asset is allocated to the class which best approximates to its expected life. Very large assets may, however, be dealt with on an individual basis.

## 6.3 Recording depreciation in the books

We shall now explain how depreciation is shown in the books of account including the entries needed when an asset is sold, by means of an example.

### Example 6.2

Cost of asset	£14,000
Purchased	1 January year 2
Estimated residual value	£4,000
Estimated useful life	5 years
Depreciation method	straight-line
Accounting year ending	31 December

The depreciation charge per annum will be

$$\frac{£14,000 - £4,000}{5} = £2,000$$

The accumulated depreciation is kept in a separate account from the cost of the asset. We accumulate (i.e. add up) all the amounts of depreciation relating to a particular asset. We accumulate these amounts in a separate account because we wish to retain information about the original cost of the asset and the amount of depreciation since the asset was bought. If we were to deduct the accumulated depreciation in the same account we would lose track of the separate figures of cost and depreciation. We shall need these figures in the financial statements.

<i>Asset, at cost, account</i>					
		£	£		
1 Jan.			31 Dec.		
Year 2	Cash	<u>14,000</u>	Year 2	Balance c/d	<u>14,000</u>
		<u>14,000</u>			<u>14,000</u>
1 Jan.			31 Dec.		
Year 3	Balance b/d	<u>14,000</u>	Year 3	Balance c/d	<u>14,000</u>
		<u>14,000</u>			<u>14,000</u>
1 Jan.					
Year 4	Balance b/d	14,000			

<i>Asset, accumulated depreciation, account</i>			
		£	£
31 Dec.			
Year 2	Balance c/d	2,000	
		<u>2,000</u>	
Year 3	Balance c/d	4,000	
		<u>4,000</u>	
			31 Dec.
			Year 2
			Depreciation
			expense
			<u>2,000</u>
			<u>2,000</u>
			1 Jan.
			Year 3
			Balance b/d
			2,000
			31 Dec.
			Year 3
			Depreciation
			expense
			<u>2,000</u>
			<u>4,000</u>
			1 Jan.
			Year 4
			Balance b/d
			4,000

(Note: c/d = carried down; b/d = brought down.)

The accumulated depreciation account is a *contra-asset account*.

### Key term

■ **Contra-asset account:** ‘Contra’ means ‘opposite’; in this context it means ‘minus’, so that the account may be thought of as being a ‘minus-asset’ account.

The balance on the account shows how much of the cost of the asset has been written off, or ‘expensed’, so far, since it was purchased. The amount to be included in the balance sheet is found by deducting the balance on the accumulated depreciation account from the balance on the asset at cost account. The difference between the balances is called the net book value. This figure represents the amount of the asset which has not yet been written off. It does *not* represent the market value; the asset is not revalued every year.

	£	£
Asset, at cost	14,000	
Less: Accumulated depreciation	<u>4,000</u>	
Net book value		10,000

The net book value is the figure which is included in the balance sheet totals.

## Sale of a fixed asset

When a fixed asset is sold, the figures relating to that asset have to be eliminated from the books because the firm no longer owns the asset. It is also necessary to adjust the total depreciation charged in the books of account to the actual cost of depreciation, i.e. the cost minus the proceeds from selling or scrapping the asset. The most convenient way to carry out these adjustments is to open a ‘disposal of fixed assets’ account. We then carry all the figures which relate to the asset which has been sold to that account. Any balance on the disposal account will then represent the amount of depreciation over- or undercharged; the figure will be debited or credited to the profit and loss account accordingly.

### Example 6.3

Suppose that the asset in the example above had been sold on 1 March year 3 for £9,000:

<i>Asset, at cost, account</i>					
		£			£
1 Jan.			31 Dec.		
Year 2	Cash	<u>14,000</u>	Year 2	Balance c/d	<u>14,000</u>
		<u>14,000</u>			<u>14,000</u>
1 Jan.			1 Mar.		
Year 3	Balance b/d	14,000	Year 3	Disposal of fixed assets account	<u>14,000</u>
		<u>14,000</u>			<u>14,000</u>

The asset, at cost, account has now been closed by transferring the balance to the disposal account.

<i>Asset, accumulated depreciation, account</i>					
		£			£
31 Dec.			31 Dec.		
Year 2	Balance c/d	2,000	Year 2	Depreciation expense	<u>2,000</u>
		<u>2,000</u>			<u>2,000</u>
1 Mar.			1 Jan.		
Year 3	Disposal of fixed asset	<u>2,000</u>	Year 3	Balance b/d	<u>2,000</u>
		<u>2,000</u>			<u>2,000</u>

The depreciation charged to date has also been transferred to the disposal account, so that the effect is that the net book amount has been taken out and taken to the disposal account.

<i>Disposal of fixed assets account</i>					
		£			£
1 Mar.			1 Mar.		
Year 3	Asset, at cost, account	14,000	Year 3	Asset, accumulated depreciation, account	2,000
			1 Mar.		
			Year 3	Cash	<u>9,000</u>
					11,000
			31 Dec.		
			Year 3	Profit & loss account	<u>3,000</u>
		<u>14,000</u>			<u>14,000</u>

The proceeds received from the sale are credited to the disposal account (and debited to the cash account). The balance on the account is now the difference between the proceeds (the cash received on disposal) and the net book amount. If the difference is a debit, it means that too little depreciation has been charged; if it is a credit, too much has been charged. In either case, the disposal account is closed by transferring the difference to the profit and loss account.

## Additional practical points about depreciation

Usually a separate pair of accounts is not opened for each individual asset; instead accounts are opened for different classes of assets. Typical classifications include freehold land and buildings; leasehold buildings; plant and machinery; fixtures and fittings; and motor vehicles. This degree of aggregation means that there are no details of individual assets in the double entry system; these details should be recorded in separate asset registers.

In our example we have assumed that the firm recognised depreciation on an annual basis; however, some firms recognise depreciation at more frequent intervals, say monthly or quarterly. The principles are the same.

If an asset is purchased part way through the year the depreciation charge for the first year should, to follow the logic of the argument, depend on the time for which the asset is used. However, some firms, especially smaller ones, charge a full year's depreciation in the first year, no matter when the asset was acquired.

### 6.4 What depreciation is not

We should emphasise that depreciation is exactly what we said it was: the conversion of an asset into expenses over the periods in which the asset is used. Unfortunately the depreciation process is widely misunderstood. It is often thought of as being a way of *valuing* assets. It is also thought by some that it will help the firm to replace the asset when the time comes to do so. The first misunderstanding has already been dealt with, so we shall now deal with the second. The belief that depreciation will provide sufficient funds to replace assets is widely held and is incorrect. The first point to consider is that depreciation does not produce funds (or cash). Cash is obtained by selling goods or services, or from the disposal of fixed assets. In Example 6.3 the cash effects are:

1 Jan. year 2	Cash outflow	14,000
1 Mar. year 3	Cash inflow	<u>9,000</u>
	Net effect: net cash outflow	<u>5,000</u>

Cash cannot be produced by the manipulation of bookkeeping entries. It seems an obvious point, but we find that there are many who find it difficult to accept. We therefore give an example to demonstrate the point.

#### Example 6.4

Suppose Fred, a trader, all of whose transactions are on a cash basis, starts business on 1 January year 1 with an initial capital, in the form of cash, of £10,000. Suppose further that he immediately purchases a fixed asset costing £10,000 which has a five-year life and a zero residual value. The asset is to be depreciated on a straight-line basis, i.e. the depreciation charge is to be £2,000 per year. Let us assume that the business is unprofitable and that the trader's profit and loss account for each of the first five years is as follows:

		£
Sales		20,000
Cash expenses	18,500	
Depreciation	<u>2,000</u>	<u>20,500</u>
Net loss		<u>£500</u>

At the end of five years Fred would have the following balance sheet:

	£		£
Capital	10,000	Fixed asset at cost	10,000
		Less: Accumulated depreciation	<u>10,000</u>
Less: Accumulated losses*	2,500	Cash**	7,500
	<u>£7,500</u>		<u>£7,500</u>

\* Five years at £500.

\*\* Sales £20,000 – Cash expenses £18,500 = £1,500; 5 years at £1,500 = £7,500.

The appropriate depreciation charge has been made, but there are insufficient funds available to replace the asset even if the replacement cost has not increased. The depreciation charges are not even responsible for the retention of the £7,500 cash; that would have been there anyway, for if the trader had not provided depreciation, his balance sheet at the end of five years would be

	£		£
Capital	10,000	Fixed asset at cost	10,000
Retained earnings*	<u>7,500</u>	Cash	<u>7,500</u>
	<u>£17,500</u>		<u>£17,500</u>

\* Five years at £1,500.

The only reason that cash of £7,500 is available is because the cash from sales exceeded the cash used to pay for operating expenses by £1,500 every year for five years. Some people would argue that this is too simple, because the relationship between depreciation and the asset replacement is not so straightforward. Their argument is as follows:

1. One of the major purposes of calculating profit is to help the owner decide how much cash he or she can withdraw from the business for consumption. We accept this.
2. Depreciation charges reduce the profit of the business and hence reduce the amount of cash that would be withdrawn. Depreciation therefore ensures that the business will have sufficient cash to replace the asset.

In reply we argue as follows:

1. The profit figure is only one factor of many that should be considered when deciding how much cash to withdraw. A trader may take out more or less cash than is represented by retained earnings. The other factors include his or her plans for the business and the amount of cash available in the business (one result of using accrual accounting is that the profit for a period will rarely result in an increase in the cash of an equal amount).\*
2. The amount of cash that is left in the business is therefore the result of the consumption decision and not of the depreciation charge.
3. The cash left in the business may be used to finance an increase in stock and debtors, reduce the creditors or to acquire other fixed assets. In order to ensure that cash is

\* In the case of limited companies, amounts paid to the owners (dividends) must not exceed the retained earnings (see Chapter 11).

available to replace the depreciating asset, it should be specifically earmarked and either put to one side (i.e. kept in the bank) or invested in liquid assets (assets that can be turned quickly into cash). Again this is not part of the depreciation process, and to the extent that it is done (hardly ever), it results from the business's overall plans and forecasts.

In fact a business obtains the cash necessary to replace fixed assets in the same way it obtains the cash required to purchase additional fixed assets – from one, or a combination, of the following:

- cash produced by operations;
- borrowing;
- the introduction of additional capital.

Of course, the cash made available when an asset is sold is also available towards the cost of its replacement.

## 6.5 Preparation of financial statements including depreciation

Having made the adjustments for accruals and prepayments (as demonstrated in Chapter 5), we need to include the provision for depreciation. First we need to calculate the amount of the depreciation charge for the year; the figure arrived at will then be included in the profit and loss account as an expense and added to the balance of accumulated depreciation in the balance sheet.

### Example 6.5

In order to demonstrate the entries needed we have reproduced the extended trial balance of Jacques Delalande, which you saw in Chapter 5 as Figure 5.2, and have added the adjustments in respect of the provision for depreciation (see Figure 6.1).

If we are told that the motor vehicle is to be depreciated at the rate of 20 per cent per annum, the charge for the year is £14,000 at 20 per cent = £2,800. You will see that we have added an additional debit and credit in the adjustment column and extended the figures into the debit column of the profit and loss account, increasing expenses by £2,800 and reducing the profit to £33,800, and the credit column of the balance sheet as a contra-asset. The financial statements then appear as follows:

<b>Jacques Delalande</b>		
<b>Profit and loss account for the year ended 30 June 20X2</b>		
	£	£
Sales		162,000
Less: Cost of goods sold		<u>96,000</u>
Gross profit		66,000
Less: Expenses		
Wages (9,500 + 500)	10,000	
Rent (9,000 + 2,000)	11,000	
Insurance (2,000 – 600)	1,400	
Other expenses	7,000	
Depreciation	<u>2,800</u>	<u>32,200</u>
Net profit		<u><u>33,800</u></u>



	A	B	C	D	E	F	G	H	I	J
1		Jacques Delalande		Extended trial balance		Year ended 30.6.20X3				
2			Trial	balance		Adjustments	Profit & loss account		Balance sheet	
3	Debtors		15,100						15,100	
4	Capital account			19,500						19,500
5	Cost of goods sold		96,000				96,000			
6	Bank overdraft			4,500						4,500
7	Sales			162,000				162,000		
8	Creditors			14,000						14,000
9	Stock		26,000						26,000	
10	Motor vehicle		14,000						14,000	
11	Wages expense		9,500		(1) 500		10,000			
12	Other expenses		7,000				7,000			
13	Rent expense		9,000		(2) 2,000		11,000			
14	Insurance expense		2,000			(3) 600	1,400			
15	Drawings		21,400						21,400	
16	Accrued expenses					(1)+(2) 2,500				2,500
17	Prepaid expenses				(3) 600				600	
18										
19	Depreciation expense				2,800		2,800			
20	Accumulated depreciation					2,800				2,800
21										
22										
23			200,000	200,000	5,900	5,900	128,200	162,000		
24	Difference being									
25	profit						33,800			33,800
26							162,000	162,000	77,100	77,100

Figure 6.1 ETB worksheet including depreciation adjustments

## Balance sheet as at 30 June 20X2

	£	£
<b>Assets</b>		
Motor vehicle	14,000	
Less: Accumulated depreciation	<u>2,800</u>	11,200
Stock		26,000
Prepaid expenses		600
Debtors		<u>15,100</u>
		<u>52,900</u>
<b>Liabilities</b>		
Creditors	14,000	
Accrued expenses	2,500	
Bank overdraft	<u>4,500</u>	21,000
Capital account as at 1 July 20X1	19,500	
Add: Profit	<u>33,800</u>	
	53,300	
Less: Drawings	<u>21,400</u>	31,900
		<u>52,900</u>

## Summary

In this chapter we have dealt with the depreciation of fixed assets in the accounts. This is one of the most difficult problems in accounting, concerning, as it does, the treatment of long-lived assets over a number of years. As we do not know until the assets are sold or scrapped what the outcome of owning the assets will be, we have to make a number of estimates. There are also a number of different ways of calculating the depreciation charge, adding to the potential confusion.

To help you to understand the ways in which accountants deal with the problem, we have covered a number of different aspects of the problem. First we explained the distinction between fixed and current assets. We went on to explain the nature of depreciation in accounting terms and the various methods used to estimate the annual charge. We then showed how depreciation should be recorded in the books of account, including the disposal of assets. Finally, we showed how to prepare financial statements including depreciation.

## Review questions

- 6.1** Consider the results shown in Example 6.1. Give your reasoned comments.
- 6.2** Sally owns a small printing firm which has one large machine. You have been her accountant for some years when, one day, she rushes into your office waving a piece of paper and shouting, ‘You fool. You’ve been making me depreciate my printing machine for years but now that it has worn out I find that I can’t afford to replace it. Look.’

You inspect the piece of paper she proffers you and find that it is a corner which, in her rage, she has torn off her latest balance sheet. The fragment reads:

<i>Fixed assets</i>	<i>Cost</i>	<i>Accumulated depreciation</i>	<i>NBV</i>
	£	£	£
Printing machine	10,000	9,000	1,000
Van	1,000	800	200

You calm her down but she goes on. ‘Look! All my estimates proved to be correct. The machine lasted for as long as I expected and I shall be able to trade it in for £1,000 as I told you when I bought it. Furthermore I have been very lucky in that the price of that particular type of machine has not gone up for years. What is going to happen when my van packs up? I’m told that the price of that sort of van has doubled since I got mine.’

Answer her.

- 6.3** To what extent, if any, is depreciation a process of revaluation?
- 6.4** If you owned a small manufacturing business, which basis of depreciation would you choose to use, and why?
- 6.5** So far as the following fixed assets are concerned:
- What depreciation method do you think would be most appropriate and why?
  - Discuss the ways in which obsolescence may affect the asset:
    - A delivery van used by a baker.
    - A filing cabinet.
    - A shop held on a 20-year lease.
    - A plastic moulding machine which has been specially constructed to manufacture a new novelty – plastic stetsons. It is expected that these will be all the rage next Christmas and thereafter sales will continue for a year or two but at a very much lower level.

5. Machine X. This machine is used by its owners as a standby machine when the normal machines are down for maintenance or have broken down. Occasionally machine X is used to increase capacity when there is a glut of orders. Machine X is of the Dumbo type, rarely used nowadays because modern machines are far more efficient. When these machines are operated at full capacity they last for about four years before they become completely worn out.

## Exercises

**Solutions to exercises whose number is in colour can be found at the end of the book.**

- 6.1** Malcolm's trial balance as at 30 June 20X2 was as follows:

	£	£
Capital account as at 31 July 20X1		29,000
Creditors		21,000
Debtors	22,650	
Cost of goods sold	144,000	
Drawings	32,100	
Sales		243,000
Stock	36,000	
Vehicles	21,000	
Wages expense	14,250	
Sundry expenses	3,000	
Rent expense	13,500	
Insurance expense	2,000	
Cash at bank	4,500	
	<u>293,000</u>	<u>293,000</u>

The following information is relevant:

1. Wages payable but unpaid at 30 June 20X2 amounted to £750.
2. Rent accrued and unpaid at 30 June 20X2 amounted to £3,000.
3. The figure of insurance expense includes a prepayment at 30 June 20X2 of £1,000.
4. The vehicles are to be depreciated at the rate of 25 per cent per annum. As the vehicles were purchased at the beginning of the year, no depreciation has yet been provided. A full year's depreciation is now to be provided.

Prepare Malcolm's profit and loss account for the year ended on 30 June 20X2 and his balance sheet as at that date.

- 6.2** A. Walters, a trader, uses vans for making deliveries. The following is an extract from his balance sheet as at 31 December 20X0:

	£
Motor vehicles at cost	23,040
Accumulated depreciation	<u>5,760</u>
	17,280

On 7 March 20X1 Walters purchased, for cash, an additional van for £10,560. On 5 July 20X2 he sold a van for £4,320 cash. It had been purchased in 20X0 for £9,600.

On 10 July 20X2 he purchased a new van. Details of the amount paid are as follows:

	£
Purchase of van	10,080
Delivery	96
Accessories	288
Petrol	48
Road tax	<u>120</u>
	<u>10,632</u>

Walters provides for depreciation on a straight-line basis over four years, assuming zero residual value; a full year's depreciation is provided in the year of purchase, nil in the year of sale.

*Required:*

- (a) the necessary ledger accounts to reflect the above;
- (b) the figures to be shown in the balance sheets at 31 December 20X1 and 20X2 and in the profit and loss accounts for the years ended on those dates.

- 6.3** On 1 July 20X1, a company owns machinery which originally cost £32,000 and against which depreciation of £12,000 has so far been provided. Depreciation is charged at the rate of 30 per cent of the reducing balance. Depreciation is provided for a full year in the year of purchase; none is provided in the year of sale.

On 24 October 20X1 a machine (original cost £400, written down value at 1 July 20X1 £200) is sold for £150. On 3 March 20X2, a brand new machine is purchased for £2,000.

Prepare the ledger accounts needed to reflect the above and show the relevant extracts from the profit and loss account for the year ended 30 June 20X2 and the balance sheet as at that date.

- 6.4** The following is an extract from the balance sheet of E. Pesenti as at 31 March 20X1:

	£
Machinery at cost	72,000
Less: Accumulated depreciation	<u>18,000</u>
	54,000

On 2 July 20X1, Pesenti purchased a new machine for £33,000 cash. On 30 November 20X2 he sold a machine for £13,500 cash. It had been purchased in April 20X0 for £30,000. On 1 December 20X2 he bought a new machine for which he paid £31,500 plus delivery charges of £1,200. The cost of installing the machine was £300. Pesenti depreciates machinery on a straight-line basis over four years, assuming zero residual value. A full year's depreciation is charged in the year of purchase; no depreciation is charged in the year of disposal.

Show the ledger accounts to reflect the above transactions and the operation of Pesenti's depreciation policy, for the two years ended 31 March 20X3.

- 6.5** Charles St Clair purchased his first van, a Ford, on 1 January 20X0 for £12,000. He purchased another van, a Volvo, on 1 July 20X1 for £16,000.

On 1 May 20X2 St Clair traded in the Ford in part exchange for a new van. The relevant invoice is given below:

**I Smooth Ltd**

	£
Purchase of Vauxhall van	17,730
Delivery charge	100
Number plate	50
Van licence	250
Petrol	30
Sign-writing	<u>120</u>
	18,280
<i>Less: Allowed in part exchange for Ford van</i>	<u>5,280</u>
	<u><u>£13,000</u></u>

1. St Clair depreciates his vans on a straight-line basis over four years and assumes that they will have a zero residual value.
2. His year end is 31 December.
3. Taxes payable on the purchase of vans may be ignored.

Show for the period 1 January 20X0 to 31 December 20X2 St Clair's

- Motor vans account
- Motor vans, accumulated depreciation, account
- Depreciation expense account
- Sale of fixed assets account.

- 6.6** Simon's trial balance at 30 April 20X3 (before the preparation of the financial statements) is as follows:

	<i>Dr</i>	<i>Cr</i>
	£	£
Sales		182,000
Cost of goods sold	93,600	
General expenses	42,600	
Plant and machinery, at cost	53,000	
– accumulated depreciation 1.5.X2		24,000
Fixtures and fittings at cost	16,000	
– accumulated depreciation 1.5.X2		5,400
Stock	10,000	
Debtors	21,000	
Creditors		11,000
Bank	19,200	
Capital		50,000
Drawings	<u>17,000</u>	
	<u>272,400</u>	<u>272,400</u>

Simon charges depreciation on plant and machinery at 25 per cent per annum on a reducing-balance basis. He charges depreciation on fixtures and fittings at 10 per cent per annum on a straight-line basis.

Prepare Simon's profit and loss account for the year ending 30 April 20X3 and his balance sheet as at that date.

- 6.7** Laddis Ltd bought a machine for £5,700. Depreciation was provided on a straight-line basis, estimating the machine's useful life to be six years and its residual value at £300. At the start of the third year of the machine's life it was sold for £1,900.

The company immediately replaced the old machine with a new one which cost £8,000. The estimated life of the new machine is ten years, with a residual value of £400. The company decided to depreciate the new machine on a reducing-balance basis using an annual rate of 20 per cent.

- (a) For the old machine, prepare:
- the asset account;
  - the accumulated depreciation account;
  - the asset disposal account;
- for the years it was owned by the company.
- (b) For the new machine, prepare a table showing, for the first three years it is owned, the annual depreciation, the accumulated depreciation and the written-down value.

# 7

## Bad and doubtful debts and control accounts

### Introduction

The first part of the chapter is concerned with the accounting treatment of bad and doubtful debts. So that we might put this into context, we start by outlining the commercial background relating to trade debtors and provide a brief outline of credit control procedures. We deal with the treatment of bad debts and provisions for doubtful debts. We explain the need for such provisions and how making such provisions conforms with the conventions of accounting. We then demonstrate how to make the necessary calculations and the resulting entries in the books of account and then show how to include the adjustments for bad and doubtful debts in the financial accounts.

In the second part of the chapter we introduce control accounts for debtors and creditors (in the context of manual systems). We also include a most important control mechanism, the bank reconciliation, which is applicable to any accounting system.

### Learning objectives

At the end of this chapter, after completing the checkpoint questions and exercises, you should be able to:

- explain why most firms have formal credit control systems and outline the methods used to investigate potential customers;
- outline common methods of collecting overdue debts;
- explain why it is necessary to create a doubtful debts account and why this complies with the prudence and matching conventions;
- calculate the amount for doubtful debts and deal with bad debts recovered;
- prepare financial statements including bad and doubtful debts;
- understand the problems caused by having numerous personal accounts (in a manual system) and the consequent need for control accounts;
- deal with the mechanics of control accounts;
- understand the need for bank reconciliations and prepare such reconciliations.

### 7.1 Background, including a note on credit control

The great majority of business between companies in the developed countries is carried out on credit. For instance, it has been estimated that about 95 per cent of business

between companies in the UK is on credit terms. It is highly unlikely that a firm will be able to recover all of the money which it is owed by its debtors. This may be for many reasons: in some cases this will be due to misfortune, for instance a customer's business may have failed; or through dishonesty. There have also been many reports that slow payment of debt has adversely affected many companies, causing cash flow problems and loss of interest. This situation has led more and more companies to institute formal credit control procedures to help minimise losses caused by slow payment and non-payment of debt. The firm has to decide how strict controls should be, because there is a conflict between sales and creditworthiness: if the firm sold only to its strongest customers it might well limit its sales to the extent that it would be unable to make a profit. As always in business, some risk must be undertaken in order to prosper.

**Key term**

■ **Credit control** is the term for procedures undertaken by a firm to minimise the risk of loss through bad debts and to recover overdue debts.

Firms therefore investigate potential customers in various ways: the firm's bank may be asked to take up references; a credit agency may be consulted; the firm's own sales-force may be asked for the view they have formed when visiting the potential customer; the physical facilities of the potential customer may be examined; and the published financial statements may be analysed. In addition, it is customary to ask for references, typically from two trade references and from the potential customer's bank.

**Key terms**

■ In a business context, a **reference** is a testimonial to a firm's (or individual's) good character and ability to meet its obligations. A **bank reference** is obtained from the selling firm's own bank. A **trade reference** is obtained from a firm in the same trade or industry.

■ A **credit agency** is a firm whose business is the supplying of credit information to clients; it also undertakes the collection of overdue debts.

The firm also needs to have a collection policy under which a number of actions may be taken once accounts are past due. Letters may be sent, the customer may be telephoned, a collection agency may be employed, delivery of further goods or services may be refused, and, finally, legal action may be taken. Nevertheless, despite these precautions, some debts will not be paid. The firm will have incurred a loss, so we have to examine how we should deal with such a loss.

**Checkpoint questions**

- 7.1 Outline the methods of investigation of creditworthiness which may be used.
- 7.2 Outline some methods of collection of overdue debts.

## 7.2 Treatment of bad and doubtful debts

### Calculations of provisions and accounting treatment

The simplest way to deal with the loss from a bad debt would be to wait until we are quite certain that the debt will not be paid and then write it off, reducing the asset



'Debtors' in the balance sheet and increasing the expenses in the profit and loss account. For example, suppose that a debtor owed the firm £1,000 and that the debtor has become bankrupt, so that the money will not be recovered:

Debit	Bad debts expense	£1,000 (recognising the expense)
Credit	Debtors	£1,000 (reducing the asset)

However, this usually results in the loss being recognised in a period later than the one in which the revenue was recognised. Normally, this would have been in the year that the sale of goods or services took place. In other words, we have not matched the expense properly by including it in the right year. Also, and perhaps even more importantly, the balance sheets which were prepared during the time from which the loss was incurred until the time we write it off will have overstated the assets. The profit will also be overstated by the same amount. We will not have been sufficiently prudent: both the assets and the profit have been overstated.

So, at the end of each period, an estimate has to be made of the amount of debt which is unlikely to be recovered. A key stage in making the estimate is the ageing of the debts whereby a schedule is prepared that analyses each debt in terms of its age.

**Key term** ■ An **aged debtors** schedule shows, for each debtor, the length of time the amounts owed by the debtor have been outstanding. In estimating the amount to be provided against doubtful debts particular attention is given to those debts that have been outstanding for a longer period than is normally allowed by the business.

Typically the schedule will show what part of the debt arose in the last month, two months ago and so on. Most computer software packages will automatically generate such a schedule so long as when cash is received it is matched against the debt to which it relates. This might not always be straight forward if the customer pays an amount on account, that is an amount less than the total amount due, because he disputes part of the bill. This may be, for example, because he believes that some of the goods were faulty.

**Key term** ■ A **payment on account** is an amount less than the total amount invoiced, which leaves part of the bill outstanding.

When estimating the required amount to be provided against doubtful debts, greater attention will be paid to a debt, or that part of a debt, that has been outstanding for a long time.

The specific identification of possible doubtful debts is a valuable exercise that not only helps provide an estimate of the required provision but also, more importantly, directs management attention to those debtors who need to be chased. Even so, hard-pressed managers of small firms may decide that they do not have sufficient time to identify the doubtful debts. They may instead establish a provision based on a percentage of the outstanding debts. The percentage used will be based on experience, modified by changing economic circumstances, for instance by an economic boom or a recession.

The methods of calculation and recording are best explained through an example.

**Example 7.1**

Adrian Jones starts a business on 1 January year 3.

Debtors at	31 December year 3	£12,000
	31 December year 4	£15,500*
	31 December year 5	£6,250*

\* Before writing off bad debts.

Bad debts to be written off:

in year 3	Nil
in year 4	£1,500
in year 5	£250

Adrian has decided that he needs to provide for 10 per cent of the outstanding debtors (after writing off the bad debts) each year.

(We are using the percentage method for clarity, to avoid including too many figures.)

	<i>Bad debts expense for year</i>	<i>Balance on doubtful debts account at year end</i>
	£	£
Year 3 10% of £12,000	<u>1,200</u>	1,200
Year 4		
Bad debts written off	1,500	
Doubtful debts		
10% of £(15,500 – 1,500) = £14,000,		
less existing balance on doubtful debt		
a/c £12,000	<u>200</u>	<u>200</u>
	<u>1,700</u>	1,400
Year 5 Bad debts written off	250	
Doubtful debts 10% of £(6,250 – 250)		600
= £6,000		
	<u>(800)<sup>1</sup></u>	
Credit to profit and loss account	<u>(550)<sup>2</sup></u>	

Notes:

1. Reduction in balance on doubtful debts account, producing a credit to bad debts expense account.
2. This is a credit to the profit and loss account, or a minus expense. In accounting, minus quantities are often indicated by putting the figures in brackets.

In the form of ledger accounts, the above appears as follows:



7 • Bad and doubtful debts and control accounts

<i>Bad debts expense</i>			
	£		£
Year 3			
31 Dec. Doubtful debts	<u>1,200</u>	31 Dec. P&L account	<u>1,200</u>
	<u>1,200</u>		<u>1,200</u>
Year 4			
31 Dec. Debtors	1,500	31 Dec. P&L account	1,700
Doubtful debts	<u>200</u>		
	<u>1,700</u>		<u>1,700</u>
Year 5			
31 Dec. Debtors	250	31 Dec. Doubtful debts	800
P&L account	<u>550</u>		
	<u>800</u>		<u>800</u>

<i>Doubtful debts account</i>			
	£		£
Year 3			
31 Dec. Balance c/d	<u>1,200</u>	31 Dec. P&L account	<u>1,200</u>
Year 4			
31 Dec. Balance c/d	1,400	1 Jan. Balance b/d	1,200
	<u>1,400</u>	31 Dec. P&L account	<u>200</u>
			<u>1,400</u>
Year 5			
31 Dec. Bad debts expense	800	1 Jan. Balance b/d	1,400
Balance c/d	<u>600</u>		
	<u>1,400</u>		<u>1,400</u>
Year 6			
		1 Jan. Balance b/d	600

*Extracts from profit and loss accounts, year ended 31 December*

	£
Year 3      Bad debts expense	1,200
4      Bad debts expense	1,700
5      Bad debts (credit)	(550)

*Extracts from balance sheets as at 31 December*

Year 3	Debtors	12,000	
	Less: Doubtful debts	<u>1,200</u>	
			10,800
Year 4	Debtors	14,000	
	Less: Doubtful debts	<u>1,400</u>	
			12,600
Year 5	Debtors	6,000	
	Less: Doubtful debts	<u>600</u>	
			5,400



**Checkpoint question**

7.3 Explain how we should deal with the problem of bad and doubtful debts in the accounts.

## Bad debts recovered

It sometimes happens that a debt written off in a previous year is settled, in full or in part, in a later period. When this happens, the simplest thing to do is to credit the amount to a bad debts recovered account. (Bad debts recovered will appear as a credit in the profit and loss account for the accounting period.) If the amount recovered were £75:

Dr	Cash at bank	£75
Cr	Bad debts recovered	£75

## 7.3 Preparation of financial statements including bad and doubtful debts

The most effective way to explain the treatment of bad debts is through a simple example.

### Example 7.2

In Figure 7.1 we have reproduced the extended trial balance from Example 6.5 (Jacques Delalande) and made further adjustments to take account of the following.

	A	B	C	D	E	F	G	H	I	J
1	Jacques Delalande		Extended trial balance		Year ended 30.6.20X2					
2			Trial	balance		Adjustments	Profit & loss account		Balance sheet	
3	Debtors		15,100			(i) 1,100			14,000	
4	Capital account			19,500						19,500
5	Cost of goods sold		96,000				96,000			
6	Bank overdraft			4,500						4,500
7	Sales			162,000				162,000		
8	Creditors			14,000						14,000
9	Stock		26,000						26,000	
10	Motor vehicle		14,000						14,000	
11	Wages expense		9,500		(1) 500		10,000			
12	Other expenses		7,000				7,000			
13	Rent expense		9,000		(2) 2,000		11,000			
14	Insurance expense		2,000			(3) 600	1,400			
15	Drawings		21,400						21,400	
16	Accrued expenses					(1)+(2) 2,500				2,500
17	Prepaid expenses				(3) 600				600	
18	Depreciation expense				2,800		2,800			
19	Accumulated depreciation					2,800				2,800
20										
21	Bad debts expense				(ii) 1,100					
22	Provision for doubtful debts				(iv) 700		1,800			
23						(iii) 700				700
24										
25			200,000	200,000	7,700	7,700	130,000	162,000		
26	Difference being									
27	profit						32,000			32,000
28							162,000	162,000	76,000	76,000

Figure 7.1 Delalande ETB spreadsheet, with adjustments for bad debts

A debt amounting to £1,100 remains unpaid and has been judged to be irrecoverable; it has to be written off as a bad debt. The directors have decided to make provision for doubtful debts amounting to 5 per cent of the balance remaining. You will see that:

- (i) £1,100 has been credited to debtors, reducing the balance in the balance sheet to £14,000.
- (ii) £1,100 has been debited to a new expense account: bad debts expense, increasing expenses in the profit and loss account by this amount.
- (iii) £700 (i.e. 5 per cent of the remaining balance of £14,000) has been credited to provision for doubtful debts account, which is a contra-asset account in the balance sheet.
- (iv) £700 has been debited to bad debts expense account, once more increasing the expenses.

The resulting financial statements appear as follows:

**Jacques Delalande**  
**Profit and loss account for the year ended 30 June 20X2**

	£	£
Sales		162,000
Less: Cost of goods sold		<u>96,000</u>
Gross profit		66,000
Less: Expenses		
Wages £(9,500 + 500)	10,000	
Rent £(9,000 + 2,000)	11,000	
Insurance £(2,000 – 600)	1,400	
Other expenses	7,000	
Depreciation	2,800	
Bad debts	<u>1,800</u>	<u>34,000</u>
Net profit		<u>32,000</u>

**Balance sheet as at 30 June 20X2**

<b>Assets</b>		
Vehicle	14,000	
Less: Accumulated depreciation	<u>2,800</u>	11,200
Stock		26,000
Prepaid expenses		600
Debtors	14,000	
Less: Doubtful debts	<u>700</u>	<u>13,300</u>
		<u>51,100</u>
<b>Liabilities</b>		
Creditors	14,000	
Accrued expenses £(500 + 2,000)	2,500	
Bank overdraft	<u>4,500</u>	21,000
Capital account as at 1 July 20X1	19,500	
Add: Profit	<u>32,000</u>	
	51,500	
Less: Drawings	<u>21,400</u>	<u>30,100</u>
		<u>51,100</u>

## 7.4 Control accounts

We have shown how sales made on credit are recorded by debiting the account of the customer and crediting the sales account, whereas purchases on credit are recorded by debiting the stock account and crediting the account of the supplier.

This would be fine if there were only a few customers and suppliers (as in our examples), but even the smallest business may have a surprisingly large number of credit customers and/or suppliers. So we are going to describe a method whereby the practical problem arising from having a large number of suppliers' and customers' accounts (or personal accounts) can be dealt with. The method yields a bonus in that it can help in exercising a degree of 'internal control' over the operation of the business.

### The problems caused by having numerous personal accounts

Let us consider the main problems in the context of a manual system caused by having a large number of ledger accounts:

1. Locating errors will be difficult, tedious and time-consuming. In particular, if the trial balance fails to balance, the postings to many hundreds of ledger accounts, the casts of the accounts and the extraction of the balances will have to be checked. We shall return to this point later.
2. The existence of a large number of accounts implies that a lot of bookkeeping is required. But if the ledger accounts are all in one place it is impossible for more than one bookkeeper to use the ledger at the same time.

A sensible way of dealing with the second problem is to divide the ledger between the debtors, creditors and nominal sections or 'ledgers'. This division allows more people to work on the ledger at the same time, but it does not help us to locate errors more easily or to exercise any internal control. The next step is to replace all the debtors' accounts that we have removed from the ledger by a single account called the debtors' control account, and all the creditors' accounts by a creditors' control account.

This means that the debtors' and creditors' ledgers have been removed from the double entry system, becoming what may be called subsidiary ledgers, and the personal accounts contained therein similarly become memorandum accounts.

### The mechanics

Before dealing with the advantages of control accounts we must describe their mechanics. Suppose that postings from the daybooks to the ledger are made monthly. Then, each month, postings would be made to the personal accounts as before, but additionally the total of the individual postings would be posted to the control account. Take the debtors' control account as an example; the control account would be debited with the total sales for the month and credited with the monthly totals of:

1. cash received;
2. discounts allowed;
3. sales returns; and
4. bad debts written off.

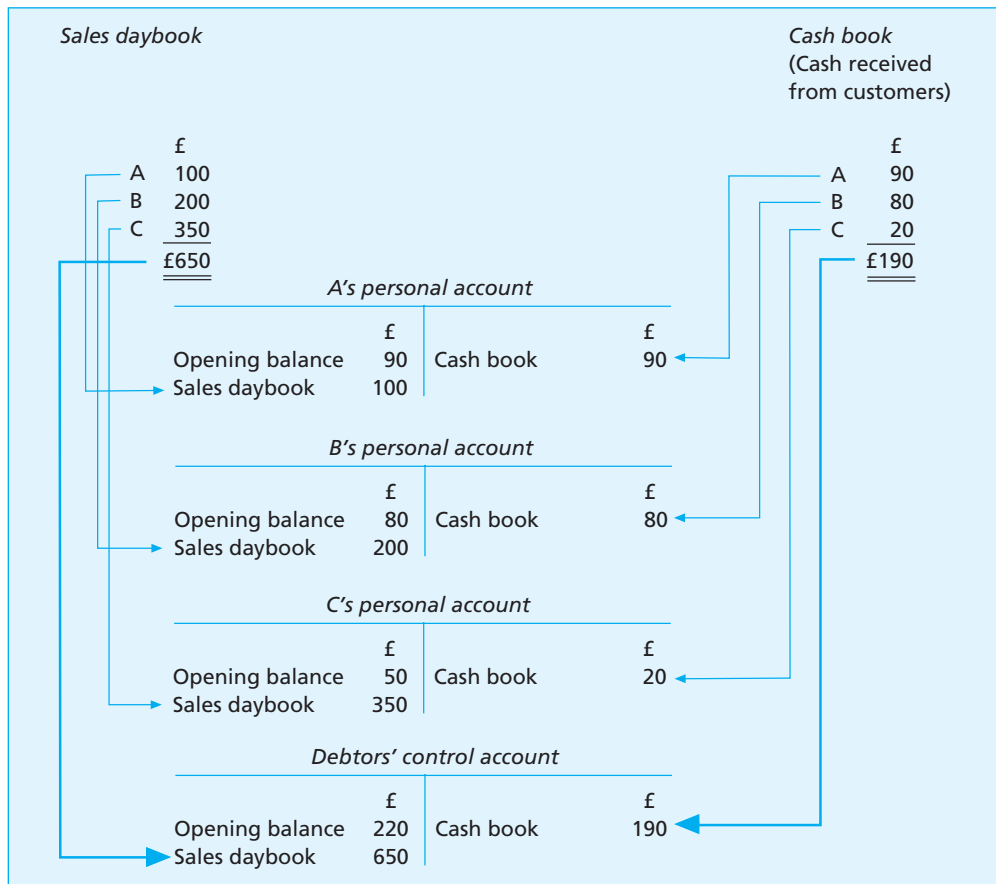


Figure 7.2 The control account process

If all this is done properly, the balance on the control account will equal the total of the balances of the accounts controlled by it. This process is illustrated in Figure 7.2. Note that the opening balance on the control account, £220, is equal to the total of the balances on the individual accounts, i.e.

	£
A	90
B	80
C	<u>50</u>
	<u>£220</u>

Since the total of the individual sales and cash postings has been made to the control account, this equality also holds after the postings have been made. The closing balance on the control account (not shown in Figure 7.2) is £680 while the balances on the personal accounts are:

	£
A	100
B	200
C	<u>380</u>
	<u>£680</u>

Some readers may fear that after struggling with double entry bookkeeping they will now have to start learning treble entry bookkeeping. We are happy to say that this is not the case, for remember that the introduction of the control accounts has relegated the personal accounts to the status of memorandum accounts which are *outside the double entry system*.

The double entry is completed, using the above example, by

Debiting	Debtors' control account
Crediting	Sales account

and

Debiting	Cash account
Crediting	Debtors' control account

The postings which form part of the double entry system have been indicated in Figure 7.2 by the double lines.

However, despite the adherence to the double entry system it is clear that the use of control accounts will necessitate a modification in the use of the daybooks in that, as well as showing the double entry postings, they must also give the instructions to post to the personal (memorandum) accounts. The following example provides greater detail.

### Example 7.3

#### Daybooks and extracts from daybooks

##### Sales daybook

Date		Invoice no.	Memo posting	£
	Alpha Limited		A1	500
	Beta Limited		B1	300
	Gamma Limited		G1	<u>120</u>
				<u>£920</u>

##### Double entry posting

			£
Debit	Debtors' control account D1		920
Credit	Sales account S1		920

##### Purchases daybook

Date		Invoice no.	Memo posting	£
	Exe Limited		E1	300
	Why Limited		W1	200
	Gamma Limited		G2	<u>80</u>
				<u>£580</u>

##### Double entry posting

			£
Debit	Stock account S2		580
Credit	Creditors' control account C1		580



## Extracts from cash book

## (a) Receipts side

	<i>Memo posting</i>	<i>Discounts allowed £</i>	<i>Cash received £</i>
Alpha Limited	A1	8	392
Beta Limited	B1	<u>4</u>	<u>196</u>
		<u>£12</u>	<u>£588</u>

*Double entry postings*

Discounts:	Debit	Discounts allowed account D2	£ 12
	Credit	Debtors' control account D1	12
Cash:	Credit	Debtors' control account D1	588

(The entry in the cash book serves as the debit entry)

## (b) Payments side

	<i>Memo posting</i>	<i>Discounts received £</i>	<i>Cash paid £</i>
Exe Limited	E1	15	485
Why Limited	W1	<u>—</u>	<u>100</u>
		<u>£15</u>	<u>£585</u>

*Double entry postings*

Discounts:	Debit	Creditors' control account C1	£ 15
	Credit	Discounts received account D3	15
Cash:	Debit	Creditors' control account C1	585

(The entry in the cash book serves as the credit entry)

The 'memo postings' are posted to the personal accounts in addition to the double entry postings, but remember that they do not form part of the double entry system; they exist to provide the necessary information about debtors' and creditors' accounts.

Other adjustments will be dealt with through the journal, for example:

## Extract from journal

<i>Date</i>		<i>Fo.</i>	<i>£</i>	<i>£</i>
	Provision against Doubtful debts account	P1	150	
	Debtors' control account	D1		150
	Being bad debts written off			
	Memo posting:			
	Delta Limited	D4		150
	Creditors' control account	C1	60	
	Stock account	S2		60
	Being the cost of goods returned to			
	Exe Limited			
	Memo posting:			
	Exe Limited	E1	60	

<i>Date</i>	Control accounts		
	<i>Fo.</i>	£	£
Creditors' control account	C1	100	
Debtors' control account	D1		100
Being the setting off of Gamma's Creditors' Personal account against the balance on Gamma's Debtors' personal account			
Memo postings:			
Gamma Limited	G2	100	
Gamma Limited	G1		100

*Notes:*

1. The firm might use a purchases return daybook and/or a purchases return account especially if there are a significant number of purchases returns.
2. Gamma Limited is both a customer and a supplier of the firm and it has been agreed that the balance on its creditors' personal account can be set off against the balance on its debtors' personal account.

### Location of errors

Suppose that a firm has 40 nominal ledger accounts, 400 debtors' personal accounts and 250 creditors' personal accounts. Further suppose that in the posting of cash received of £513 from a customer to the creditor of his or her account the figures 1 and 3 are transposed, i.e. £531 is credited instead of £513. We should find that the trial balance does not balance, but without control accounts we should have no idea where to start looking for the error. We would have to check all the additions in all the day-books and the posting to, the additions of and the extraction of balances of all 690 ledger accounts. A formidable task.

If control accounts are used then, so long as the total cash received from customers has been correctly cast and posted, the trial balance will balance, since the personal accounts no longer form part of the double entry system. We would find that the balance on the debtors' control account does not equal the total of the balances on the personal accounts because one of them is wrong. There is still some work to do, but at least we would know where to start looking for the error.

Now suppose that the error was in one of the nominal ledger accounts. The trial balance would not balance but since the control accounts balance (i.e. the balance on the control account agrees with the total of the balances of the accounts controlled by them) we know that we should confine our attention to the nominal ledger accounts.

### Control accounts and internal control

A basic feature of a system of internal control is that one or more people should be able to check the work of others. Control accounts provide a good example of this.

The person or department responsible for the nominal ledger is provided with the information needed to complete the double entry and will be able to determine the balances on the control accounts. They are thus able to check, on a day-to-day basis, the work of the departments responsible for keeping the personal accounts.

## 7.5 Bank reconciliations

The most reliable figures in accounting are the cash figures: it is a matter of fact that we have, or have not, paid or received cash. Most of the cash received and paid goes through the bank account and is recorded in the cash book (or equivalent account in the ledger) of the firm. By reconciling the figures in the cash book with those in the bank account we can ensure that both the books and the bank account are accurate. (In the case of the petty cash, small amounts paid out in cash, the reconciliation is made by counting the cash to ensure that it agrees with the amount shown in the petty cash book.) An explanation of the bank reconciliation statement follows.

The purpose of these statements is to explain the difference between the balance on the ledger account recording the firm's balance at bank ('cash account') and the balance shown on the firm's bank statement. In general, for the reasons given below, these will differ.

### Bank statements

Bank statements often cause considerable confusion to double entry novices since they appear to be the wrong way round: payments are debited whereas receipts are credited. The reason is that a bank statement is a copy of the customer's account in the books of the bank. So when the customer pays something into the bank, his or her asset is increased but the bank's liability to the customer is increased. This is why 'credit balance' is used to describe what is, from the point of view of the customer, an asset and hence a debit balance.

### Differences between the cash book and bank statement

These are caused by errors and timing differences. Errors made by the customer are corrected in his or her books and will not appear in the bank reconciliation. Errors made by the bank will appear in the bank reconciliation statement until the bank agrees to correct them.

The most common timing difference is due to unrepresented cheques. These are cheques which have been issued by the firm and hence have been recorded in its cash book but which have not, at the date of the bank reconciliation, reached its bank.

There will usually be a good number of unrepresented cheques at any time because a cheque has a long road to travel and its journey can easily take up to seven working days even if everyone concerned is reasonably efficient. A cheque's travels are shown in Figure 7.3.

Other timing differences are due to cash and cheques banked by the customer which have not reached his or her bank statement. The delay may be due to the receipts being banked other than at the customer's branch of the bank or because the receipts were paid in on the day that the bank statement was prepared. If a firm's customers make use of the bank Giro system which means, in effect, that they pay directly into the firm's bank account, the firm may not be aware of the amount of its receipts until it receives its bank statement. In this case the firm should record the receipts in its books in the normal way and hence no entry need be made in the bank reconciliation statement.

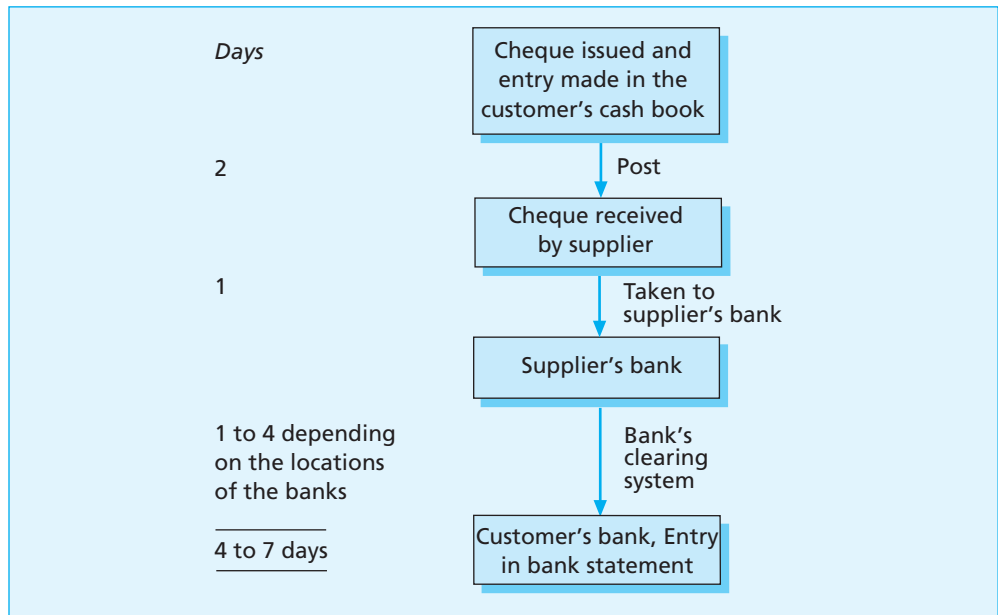


Figure 7.3 A cheque's progress

### The outline of a bank reconciliation statement

The procedure for preparing a bank reconciliation statement is as follows:

1. It is usual to start with the balance as shown on the bank statement. (It will be assumed that the account is not in overdraft.)
2. To this is added cash and cheques received which have been entered into the cash book which have not yet found their way to the bank statement. These items are sometimes collectively called 'lodgements not yet credited'.
3. 'Cheques not yet presented' are then deducted. As explained above, these are cheques which have been issued by the firm but which have yet to be entered on the bank statement.
4. Errors made by the bank will be added or subtracted depending on their nature.

Once these steps are completed, the result should be the balance in the cash book.

#### Example 7.4

The following details relate to B.L. Link.

#### Cash book for the month of March 20X3

			£		
1 Mar.	Balance	2,100	3 Mar.	Splodd	200 ✓
10 Mar.	Bank Giro		10 Mar.	Muncher	8
	Transfer	70 ✓	12 Mar.	Clodd	18 ✓
15 Mar.	Fidget	180 ✓	12 Mar.	Ofe	700 ✓
31 Mar.	Crunn	1,100	16 Mar.	Thykk	97 ✓
		<u>3,450</u>	23 Mar.	Blank	<u>600</u>
					1,623

**Bank reconciliation statement at 28 February 20X3**

	£
Balance per bank statement	2,250
Less: Cheque not yet presented:	
Putt	<u>150</u>
Balance per cash book	<u>£2,100</u>

**Bank statement**

<i>Date</i>	<i>Particulars</i>	<i>Payments</i>	<i>Receipts</i>	<i>Balance</i>
20X3		£	£	£
1 Mar.	Opening balance			2,250
4 Mar.	Splodd	200		2,050
6 Mar.	Putt	150		1,900
10 Mar.	Bank Giro transfer		70	1,970
14 Mar.	Clodd	18		1,952
17 Mar.	Fidget		180	2,132
19 Mar.	Soho Entertainments Ltd	200		1,932
20 Mar.	Thykk	97		1,835
21 Mar.	Ofe	700		1,135
24 Mar.	Trade Association (standing order)	*10		1,125
28 Mar.	Bank charges	*28		1,097
31 Mar.	Bank Giro transfer		*500	1,597

**Step 1**

The bank statement is checked against the cash book. The sign ✓ has been used to indicate the items which appear in both places. Note that Putt's cheque had appeared in the cash book prior to 1 March and hence appeared in the bank reconciliation statement as at 28 February.

**Step 2**

Of the four items that appear in the bank statement but not in the cash book, three should be entered in the cash book (these have been indicated by \*). The cheque payable to Soho Entertainments was in fact not drawn by B.L. Link but by the Rev. L.B. Link and should have been debited to his account.

Accordingly the entries shown below are made in the cash book:

<i>Cash book</i>			
	£		£
Total from above	3,450	Total from above	1,623
Bank Giro transfer	500	Subscriptions to trade	
		Association	10
		Bank charges	28
		Balance c/d	<u>2,289</u>
	<u>£3,950</u>		<u>£3,950</u>
Balance b/d	2,289		

**Step 3**

The remaining unticked items, i.e. those items which are in the cash book but not in the bank statement, and vice versa, appear on the bank reconciliation statement.

**Bank reconciliation statement as at 31 March 20X3**

	£	£
Balance per bank statement		1,597
<i>Add:</i> Lodgement not yet credited – Crunn	1,100	
Bank error – cheque debited in error	<u>200</u>	<u>1,300</u>
		2,897
<i>Less:</i> Cheques not yet presented		
Muncher	8	
Blank	<u>600</u>	<u>608</u>
Balance per cash book		<u>£2,289</u>

**Summary**

In the first part of the chapter we considered the issue of bad and doubtful debts. We started by discussing the commercial background, including the need to give credit, how to try to control the risk and how to go about collecting the debts which are overdue for payment. We went on to explain how to deal with the inevitable bad and doubtful debts, including an explanation of why it is necessary to estimate those debts which are doubtful, as opposed to definitely bad. This is because we wish to be prudent, but also to comply with the matching convention. We then explained how to deal with bad debts written off and recovered and how to calculate the figure of doubtful debts. We also showed how to deal with these items in the books of account, and how to prepare financial statements including bad and doubtful debts.

In the second part of the chapter we dealt with control accounts which are particularly in manual systems, needed where there are large numbers of personal accounts in the ledger. We also explained the need to produce bank reconciliation statements in any accounting system and showed how they should be prepared.

**Review questions**

- 7.1 Why do firms need to give credit, with the consequent risk of non-payment?
- 7.2 Why should firms not wait until a debt is definitely not going to be paid and then write off the debt?
- 7.3 Doubtful debts are carried in a contra-asset account. Why is this?
- 7.4 When dealing with bad and doubtful debts in the accounts, with which conventions should we try to comply?



## Exercises

**Solutions to exercises whose number is in colour can be found at the end of the book.**

- 7.1** Dino Faculti started business buying and selling knitting machines on 1 January 20X3. His debtors' figures, before writing off any bad debts, were as follows:

31 December 20X3	£30,000
31 December 20X4	£38,100
31 December 20X5	£4,750

Bad debts to be written off were as follows:

in 20X4	£2,100
in 20X5	£750

and the required figure for doubtful debts, in each year, is 5 per cent of outstanding debtors.

*Required:*

Faculti's bad debts expense and doubtful debts accounts together with supporting calculations.

- 7.2** Malcolm's trial balance as at 30 June 20X2 was as follows:

	£	£
Capital account as at 1 July 20X1		29,000
Creditors		21,000
Debtors	22,650	
Cost of goods sold	144,000	
Drawings	32,100	
Sales		243,000
Stock	36,000	
Vehicles	21,000	
Wages expense	14,250	
Sundry expenses	3,000	
Rent expense	13,500	
Insurance expense	2,000	
Cash at bank	4,500	
	<u>293,000</u>	<u>293,000</u>

The following information is relevant:

1. Wages payable but unpaid at 30 June 20X2 amounted to £750.
2. Rent accrued but unpaid at 30 June 20X2 amounted to £3,000.
3. The figure of insurance expenses includes a prepayment at 30 June 20X2 of £1,000.
4. The vehicles are to be depreciated at the rate of 25 per cent per annum. As the vehicles were purchased at the beginning of the year, no depreciation has yet been charged. A full year's depreciation is now to be charged.
5. Bad debts of £2,650 are to be written off and provision is to be made for doubtful debts amounting to 10 per cent of the remaining debtors.

*Required:*

Prepare Malcolm's profit and loss account for the year ended 30 June 20X2 and his balance sheet as at that date.

- 7.3** At 31 December 20X2 John's debtors owed him £10,000. He had not, up to this time, maintained a provision against doubtful debts account but now thought he should set one up and decided that he should base his provision on 5 per cent of the debtors. He made the necessary adjustment on 31 December 20X2.

The following figures relate to the years ended 31 December 20X3 and 20X4:

	20X3	20X4
	£	£
Sales	120,000	130,000
Cash received from customers	115,000	136,000
Bad debts written off	1,000	300
Cash received in respect of a bad debt written off in 20X3		200

*Required:*

- Prepare John's bad debts expense account and provision against doubtful debts account for the years ended 31 December 20X3 and 20X4.
  - How would you treat the receipt of £200?
- 7.4** Demare's trial balance as at 30 June 20X2 was as follows:

	<i>Dr</i>	<i>Cr</i>
	£	£
Debtors	16,100	
Cost of goods sold	98,000	
Demare's capital account as at 1.7.X1		19,500
Drawings	21,400	
Stock	24,000	
Bank overdraft		4,500
Creditors		14,000
Motor vehicle at cost	18,000	
Motor vehicle – accumulated depreciation at 1.7.X1		3,000
Provision against doubtful debts		1,000
Sales		162,000
Wages expense	9,500	
Rent expense	9,000	
Rates expense	6,000	
Sundry expenses	2,000	
	<u>204,000</u>	<u>204,000</u>

You are given the following further information:

- The rent expense for the year amounts to £12,000.
- The rates are paid in advance, for 15 months up to 30 September 20X2.
- Depreciation charge for the year to be based on 20 per cent of the reducing balance.
- Bad debts of £300 should be written off and the provision against doubtful debts should be adjusted to 10 per cent of debtors.
- Wages payable at 30 June 20X2 were £250.

*Required:*

Prepare Demare's profit and loss account for the year ended 30 June 20X2 and his balance sheet as at that date.



**7.5** At 31 December 20X5 Bayre's accountant persuaded him, for the first time, to provide for doubtful debts in his accounts. At that date, debtors owed Bayre £15,000. A provision against doubtful debts amounting to 5 per cent of debtors was set up and appeared in the financial statements for the year ended 31 December 20X5.

The following figures relate to the years ended 31 December 20X6 and 20X7.

	20X6	20X7
	£	£
Sales	190,000	200,000
Cash received from customers	172,000	205,000
Bad debts written off	1,600	500
Cash received in respect of a bad debt written off in 20X6 (in addition to amount stated above)	300	

*Required:*

- Prepare Bayre's bad debts expense account and provision against doubtful debts account for the years ended 31 December 20X6 and 20X7.
- Prepare extracts from the balance sheets and profit and loss accounts for the years ended 31 December 20X6 and 20X7, showing the treatment of all relevant figures.

**7.6** The following information relates to the activities of F. Head, a trader, for the year ended 30 June 20X6.

- Bad debts written off £1,500. Purchases £482,000.
- Cash received from customers £580,000. Purchase returns £4,000.
- Cash paid to suppliers £490,000. Sales £615,000.
- Discounts allowed £6,000. Sales returns £11,000.
- Discounts received £4,200.

At 1 July 20X5 Head's trade creditors amounted to £34,000 and his trade debtors to £46,000.

*Required:*

Draw up F. Head's debtors' and creditors' control accounts for the year ended 30 June 20X6.

**7.7** The balance on J. Alp's creditors' account as at 31 December 20X2 was £111,130. A list of the balances on the creditors' ledger as at that date revealed the following:

	£	£
Sundry credit balances		102,040
Less: Debit balances		
Sol's account	450	
Lui's account	<u>3,000</u>	<u>3,450</u>
		<u>£98,590</u>

During your investigations you discover the following:

- The purchase daybook has been added up incorrectly, understating the total by £700.
- A purchase of £5,000 from Tun had not been posted to his personal account.
- The debit balance on Sol's account was caused by the error of posting a payment to Sol's account as £940 instead of £490.

4. The debit balance on Lui's account represents a payment in advance demanded by Lui.
5. Discounts received amounting to £6,910 had been posted to the personal accounts but not to the control account.
6. A bad debt of £650 written off Lee's personal account in the debtors' ledger has been posted to the creditors' control account.
7. An invoice for £8,200 rendered by Dai had been badly typed and Alp's bookkeeper had read it as £5,200.
8. A contra-entry of £230 between Tol's accounts in the debtors' and creditors' ledgers has been correctly entered in the personal accounts but had not been entered in the control accounts.

*Required:*

- (a) Show the necessary correcting journal entries and other adjustments.
- (b) Show the revised control account balance and the adjustments to the list of balances, showing that, after correction, the control account balance and the list of balances are in agreement.
- (c) The correct balance on the debtors' control account is £171,250 (no accounts in the debtors' ledger have credit balances). What amounts should be shown in the balance sheet for trade debtors and trade creditors?

**7.8** The balance as at 30 June 20X6 on the cash book of Jim France was a credit of £9,470. The balance per bank statement was £7,510 'in credit'.

An examination of the cash book and bank statements revealed the following:

1. A cheque drawn in favour of France by Holland for £2,600 had been dishonoured. No entry regarding the dishonour had been made in the cash book.
2. Cheques amounting to £15,700 had been issued by France before 30 June, but had not been presented by that date.
3. £6,500 receipts from customers had been credited to France's bank account through the bank Giro system but no entry had been made in the cash book.
4. France paid cheques amounting to £7,240 into a branch of his bank on the morning of 30 June but this deposit had not been recorded in the bank statement.
5. The bank had 'credited' France's account with a receipt of £420 which should have been credited to the account of his brother, A. France.
6. The total of the payments side of France's cash book at the foot of page 17 was £121,750 which had been carried to the top of page 18 as £127,150.
7. Bank charges and interest of £760 had been charged by the bank but had not been entered in the cash book.
8. France had purchased a subscription for an American trade magazine. The bank had made this payment on France's behalf. France had estimated that the sterling cost of the subscription was £120 and had shown it in the cash book as such. The bank statement recorded that the cost had actually been £140.

*Required:*

- (a) Make the appropriate adjustments in the cash book showing the correct balance.
- (b) Prepare the bank reconciliation statement as at 30 June 20X6.

**7.9** Pierre Breton's cash book shows a debit balance of £1,234 at 31 December 20X6. The bank statement as at that date shows a balance of £182.

In checking the cash book against the statement, Breton's accountant finds the following:

1. Euro cheques drawn by Breton when working in France had been charged to the account by the bank, in the amount of £567. No entry had been made in the cash book.
2. Bank charges of £18 had not been entered into the cash book.
3. A payment to a French supplier, in euros, had been correctly entered in the cash book in pounds sterling, but the bank's commission of £127 had been omitted.
4. Cheques drawn during December, amounting to £890, had not yet been presented and cleared by the bank.
5. A cheque for £1,230, payable to Breton, had been sent to the bank by post, but had not been cleared by 31 December.

*Required:*

- (a) Show the adjustments needed to the cash book.
- (b) Prepare the bank reconciliation as at 31 December 20X6.

# 8

## Cost of goods sold

### Introduction

In the first part of the chapter we consider the conventional methods of accounting, under the historical cost convention, for stock and cost of goods sold. We cover the methods in common use by trading companies: first in first out (FIFO) and average cost (AVCO). The results of using the methods are demonstrated and discussed, together with their advantages and disadvantages. Finally we demonstrate the accounting treatment necessary where the value of stocks has been reduced to a figure below that of original cost: the 'lower of cost or market' rule. In the second part we explain, briefly, the replacement cost basis of valuation, which overcomes most of the problems caused by using the conventional approaches to the problem. Because this approach falls outside the historical cost convention it is not used by most companies. It is included here to help you to understand the limitations of the conventional methods. Finally, we demonstrate how to prepare financial statements from a trial balance including adjustments in respect of cost of goods sold and stock. Also, we explain how to deal with the accounts of firms which do not have a perpetual system of stock recording.

### Learning objectives

At the end of this chapter, after completing the checkpoint questions and exercises, you should be able to:

- describe the various methods of determining the cost of goods sold, and the stock figure;
- calculate the cost of goods sold and stock figure using the two main methods;
- explain the effect on the profit and loss account and balance sheet of using the methods;
- define the cost or market value (COMA) rule and apply it to the financial statements;
- understand the advantages of using replacement cost (where that is possible), carry out the procedures for using replacement cost and show how its use leads to a more useful calculation of the amounts which may be withdrawn from the business by its owner(s);
- prepare financial statements including stock adjustments.

## 8.1 Conventional methods

Determining the cost of goods which have been sold during a given period would be very straightforward if we could easily find out the actual cost of each item which has been sold. This is usually quite difficult or even impossible in practice. Consider the case of a petrol station. If there is some petrol left in the tank when a delivery is made, the 'old' petrol will be mixed with the 'new' petrol. If the price of petrol has changed since the last delivery it will be impossible to determine the cost of petrol sold since the later delivery. Even where it would be possible to determine the actual cost, it may be too expensive; for instance, if the firm were dealing in nuts and bolts, finding the cost of a particular package of bolts would not be worth the cost of doing so. Finding the actual cost is practicable where the firm deals with relatively few, valuable items, or where the individual item is easily identified, e.g. old master paintings or goods which have identifying numbers, for instance cars or computers. It may also be possible and practicable to identify the actual cost, even where large numbers of low-cost items are involved, if a very sophisticated computerised recording system is being used. However, finding actual cost will not be practicable in most cases.

If it is not practicable to identify actual cost, it becomes necessary to find some way of estimating the cost of goods sold. This means that we shall have to make some assumptions about which goods are included in any particular sale. We may assume that the first goods purchased were those sold. This method is known as first in first out (FIFO). Another approach is to avoid making any assumption about the movement of the goods, but to take the average cost (AVCO).

It may be thought that the most important consideration in choosing a method would be the degree to which the chosen method matches the actual or assumed flow of goods. As we shall see, this is not the main consideration; it is rather the result which follows the application of one of the methods. This is best shown through the use of an example.

### ? Checkpoint questions

- 8.1** Explain why it is difficult, in most firms, to find the actual cost of goods sold.  
**8.2** Define two alternative methods of calculating the cost of goods sold.

### Example 8.1

John Spencer's stock at 1 January year 5 consisted of 1,000 units, costed as follows:

FIFO	1,000 units @ £6	<u>£6,000</u>
Average cost	1,000 units @ £5.50	<u>£5,500</u>

During the year ended 31 December year 5, John made the following sales and purchases:

<i>Purchases</i>		<i>Sales (units)</i>
January	100 @ £6	400
March		
April	800 @ £10	
June		300
November		200
December	100 @ £12	

## FIFO

	<i>Received</i>	<i>Issued</i>	<i>Cost of sales</i>	<i>Stock</i>
			£	£
Opening stock				1,000 @ £6 <u>6,000</u>
Jan.	100 @ £6			1,000 @ £6 100 @ £6 <u>600</u> <u>6,600</u>
March		400 @ £6	2,400	600 @ £6 100 @ £6 <u>600</u> <u>4,200</u>
April	800 @ £10			600 @ £6 100 @ £6 800 @ £10 <u>8,000</u> <u>12,200</u>
June		300 @ £6	1,800	300 @ £6 100 @ £6 800 @ £10 <u>8,000</u> <u>10,400</u>
Nov.		200 @ £6	1,200	100 @ £6 100 @ £6 800 @ £10 <u>8,000</u> <u>9,200</u>
Dec.	100 @ £12			100 @ £6 100 @ £6 800 @ £10 100 @ £12 <u>1,200</u> <u>10,400</u>
			<u>5,400</u>	

## Average cost (AVCO)

	<i>Average cost</i>	<i>Cost of sales</i>	<i>Stock</i>
	£	£	£
Opening stock			1,000 @ £5.50 5,500
After January purchase			
$\frac{(1,000 \times 5.5) + (100 \times 6)}{1,100} =$	5.54		1,100 @ 5.54 6,094
March sales 400 × 5.54		2,216	700 @ 5.54 3,878
After April purchase			
$\frac{(700 \times 5.54) + (800 \times 10)}{1,500} =$	7.92		1,500 @ 7.92 11,880
June sales 300 × 7.92		2,376	1,200 @ 7.92 9,504
Nov. sales 200 × 7.92		1,584	1,000 @ 7.92 7,920
After Dec. purchase			
$\frac{(1,000 \times 7.92) + (100 \times 12)}{1,100} =$	8.29		1,100 @ 8.29 9,119
		<u>6,176</u>	



### Checkpoint questions

**8.3** If Paul bought the following goods for resale

1 June	800 units @ £10
7 July	300 units @ £11
10 July	100 units @ £12

and then sold 900 units, calculate the cost of goods sold on a FIFO basis.

**8.4** Using the figures in Checkpoint question 8.3 calculate the cost of goods sold on an average cost basis. If the sale had taken place on 8 July, what would be the cost of goods sold on an AVCO basis? If a further sale of 200 units took place on 12 July, what is the cost of goods sold on an AVCO basis?

In all of the calculations we have assumed that the stock records are updated every time a purchase or sale takes place, i.e. the firm has a ‘perpetual’ system. This is not always the case, especially in very small firms. The non-perpetual, i.e. ‘periodic’, system is dealt with in section 8.3.

## Results of using the various methods

### Actual cost

This method gives results which are in accordance with the actual movement of goods sold; the revenue is recognised when the sale is made and the actual cost of the goods sold is recognised at the same time.

### First in first out

FIFO often gives a fairly close approximation of the flow of goods, especially where the trader wants to sell the oldest goods first, because they are perishable, e.g. fruit, or may go out of fashion, clothes for instance. Another advantage of FIFO is that it is easy to understand and to calculate. The use of FIFO will also give a stock figure in the balance sheet which is fairly close to current value and it therefore gives a reasonably meaningful figure at the balance sheet date. Unfortunately, the cost of goods sold figure may be made up of values which were out of date at the time of the sale. A particular drawback is that when prices are rising, cost of goods sold will be understated because earlier, lower, prices are charged to cost of goods sold; consequently, cost of goods sold will be understated, with the result that profit will be overstated.

### Key term

■ **Current value** is the market value at a given date, in this case the balance sheet date. In the case of stock values, since we are dealing with cost, the current value is the current cost price.

### Average cost

In some cases average cost is similar to the actual flow of goods, for instance where the goods are liquid, as in the case of the petrol previously mentioned. However, average cost is often used in practice because it has the effect of smoothing out the effect of price changes. Also, although neither the cost of goods sold nor the balance sheet figure

is likely to be very close to current values, the more extreme results of FIFO, where the cost of goods sold is less meaningful, are avoided.

### Summary of results

You will have noticed that, given exactly the same facts and figures, the methods produce different reported results. There are a number of other methods, particularly relating to manufacturing business, which give further, differing results. Obviously, this is undesirable but it is not possible to deal with the problem adequately within the framework of accounts prepared on the basis of historical costs.

### ? Checkpoint question

**8.5** Explain the advantages and disadvantages of using the two main methods of calculating cost of goods sold and the stock figure.

### A note on last in first out (LIFO)

We have not included this basis, which assumes that the last goods purchased are the first to be sold. This is because it is not used in the UK. However, it is in use in some countries and where it is used and allowed for taxation purposes (not including the UK) it has the advantage in times of rising prices that it brings later prices into account as cost of goods sold, as compared with the other bases, thus reducing the profit figure on which the charge for tax is based.

### Lower of cost or market value

Where an asset shown in the balance sheet has decreased in value to the extent that it is worth less than its historic cost, the balance sheet figure must be reduced to the lower figure. Not to do so would not be prudent and would be misleading to readers of the financial statements. This leads to the 'lower of cost or market value' (COMA) rule.

### Key term

■ In this instance, **market value** is taken to be the amount for which the stock could be sold, less any costs of selling it, i.e. net realisable value (NRV). The rule is that where the NRV is less than cost, stock should be written down to NRV. This is because a loss has occurred amounting to the original cost less the amount for which the stock could be sold. Where there are various types of goods in stock, the rule should be applied on an item-by-item basis, as shown in the following example.

### Example 8.2

	Cost		NRV	
	£	£	£	£
Stock:				
Type 1A	100		120	
Type 1B	90		50	
Type 1C	<u>90</u>	280	<u>95</u>	265
Type 2A	60		70	
Type 2B	<u>50</u>	<u>110</u>	<u>45</u>	<u>115</u>
		<u>390</u>		<u>380</u>



COMA rule applied:

Type 1A	100	(cost)	
Type 1B	50	(NRV)	
Type 1C	90	(cost)	
Type 2A	60	(cost)	
Type 2B	<u>45</u>	(NRV)	<u>345</u>

If we had taken the total NRV for all stock, some of the losses would have been hidden by the increase in sales value of some items of stock.



### Checkpoint questions

**8.6** What is the COMA rule? Why is it needed? What is the meaning and significance of 'NRV'?

**8.7** The following figures relate to stock at the end of an accounting period:

	Cost	NRV
Type X	200	350
Type Y	150	130
Type Z	400	520

Calculate the stock figure under the COMA rule.

## 8.2 The replacement cost basis

Replacement cost is a reasonable and consistent basis for the valuation of assets. If we assume that an asset would be replaced if it were lost to the firm (which is usually the case, although there are some exceptions which need different treatment) then a rational management would only replace the asset if it were worth more to the firm than the cost of replacing it. It follows that the value to the firm of the asset is the cost of replacing it. The following simple example demonstrates the use of replacement cost, compared with historical cost methods.

### Example 8.3

Mustapha sets up a new trading firm by paying £10,000 in cash into the new firm's bank account. The following are the firm's transactions in its first trading period:

1st purchase	260 units at £12.50 each
2nd purchase	100 units at £15.00 each
3rd purchase	140 units at £37.50 each

The firm then sold 300 units at £40.00 each immediately after the 3rd purchase. All transactions were in cash.

As we have seen, the amount of profit reported differs according to the method adopted. The following are the profit figures under FIFO:

Sales: 300 at £40.00			£
			12,000
Cost of goods sold	260 @ £12.50	3,250	
	40 @ £15.00	<u>600</u>	<u>3,850</u>
Profit			<u>8,150</u>

*On an average cost basis:*

Sales		12,000
Average cost =	$\frac{260 \times 12.50 + 100 \times 15.00 + 140 \times 37.50}{500} = 20.00$	
Cost of goods sold	300 × £20.00 =	<u>6,000</u>
Profit		<u>£6,000</u>

*On the basis of replacement cost:*

Sales		12,000
Cost of goods sold	300 @ £37.50	<u>11,250</u>
Profit		<u>£ 750</u>

There is only one answer under replacement cost accounting, for a given set of figures. Also when costs are rising, which is most often the case, the profit figure reported is more prudent. Another advantage is that the profit figure represents the amount which can be drawn out of the business so as to maintain the firm at its original size, in physical terms. We can see this clearly if we work out the cash situation.

Receipts:		
Equity		10,000
Sales		<u>12,000</u>
		22,000
Payments:		
Purchases	10,000	
Drawings (= profit)	<u>750</u>	<u>10,750</u>
Balance		<u>11,250</u>

If the units sold were replaced immediately (assuming no further price change), 300 at £37.50 = 11,250.

So we can see that the drawings have not reduced the physical capital of the firm.

Under FIFO, if Mustapha drew out an amount equal to the profit there would not be sufficient cash left in the business to replace the stock sold. The physical capital would be reduced. If Mustapha wished to continue as before he would have to introduce more capital or obtain a loan.

Receipts:		
Equity		10,000
Sales		<u>12,000</u>
		22,000
Payments:		
Purchases	10,000	
Drawings (= profit)	<u>8,150</u>	<u>18,150</u>
Balance		<u>3,850</u>

which is insufficient to replace the stock sold.

Under AVCO:

Receipts:		
Capital		10,000
Sales		<u>12,000</u>
		22,000
Payments:		
Purchases	10,000	
Drawings (= profit)	<u>6,000</u>	<u>16,000</u>
		<u>6,000</u>

Again, there is insufficient cash to replace the stock.

**Key term** ■ By **physical capital** we mean the non-cash resources (in this case stock), which the firm needs to carry on business at the same level of activity as before.

### ? Checkpoint questions

- 8.8** What are the advantages of replacement cost over the conventional methods of accounting for cost of goods sold and stock?
- 8.9** Explain the effect on profit measurement and drawings of the use of replacement cost.

## 8.3 Preparation of financial statements including stock

### Perpetual and periodic stock systems

A perpetual system depends on the accounting system being sufficiently sophisticated to be able to record the cost of sales as each item is sold. This allows the necessary transfer from stock account to cost of goods sold account to be made at the time the sale is made. As a result, the balance on the stock account at any time represents the actual stock at that time. (Up to this point we have assumed that such a system is in force.) Although the use of a perpetual system has many advantages it can be expensive to operate. However, where stock records are computerised it is both cheaper and more convenient to operate such a system. It is therefore being used by an increasing number of firms. Nevertheless it remains the case that some businesses, especially small firms, still use a periodic system. Here, no attempt is made to determine the cost of goods sold each time a sale is made. Instead, at intervals when the management want or need to produce financial statements, the stock is physically counted, cost prices are applied and a total stock value calculated. An entry is then made in the books of account debiting cost of goods sold and crediting stock with the cost of goods sold for the whole period.

#### Example 8.4

	£
Stock at 1 July 20X0	10,000
Purchases during the year to 30 June 20X1	<u>70,000</u>
	80,000
A physical stock count at 30 June 20X1 gives a figure of	<u>25,000</u>
Cost of goods sold in the year ended 30 June 20X1	<u>55,000</u>

The figure of £80,000 represents the cost of all the goods which were available for sale. If you deduct the cost of the goods which are left in stock at the end, it follows that the difference must represent the cost of goods sold (or lost or stolen).

### ? Checkpoint question

**8.10** McTavish had stock at the start of the year amounting to £350,000. During the year he purchased £800,000 of goods for resale. When he counted the stock at the end of the year it amounted to £98,000. Calculate McTavish's cost of goods sold figure.

## Preparation of financial statements

The following example demonstrates how to deal with stock figures calculated on a periodical basis.

### Example 8.5

Roberto Valli's trial balance as at 31 December 20X2 was as follows:


	£	£
Capital account		71,300
Bank balance	1,000	
Sales		158,000
Purchases	82,000	
Equipment at cost	78,000	
Accumulated depreciation		19,000
Debtors	15,400	
Creditors		6,500
Doubtful debts as at 1.1.20X2		600
Drawings	8,000	
Stock as at 1.1.20X2	12,000	
Rent and insurance	18,000	
Wages and salaries	26,000	
Other expenses	<u>15,000</u>	
	<u>255,400</u>	<u>255,400</u>

Notice that because the stock account is not updated every time a sale takes place:

- purchases are not debited to stock account but to a purchases account;
- the balance on the stock account represents the stock at the beginning of the year.

The following information is relevant:

1. The closing stock at 31 December 20X2 amounted to £14,000.
2. Insurance of £800 relates to the following year.
3. Wages of £500 are outstanding at 31 December 20X2.
4. Depreciation is to be provided at the rate of 15 per cent per annum using the straight-line method.
5. Roberto considers that £400 owing from one of the firm's debtors will not be paid. He wishes to write off this amount as a bad debt. He also wishes to increase the provision for doubtful debts to 5 per cent of the outstanding debtors at the year end.

Figure 8.1 is the extended trial balance for Roberto. Using the adjustment columns, purchases are added (debited) to the opening stock and the closing stock is deducted (credited) in order to produce the cost of goods sold, as we did in Example 8.4. 

	A	B	C	D	E	F	G	H	I	J
1	Valli		Extended trial balance		Year ended 31.12.20X2					
2										
3			Trial	balance		Adjustments		Profit & loss account		Balance sheet
4	Capital account			71,300						71,300
5	Bank		1,000						1,000	
6	Sales			158,000				158,000		
7	Purchases		82,000			(i) 82,000				
8	Equipment @ cost		78,000						78,000	
9	Accumulated depreciation			19,000		(vi) 11,700				30,700
10	Debtors		15,400			(vii) 400			15,000	
11	Creditors			6,500						6,500
12	Doubtful debts			600		(viii) 150				750
13	Drawings		8,000						8,000	
14	Opening stock		12,000			(iii) 12,000				
15	Rent & insurance		18,000			(v) 800	17,200			
16	Wages & salaries		26,000		(iv) 500		26,500			
17	Other expenses		15,000				15,000			
18	Closing stock				(ii) 14,000				14,000	
19	Cost of goods sold				(iii) 12,000	(ii) 14,000				
20					(i) 82,000		80,000			
21	Prepaid expenses				(v) 800				800	
22	Accrued expenses					(iv) 500				500
23	Depreciation expense				(vi) 11,700		11,700			
24	Bad debts				(vii) 400					
25					(viii) 150		550			
26										
27										
28			255,400	255,400	121,550	121,550	150,950	158,000	116,800	109,750
29	Profit						7,050			7,050
30							158,000	158,000	116,800	116,800

Figure 8.1 Roberto Valli's extended trial balance

	£
Stock at 1.1.20X2 per trial balance	12,000
Add: Purchases per trial balance	<u>82,000</u>
	94,000
Less: Stock at 31.12.20X2 (note 1 above)	<u>14,000</u>
Cost of goods sold	<u>80,000</u>

The closing stock is debited in the adjustment columns and carried out into the balance sheet column as an asset. The financial statements then appear as shown below.

**Roberto Valli**  
**Profit and loss account for the year ended 31 December 20X2**

	£	£	£
Sales			158,000
Less: Cost of goods sold			<u>80,000</u>
Gross profit			78,000
Less: Expenses			
Rent & insurance £(18,000 – 800)		17,200	
Wages & salaries £(26,000 + 500)		26,500	
Depreciation		11,700	
Bad debts £(400 + 150)		550	
Other expenses		<u>15,000</u>	<u>70,950</u>
Net profit			<u>7,050</u>

**Balance sheet as at 31 December 20X2**

Fixed assets			
Equipment at cost			78,000
Less: Accumulated depreciation £(19,000 + 11,700)			<u>30,700</u>
			47,300
Current assets			
Stock		14,000	
Debtors	15,000		
Less: Provision for doubtful debts £(600 + 150)	<u>750</u>	14,250	
Prepaid expenses		800	
Cash at bank		<u>1,000</u>	
			30,050
Less: Current liabilities			
Creditors	6,500		
Accrued expenses	<u>500</u>	<u>7,000</u>	<u>23,050</u>
			<u>70,350</u>
Capital account			
At 1 January 20X2			71,300
Add: Profit for the year			<u>7,050</u>
			78,350
Less: Drawings			<u>8,000</u>
			<u>70,350</u>

If Valli had maintained a perpetual stock system there would have been no need to make any adjustment in respect of stock, where the figure in the TB would already represent the closing stock, having been continuously updated during the year. Similarly, the figure in the TB for cost of goods sold would represent the total for the year.

## Summary

In this chapter we have dealt with the question of the determination of the figures of cost of goods sold and stock, including the various methods of calculation. We also explained the cost or market value (COMA) rule and showed how to apply it. You may have found it surprising that there may be more than one answer when dealing with what would appear to be a straightforward matter. You will have seen that the reason for this state of affairs is that there is no satisfactory way of calculating the figures within the conventional, historical cost framework. We went on to show how the use of replacement cost accounting produces a more useful answer but it cannot be used within the conventional model of accounting.

We then showed how to deal with stock and cost of goods sold in the financial statements, first explaining perpetual and periodic stock systems.

## Review questions

- 8.1** Looking at Example 8.1, give your reasoned overall view of the results. Explain which method (if any) is, in your view, the 'best' or 'correct' method.

- 8.2** ‘The choice of method used to determine the cost of goods sold is not very important because it makes very little difference in the long run.’ Discuss.
- 8.3** The various methods of stock valuation will, when prices are changing, result in significantly different figures of cost of goods sold and, therefore, of reported profit. Discuss the effect that this has on the accuracy and usefulness on conventional historical cost accounting statements.
- 8.4** ‘The use of replacement cost in stock valuation provides a much more useful result than any conventional method.’ Discuss.

## Exercises

Solutions to exercises whose number is in colour can be found at the end of the book.

- 8.1** During his first year of trading, Ted made the following purchases and sales:

<i>Purchases</i>			<i>Sales</i>	
January	2,000 units @ £3.00	6,000		
April	1,000 units @ £3.40	3,400		
			May	1,600 units
October	3,000 units @ £4.00	12,000		
			November	1,600 units
		<u>21,400</u>		

Calculate Ted’s cost of goods sold and closing stock figures on the following bases:

- (a) FIFO perpetual;  
 (b) FIFO periodic;  
 (c) average cost perpetual;  
 (d) average cost periodic.
- 8.2** 1. No opening stock.

	<i>Purchases</i>	<i>Sales</i> <i>(units)</i>
January	100 @ £ <i>x</i>	
June		80
December	60 @ £5	

FIFO stock at the end of December, £360. Find *x*.

2. Opening stock 100 units. Average cost £5 per unit.

	<i>Purchases</i>	<i>Sales</i> <i>(units)</i>
January	200 @ £ <i>x</i>	
June		120
December	80 @ £10	

Average (perpetual) cost of stock at the end of December, £2,060. Find *x*.

**8.3** J. Town's stock at 1 January 20X0 consisted of 100 units, costed as follows:

FIFO	100 units @ £60	<u>£6,000</u>
Average cost	100 units @ £55	<u>£5,500</u>

During the year ended 31 December 20X0 Town made the following sales and purchases:

	<i>Purchases</i>	<i>Sales</i> <i>(units)</i>
January	10 @ £60	
March		40
April	80 @ £100	
June		30
November		20
December	10 @ £120	

State Town's stock at 31 December 20X0 and the cost of goods sold for the year ended 31 December 20X0 based on:

- FIFO;
- average cost (perpetual).

**8.4** The following trial balance was extracted from the books of Juva, a sole trader, as at 31 December 20X1.

	£	£
Capital account at 1 January 20X1		45,200
Purchases	194,100	
Sales		261,450
Wages and salaries	16,720	
Rent and property charges	12,930	
Debtors	36,400	
Sundry expenses	2,500	
Drawings	9,500	
Provision for doubtful debts		1,590
Cash at bank	16,500	
Creditors		24,350
Stock (as at 1.1.X1)	41,060	
Vehicle at cost	7,200	
Accumulated depreciation		<u>4,320</u>
	<u>336,910</u>	<u>336,910</u>

The following additional information is available:

- The closing stock has been valued at £49,670.
- The rent is £6,400 per annum payable half-yearly in advance on 31 March and 30 September.
- Depreciation on the vehicle is to be provided using the straight-line method at the rate of 20 per cent per annum.
- The provision for doubtful debts of £1,590 was the general provision as at 1.1.X1. At 31.12.X1 Juva decides that £900 of the debts outstanding should be written off as irrecoverable. He also wishes to adjust the provision to 5 per cent of the outstanding debts.



5. Wages of £1,500 are outstanding at 31.12.X1.

Prepare the profit and loss account of Juva for the year ended 31 December 20X1 and his balance sheet as at that date.

**8.5** Nora Ferber's trial balance at 30 June 20X3 was as follows:

	£	£
Motor vehicles, at cost	90,000	
Debtors	80,500	
Stock	120,000	
Drawings	107,000	
Cost of goods sold	490,000	
Wages	47,500	
Rates	30,000	
Sundry expenses	10,000	
Rent	45,000	
Capital account 1 July 20X2		97,500
Provision against doubtful debts		5,000
Motor vehicle, accumulated depreciation, 1 July 20X2		15,000
Creditors		70,000
Bank overdraft		22,500
Sales		<u>810,000</u>
	<u>1,020,000</u>	<u>1,020,000</u>

The following information is relevant:

- Rent expense for the year ended 30 June 20X3 was £60,000.
- Rates expense for the year ended 30 June 20X3 was £24,000.
- The depreciation charge for the year is to be 20 per cent of the reducing balance.
- Bad debts of £1,500 are to be written off and the provision against doubtful debts is to be adjusted to 10 per cent of debtors.
- Wages payable at 30 June 20X3 amounted to £1,260.
- The stock figure of £120,000 is made up as follows:

<i>Units</i>	<i>Cost</i>	<i>Net realisable value</i>
	£	£
Type A	40,000	60,000
Type B	50,000	42,000
Type C	<u>30,000</u>	<u>44,000</u>
	<u>120,000</u>	<u>146,000</u>

*Required:*

Prepare Nora Ferber's profit and loss account for the year ended 30 June 20X3 and her balance sheet as at that date.

**8.6** Smith's stock at 1 January consisted of 100 units. Smith uses the average cost method of stock/cost of goods sold.

The stock as at that date was as follows:

100 units @ £725 each, average cost = £72,500

During the year Smith made the following purchases and sales:

	<i>Purchases</i>	<i>Sales</i> <i>(units)</i>
February		20
April	200 @ £750	
June		180
October	100 @ £780	
November		60

Calculate Smith's cost of goods sold for the year and his stock as at the end of the year.

# 9

## Preparation of financial statements

### Introduction

Having worked through the details of the preparation of a sole trader's financial statements from the books of account, including the main adjustments needed, in the preceding chapters, we now summarise the method of preparing the financial statements through the use of an extended trial balance.

### Learning objectives

After having worked through this chapter, including the exercise, you should be able to prepare the financial statements of a sole trader from a trial balance, making the necessary adjustments through an extended trial balance to arrive at a profit and loss account and balance sheet.

### Example 9.1

The closing trial balance of Fernand Arnoud as at 31 December 20X2 is set out below.

#### Fernand Arnoud trial balance as at 31 December 20X2

	<i>Dr</i>	<i>Cr</i>
	£	£
Balance at bank	133,000	
Capital account		79,710
Cash in hand	750	
Drawings	37,700	
Electricity	2,070	
Insurance	3,300	
Motor vans at cost	24,000	
accumulated depreciation		12,000
Motor vehicle expenses	5,400	
Postage and stationery	1,500	
Provision against doubtful debts		4,500
Purchases	480,000	
Business rates	10,500	
Rental expense	15,000	
Rental income		<u>1,260</u>
c/f	<u>713,220</u>	<u>97,470</u>

b/f	713,220	97,470
Sales		690,000
Stock	39,000	
Sundry expenses	4,500	
Trade creditors		66,000
Trade debtors	30,000	
Wages	<u>66,750</u>	
	<u>853,470</u>	<u>853,470</u>

## 9.1 Adjustments

We need to make a number of adjustments, so as to convert the trial balance into a profit and loss account and balance sheet. Broadly, the adjustments may be classified as follows.

1. General tidying up and correction of errors.
2. Recognition of accruals and prepayments.
3. Inclusion of closing stock (where the periodical basis is in use).
4. The adjustment of the book value of assets (i.e. depreciation, bad debts).

### Tidying up and correction of errors

The work involved in the preparation of the financial statements will often disclose a number of errors which will have to be corrected before the statements are prepared.

### Accruals and prepayments

In essence, we have to do three things:

1. Identify those expenses which have been incurred but which have not yet been paid or otherwise recognised in the books of accounts (accrued expenses).
2. Identify those payments (or amounts otherwise recognised in the books of account), which represent expenses which should not be charged in the current period but rather in subsequent periods (prepaid expenses).
3. Identify any revenue which has not yet been recorded but which should be recognised in this period (debtors).

### The inclusion of closing stock

Where the periodical basis is in use, the stock figure shown in the trial balance represents the stock at the start of the period. This figure will be charged, without adjustment, to the profit and loss account as part of the calculation of the cost of goods sold.

The closing stock is then counted, valued and entered. In the trading account it reduces the cost of goods sold. In the balance sheet it appears as an asset.

### Adjusting the book value of assets

#### Depreciation

Once we have computed the depreciation charge for the period, this amount is then included in the profit and loss account as an expense. It is then added to the accumulated depreciation figure in the balance sheet.

### Provision against doubtful debts

If the existing provision is thought to be reasonable, no adjustment is needed. If it is considered to be insufficient, the increase will be charged to the profit and loss account as an expense; the provision against doubtful debts in the balance sheet will be increased by the same amount. If the provision is thought to be excessive, the expenses in the profit and loss account will be reduced by 'a reduction in provision against doubtful debts' and the provision in the balance sheet will be reduced by the same amount.

Returning to Fernand Arnoud's financial statements, the following are the adjustments needed.

1. A purchase of stationery amounting to £1,800 has been debited to the motor vehicles expense account.
2. The proprietor has personally used postage stamps and stationery worth £300, which were purchased by the firm and included in the postage and stationery account.
3. Accrued expenses:
  - (a) the rent is £1,500 per month, but has been paid only to the end of October. Two months' rent – £3,000 – has therefore to be accrued;
  - (b) the last electricity bill was paid in November on the basis of a meter reading. A reading of the meter at 31 December indicated that the amount owing to that date was £630;
  - (c) 31 December was a Tuesday. Since the firm pays the wages on a Thursday, three days' wages – Friday, Monday and Tuesday – are due. The amount due is £750.

The schedule of accrued expenses would then be as follows.

	£
Rent payable	3,000
Electricity	630
Wages	<u>750</u>
	<u>4,380</u>

4. Sundry debtors and prepaid expenses:
  - (a) the last payment of business rates was for the six months ended 31 March 20X3 and amounted to £4,500;
  - (b) all the firm's insurance premiums are paid for a year in advance on 30 June; the last payment was for £2,400;
  - (c) the firm lets part of its yard to a local street trader to store his barrow. The charge is £30 per week. As at 31 December the trader owed the firm £300.

The sundry debtors and prepaid expenses would then be as follows:

	£
Business rates	2,250
Insurance	1,200
Rent receivable	<u>300</u>
	<u>3,750</u>

5. The closing stock amounts to £3,600.
6. The depreciation expense for the year has been calculated at £6,000.
7. The provision against doubtful debts is to be reduced from £4,500 to £1,500.

The following is the extended trial balance worksheet showing the trial balance and the adjustment columns.

**Fernand Arnoud**  
**Extended trial balance: trial balance and adjustment columns**

	<i>Trial balance</i>		<i>Item</i>	<i>Adjustments</i>		<i>Profit &amp; loss account</i>		<i>Balance sheet</i>	
	<i>Dr</i>	<i>Cr</i>		<i>Dr</i>	<i>Cr</i>	<i>Dr</i>	<i>Cr</i>	<i>Dr</i>	<i>Cr</i>
	£	£		£	£	£	£	£	£
Balance at bank	133,000								
Capital account		79,710							
Cash in hand	750								
Drawings	37,700								
Electricity	2,070								
Insurance	3,300								
Motor vans – at cost	24,000								
– accumulated depreciation		12,000							
Motor vehicle expenses	5,400								
Postage and stationery	1,500								
Provision against doubtful debts		4,500							
Purchases	480,000								
Rates	10,500								
Rent expense	15,000								
Rental income		1,260							
Sales		690,000							
Stock	39,000								
Sundry expenses	4,500								
Trade creditors		66,000							
Trade debtors	30,000								
Wages	66,750								
	<u>853,470</u>	<u>853,470</u>							

We now show the adjustments in the extended trial balance worksheet with numbers referring to the required changes.

**Fernand Arnoud**  
**Extended trial balance: trial balance and adjustment columns**

	<i>Trial balance</i>		<i>Item</i>	<i>Adjustments</i>		<i>Profit &amp; loss account</i>		<i>Balance sheet</i>	
	<i>Dr</i>	<i>Cr</i>		<i>Dr</i>	<i>Cr</i>	<i>Dr</i>	<i>Cr</i>	<i>Dr</i>	<i>Cr</i>
	£	£		£	£	£	£	£	£
Balance at bank	133,000								
Capital account		79,710							
Cash in hand	750								
Drawings	37,700		2	300					
Electricity	2,070		3	630					
Insurance	3,300		4		1,200				
Motor vans – at cost	24,000								
– accumulated depreciation		12,000	6		6,000				
Motor vehicle expenses	5,400		1		1,800				
Postage and stationery	1,500		1, 2	1,800	300				
Provision against doubtful debts		4,500	7	3,000					
Purchases	480,000								
Business rates	10,500		4		2,250				
Rent expense	15,000		3	3,000					

9 • Preparation of financial statements

	<i>Trial balance</i>		<i>Item</i>	<i>Adjustments</i>	
Rental income		1,260	4		300
Sales		690,000			
Stock – opening	39,000				
– closing			5	36,000	
			5		36,000
Sundry expenses	4,500				
Trade creditors		66,000			
Trade debtors	30,000				
Wages	66,750		3	750	
Sundry debtors and prepayments			4	3,750	
Sundry creditors and accruals			3		4,380
Depreciation expense			6	6,000	
Bad debts			7		<u>3,000</u>
	<u>853,470</u>	<u>853,470</u>		<u>55,230</u>	<u>55,230</u>

We now show the worksheet with the completed profit and loss account and the balance sheet columns.

**Fernand Arnoud**  
**Extended trial balance: completed**

	<i>Trial balance</i>		<i>Item</i>	<i>Adjustments</i>		<i>Profit &amp; loss account</i>		<i>Balance sheet</i>	
	<i>Dr</i>	<i>Cr</i>		<i>Dr</i>	<i>Cr</i>	<i>Dr</i>	<i>Cr</i>	<i>Dr</i>	<i>Cr</i>
	£	£		£	£	£	£	£	£
Balance at bank	133,000							133,000	
Capital account		79,710							79,710
Cash in hand	750							750	
Drawings	37,700		2	300				38,000	
Electricity	2,070		3	630		2,700			
Insurance	3,300		4		1,200	2,100			
Motor vans – at cost	24,000							24,000	
– accumulated depreciation		12,000	6		6,000				18,000
Motor vehicle expenses	5,400		1		1,800	3,600			
Postage and stationery	1,500		1, 2	1,800	300	3,000			
Provision against doubtful debts		4,500	7	3,000					1,500
Purchases	480,000					480,000			
Rates	10,500		4		2,250	8,250			
Rent expense	15,000		3	3,000		18,000			
Rental income		1,260	4		300		1,560		
Sales		690,000					690,000		
Stock – opening	39,000					39,000			
– closing			5	36,000			36,000		
			5		36,000			36,000	
Sundry expenses	4,500					4,500			
Trade creditors		66,000							66,000
Trade debtors	30,000							30,000	
Wages	66,750		3	750		67,500			
Sundry debtors & prepayments			4	3,750				3,750	
Sundry creditors & accruals			3		4,380				4,380
Depreciation expense			6	6,000		6,000			
Bad debts			7		3,000		<u>3,000</u>		
subtotals						634,650	730,560		
Difference, being profit for the period						<u>95,910</u>	<u>95,910</u>		<u>95,910</u>
	<u>853,470</u>	<u>853,470</u>		<u>55,230</u>	<u>55,230</u>	<u>730,560</u>	<u>730,560</u>	<u>265,500</u>	<u>265,500</u>

Finally we show Fernand Arnoud's profit and loss account and the balance sheet.

**Fernand Arnoud**  
**Profit and loss account for the year ended 31 December 20X2**

	£	£	£
Sales			690,000
Less: Opening stock		39,000	
Add: Purchases		<u>480,000</u>	
		519,000	
Less: Closing stock		<u>36,000</u>	<u>483,000</u>
Gross profit			207,000
Less: Wages		67,500	
Rent expense		18,000	
Rates		8,250	
Postage and stationery		3,000	
Electricity		2,700	
Insurance		2,100	
Motor vehicle expenses		3,600	
Depreciation expense		6,000	
Sundry expenses		<u>4,500</u>	
		115,650	
Less: Rental income	1,560		
Reduction in provision against doubtful debts	<u>3,000</u>	<u>4,560</u>	<u>111,090</u>
Profit for the year			<u>95,910</u>

**Balance sheet as at 31 December 20X2**

	£	£	£
Fixed assets			
Motor vehicles at cost		24,000	
Less: Accumulated depreciation		<u>18,000</u>	6,000
Current assets			
Stock at cost		36,000	
Trade debtors less provision		28,500	
Sundry debtors and prepaid expenses		3,750	
Balance at bank and cash in hand		<u>133,750</u>	
		202,000	
Less: Current liabilities			
Trade creditors	66,000		
Sundry creditors and accrued expenses	<u>4,380</u>	<u>70,380</u>	
			<u>131,620</u>
			<u>137,620</u>
Capital account			
Opening balance			79,710
Add: Profit for the year			<u>95,910</u>
			175,620
Less: Drawings			<u>38,000</u>
			<u>137,620</u>




**Exercise**

**Solutions to exercises whose number is in colour can be found at the end of the book.**

- 9.1** Esme, a trader in fashion goods, extracted the following balances from her books on 31 December 20X1.

	<i>Dr</i>	<i>Cr</i>
	£	£
Capital account as at 1 January 20X1		60,900
Cash at bank	6,300	
Cleaning, repairs and maintenance	2,600	
Shop fittings at cost	50,000	
Wages	10,000	
Motor vehicle expenses	3,000	
Motor vehicles, at cost	20,000	
Creditors		5,100
Debtors	8,800	
Stock as at 1 January 20X1, at cost	7,500	
Purchases	64,800	
Sales		113,400
Stationery	300	
Insurance	200	
Electricity	1,800	
Rent	4,000	
Rates	1,900	
Cash in hand	600	
Drawings	12,000	
Provision for doubtful debts		400
Accumulated depreciation:		
shop fittings		10,000
motor vehicles		4,000
	<u>193,800</u>	<u>193,800</u>

Esme has provided the following further information:

1. Stock at cost as at 31 December 20X1 amounted to £4,200.
2. Wages owing to staff as at 31 December 20X1 amounted to £200.
3. Rates in respect of the year commencing 1 April 20X1 amounted to £1,600, payable half-yearly in advance on 1 April and 1 October 20X1.
4. A bad debt of £300 is to be written off. The provision against doubtful debts is to be adjusted to 10 per cent of outstanding debtors.
5. Depreciation is to be provided as follows:
  - (a) on shop fittings at 10 per cent per annum on cost;
  - (b) on motor vehicles at 20 per cent per annum on the reducing balance.

*Required:*

Prepare Esme's profit and loss account for the year ended 31 December 20X1 and her balance sheet as at that date.

# Part II



## Preparation of financial statements: partnerships and limited companies

10 Partnership accounts	145
11 Limited company accounts	184
12 Consolidated accounts: an introduction	204



# 10

## Partnership accounts

### Introduction

We describe in this chapter the issues associated with the preparation of the accounts of partnerships, a type of business entity which exists when two or more people agree to carry on a business with a view to earning a profit. The accounting issues which are specific to partnerships are the need to disclose how the ownership of the business is shared between the partners and the way in which the profit or loss for the period is apportioned between the partners, how to deal with changes in the way in which ownership is shared or the profit or loss apportioned.

We conclude the chapter with a description of joint ventures which are typically a type of partnership, possibly involving limited companies, formed for a specific purpose and for a limited duration. In many cases, especially those which are of a modest size, separate books of accounts are not opened for the joint venture but instead the transactions are dealt with in the book of the parties to the joint venture.

### Learning objectives

At the end of this chapter, after completing the checkpoint questions and exercises, you should be able to:

- understand the basic notion of business partnerships;
- understand the more commonly used ways of dividing the profits or losses for the period between the partners and make the necessary calculations;
- understand the special features of the financial statements of partnerships;
- explain what is meant by goodwill and when and why it is necessary to estimate its value;
- to make the accounting adjustments required when there is a change in the composition of the partnership;
- explain what is meant by joint ventures and the main principles underlying the way in which their activities are recorded in the books of the parties to the joint venture.

We now deal with the question of partnership accounts. For a detailed review of the law relating to partnerships you are referred to a legal text but we must put our feet gingerly into legal waters if we are to carry out our task. The most important piece of legislation affecting partnerships is the Partnership Act 1890. The Act is

short (only 50 sections) and lucid – there are not many modern Acts which can be so described.

The Partnership Act defines a partnership as the relationship which subsists between persons carrying on a business in common with a view to profit – a succinct definition, but one which requires careful interpretation. For example, neither the sharing of profit, e.g. by an employee, nor the joint ownership of property will of themselves automatically give rise to the creation of a partnership. The main test is whether the partners agree to act together and, in particular, agree to act as each other's agents in the context of the business of the partnership. A partner is liable for the acts of all the other partners so long as they are, apparently, acting in the ordinary course of business; so the decision whether a partnership exists or not can be one of considerable importance.

**Key term**

■ A **partnership** is the relationship which subsists between persons carrying on a business in common with a view to profit.

There are two exceptions to this rule, one ancient, one modern. The 'ancient' examples are limited partnerships introduced by the Limited Partnerships Act 1907. In such partnerships one or more of the partners may be limited partners who are liable only up to the limit of their registered capital. Such partners may not take an active part in the management of the partnership and limited partnerships must register certain details with the Registrar of Companies. These include the registered capitals of the limited partners. Note that the term 'limited' applies to one or more of the partners; the partnership itself cannot be limited, and there must be at least one general partner who will be personally liable for the debts of the partnership.

The more recent, and more important, exceptions are limited liability partnerships that were created by the Limited Liability Partnerships Act 2000. These exhibit a mixture of the features of a partnership and a limited liability company. For the purposes of taxation they are treated in the same way as other partnerships and the partners are taxed on their share of the profits whether or not they are actually withdrawn from the business. Their distinguishing feature is that the liability of all the partners is limited so if the business fails the creditors could not, in general, pursue the assets of the individual partners.

In return for this dispensation, limited liability companies must register with the Registrar of Companies and are subject to regulations similar to those applying to limited companies regarding the preparation of accounts and their submission to the Registrar at Companies House.

A number of limited companies have become limited partnerships not only because the regulations are more flexible but also because of the significant savings that result from the different rules relating to National Insurance which is, in effect, a payroll tax. The partners of limited liability partnerships are treated as being self-employed, whereas the directors of limited companies are treated as being employed. The saving depends on the level of earnings but is generally at least 10 per cent of the relevant salaries.

One reason why there can be some doubt about whether a partnership exists or not is that it is possible for a partnership to exist in the absence of a written agreement

between the partners. However, sensible partners will enter into a partnership agreement which should include the following points:

- The name and nature of the business of the partnership.
- The term of the partnership, which may be for a fixed or an indefinite period. The latter type is called a partnership at will.
- The amount of the capital to be contributed by each partner.
- The manner in which the profit of the partnership should be shared.
- Whether interest should be charged on partners' drawings.
- The extent of drawings to be allowed.
- Provisions for the preparation and audit of financial statements.
- The way in which the business should be run, for example what types of decision can be arrived at by a majority decision and which require unanimity; management responsibilities.
- Provision for the admission of new partners and the withdrawal by death or otherwise of partners.

The Partnership Act 1890 contains certain provisions which come into force in the absence of a partnership agreement. These are discussed later.

## 10.1 Capital, current and drawings accounts

One obvious difference between the accounts of a sole trader and those of a partnership is that in the latter case it is necessary to divide the owners' equity between the partners. However, very many partnerships go further and divide the owner's equity of each partner between capital and current accounts.

The capital account represents the amounts which the partners agree that they will retain in the partnership and is sometimes called fixed capital. The capital is usually the amount which the partners introduced at the birth of the partnership or, in the case of a partner joining an existing partnership, the amount contributed on admission. Of course, the amount of the fixed capital can be varied by agreement between the partners.

The current accounts represent the balance of the partners' equity and, in general, represent each partner's accumulated share of profits less any amounts withdrawn to date.

In order to reflect the distinction, separate ledger accounts, i.e. capital and current accounts, are maintained in the ledger for each partner. In addition, this distinction also appears in the balance sheet.

Partners usually withdraw cash from the partnership at regular intervals, and in order not to clutter the current account with too much detail, a drawings account is often opened for each partner. At the end of each year the balances on the drawings accounts are transferred to the current accounts.

## 10.2 The appropriation of profit

In the case of a sole trader all the profit goes to one person, the owner, but this is not so in partnerships – thus partnership accounts must include an additional statement

showing how the profit or loss for the year is divided among the partners. This statement is usually called the profit and loss appropriation account.

Unless the partnership is to operate under the Partnership Act 1890, the partners will have to agree on the way in which profits, and losses, should be shared between them, i.e. they must fix the profit-sharing ratio. This ratio will depend on a number of factors (not least of which is the negotiating powers of the partners), which may include the following: the amounts of capital introduced by each partner, the amount of time each partner devotes to the business, and the skill and experience of each partner. However, many partnership agreements take specific account of these factors and use a more complex approach, basing the apportionment of profit on the following three considerations:

- interest on capital (and possibly on current accounts);
- salaries;
- share of balance.

Of these three, only the third is essential.

### Interest on capital

In order to compensate the partners who have contributed the larger capital stakes, partners can be credited with the interest on their capital. The rate is usually fixed in the partnership agreement and therefore often does not reflect the changes in the market rate of interest which have occurred since the establishment of the partnership.

The partners may also agree to give interest on the credit balances, or an average of the credit balances over the year, appearing on their individual current accounts. This will be especially relevant when the balances are large and when they differ substantially between partners.

### Salaries

A possibly confusing element in the division of profit is that which is called 'salary'. The confusion arises because it is not a salary, which is charged to the profit and loss account, but a fixed share which is drawn against a partner's share of the profits. The introduction of a salary component in the profit-sharing arrangement can be a sensible way of rewarding partners who provide more valuable services to the partnership either through the amount of time they spend on its affairs or because of the particular skills they can contribute. This approach is preferred to the alternative of giving such partners a greater share of profits, because a greater share in profits also means a greater share in losses.

A common use of the salary alternative is to compensate junior partners (often called salaried partners) who receive only a small share of their earnings by way of interest on capital and profit sharing. Such partners often have little say in the management of the partnership, and their position is not all that different from that of an employee save for the important exception that they are personally liable for the debts of the partnership.

Partners will be credited with their salaries, and with interest on capital and current accounts, even if the partnership makes a loss or a profit which is not large enough

to cover salaries and interest. In such cases, the existence of the salary and interest provision means that a loss will have to be apportioned between the partners in their profit- (and loss-) sharing ratio. Whatever basis is selected, each partner’s share of profit (or loss) is credited (or debited) to his or her current account.

**?** **Checkpoint question**  
**10.1** What distinguishes a partnership from other forms of business entity?

**Example 10.1**

A, B and C are in partnership and their partnership agreement includes the following provisions:

1. Interest at 5 per cent per annum is to be allowed on capital accounts. No interest to be allowed on current account balances.
2. B is to receive a salary of £40,000 per annum and C is to receive £80,000 per annum.
3. The profit-sharing ratio is: A 50 per cent, B 40 per cent and C 10 per cent.

The summarised trial balance of the partnership as at 31 December 20X4 was as follows:

		<i>Debit</i>			<i>Credit</i>
		£			£
Drawings accounts	A	80,000	Capital accounts	A	100,000
	B	60,000		B	90,000
	C	40,000		C	10,000
Sundry assets <i>less</i> liabilities		280,000	Current accounts	A	30,000
				B	10,000
				C	20,000
			Profit for 20X4		<u>200,000</u>
		<u>£460,000</u>			<u>£460,000</u>

**Profit and loss appropriation account year ended 31 December 20X4**

	£	£	£
Net profit for the year			200,000
Interest on capital			
A	5,000		
B	4,500		
C	<u>500</u>	10,000	
Salaries			
B	40,000		
C	<u>80,000</u>	120,000	
Share of balance			
A (50 per cent)	35,000		
B (40 per cent)	28,000		
C (10 per cent)	<u>7,000</u>	<u>70,000</u>	<u>£200,000</u>





<i>Current accounts</i>							
	A	B	C		A	B	C
	£	£	£		£	£	£
Drawings accounts	80,000	60,000	40,000	Balances b/d	30,000	10,000	20,000
				Profit and loss appropriation account			
				Interest on capital	5,000	4,500	500
				Salaries		40,000	80,000
				Share of balance	35,000	28,000	7,000
Closing balances c/d	<u>80,000</u>	<u>22,500</u>	<u>67,500</u>	Closing balance c/d	<u>10,000</u>		
Balance b/d	<u>10,000</u>	<u>£82,500</u>	<u>£107,500</u>	Balances b/d	<u>£80,000</u>	<u>£82,500</u>	<u>£107,500</u>
						22,500	67,500

Note that A's drawings exceed the opening balance on his current account and his share of the year's profit. Although this may be in contravention of the partnership agreement, it does happen from time to time, one reason being that the drawings are made during the year before the final profit is known. Depending on the attitude of his partners and the terms of the agreement, A may have to take remedial action, for example contribute sufficient cash to clear the debit balance.

In practice, each current account will have a separate page in the ledger, although the above format, *columnar form*, is a useful one, especially in an examination. Indeed, examiners like it so much that they often tell a candidate that they must prepare capital and current accounts in columnar form.

**A, B and C**  
**Balance sheet as at 31 December 20X4**

<i>Partners' equity</i>	<i>Capital accounts</i>	<i>Current accounts</i>	
	£	£	£
A	100,000	(10,000)	90,000
B	90,000	22,500	112,500
C	<u>10,000</u>	<u>67,500</u>	<u>77,500</u>
	<u>£200,000</u>	<u>£80,000</u>	<u>£280,000</u>
Represented by			
Sundry assets <i>less</i> liabilities			<u>£280,000</u>

The layout of the partner's equity section of the partnership balance sheet can take various forms. The format used above is a good one in that it shows each partner's total share as well as the total of the fixed capital of the partnership.

It is customary in the case of sole traders to show, on the face of the balance sheet, a reconciliation between the owner's equity at the start of the year and the owner's closing equity. To do this in the case of a partnership would result in a very cluttered balance sheet. It is therefore a good idea to produce, as part of the partnership's financial

accounts, a statement providing such a reconciliation. The statement will, of course, be simply a summary of the partners' current accounts.

<i>Partners' current accounts</i>				
	<i>Total</i>	<i>A</i>	<i>B</i>	<i>C</i>
	£	£	£	£
Balances 1 January 20X4	60,000	30,000	10,000	20,000
<i>Add:</i>				
Interest on capital	10,000	5,000	4,500	500
Salaries	120,000	–	40,000	80,000
Share of balance	<u>70,000</u>	<u>35,000</u>	<u>28,000</u>	<u>7,000</u>
	260,000	70,000	82,500	107,500
<i>Less: Drawings</i>	<u>180,000</u>	<u>80,000</u>	<u>60,000</u>	<u>40,000</u>
Balances 31 December 20X4	<u>£80,000</u>	<u>£(10,000)</u>	<u>£22,500</u>	<u>£67,500</u>

### Example 10.2

In order to illustrate the position where there is a loss or a profit which is too small to cover interest on capital and salaries, we shall use the information provided in Example 10.1 except that we will assume that the profit for the year is £100,000. The profit and loss appropriation account would then be:

	£	£	£
Net profit for the year			100,000
<i>Interest on capital</i>			
A	5,000		
B	4,500		
C	<u>500</u>	10,000	
<i>Salaries</i>			
B	40,000		
C	<u>80,000</u>	<u>120,000</u>	
		130,000	
<i>Share of loss</i>			
A (50 per cent)	15,000		
B (40 per cent)	12,000		
C (10 per cent)	<u>3,000</u>	<u>(30,000)</u>	<u>£100,000</u>

Note that the interest and salaries are calculated according to the partnership agreement. The deficit resulting after this is then divided in the profit- (and loss-) sharing ratio.

## 10.3 Partners' loan accounts

Partners can make advances to the partnership over and above their capital contributions. In such cases the amount of the loan would be credited to a separate loan account and kept apart from their capital and current accounts. Partners' loans are treated in much the same way as loans from outsiders. Loan interest is, therefore, shown in the profit and loss account as a charge against profit and is not debited to the appropriation account. On the dissolution of the partnership the loan would be paid before partners' capital but would rank after the amounts due to outsiders.

## 10.4 Lack of a partnership agreement

If there is no partnership agreement, sections 24 and 25 of the Partnership Act 1890 are applied. It must be noted that the agreement need not be in writing and the existence and terms of an agreement can be implied from the actions of the partners, for example by accepting a set of accounts which include a given profit-sharing basis. The provisions of the Act that are relevant to the apportionment of profit are:

- profits and losses are to be shared equally;
- no interest to be allowed on capital;
- no interest to be charged on drawings;
- no salaries;
- interest at 5 per cent to be allowed on partners' loan accounts.

### ? Checkpoint questions

**10.2** What is the point of distinguishing between partners' capital and current accounts?

**10.3** Distinguish between share in profits and share of capital.

**10.4** Why do sensible partners have an agreement about drawings and what is likely to be covered by such an agreement?

## 10.5 The peculiar problems of partnerships

By the nature of partnerships there are a number of events which call for special treatment; they are:

- the admission of a partner;
- a change in the profit-sharing ratio;
- the retirement or death of a partner.

The effect of these changes is a transfer of an asset, a share in the business, between two or more individuals. In such a case the partners (or the estate of the deceased partner) need to be compensated for what they have lost whereas new partners (or existing partners who have increased their share in the ownership of the partnership) should pay for what they have gained. If it is agreed that the value of the partnership is equal to the book value of the assets less liabilities, i.e. that there are no 'unrecorded assets', the entries necessary to deal with these events are simple. However, conventional historical cost accounting does not attempt to disclose the value of the firm and so, in practice, the entries can become a little complex.

It may be helpful, however, if we first showed how the above events would be treated if there were no unrecorded assets. Suppose A, B and C are in partnership sharing profit and losses in the ratio of 40 per cent, 40 per cent and 20 per cent, respectively, and that their summary balance sheet as at 31 December 20X6 is:

	<i>Capital accounts</i>	<i>Current accounts</i>	
	£	£	£
A	100,000	40,000	140,000
B	80,000	50,000	130,000
C	<u>20,000</u>	<u>30,000</u>	<u>50,000</u>
	<u>£200,000</u>	<u>£120,000</u>	<u>£320,000</u>
Sundry assets <i>less</i> liabilities			<u>£320,000</u>

Now suppose that a new partner, D, is admitted to the partnership on 31 December 20X6 and that the new profit-sharing ratio is A 40 per cent, B 40 per cent, C 10 per cent, D 10 per cent. D is to introduce capital of £40,000 which he does by paying that amount into the partnership bank account. The only entry required is the crediting of D's capital account and the debiting of the partnership's bank account with £40,000. Now the value of the firm increases from £320,000 to £360,000, but since the value of the owners' equities of the old partners remains the same at £140,000, £130,000 and £50,000, respectively, no further adjustment is required. It is true that there will now be a new profit-sharing ratio, but that affects only the apportionment of future profits, and we must assume that the partners have been rational in that the new profit-sharing ratio reflects the respective values of the contribution of the partners to the future activities of the partnership.

Now let us relax our convenient assumption and suppose that the partners believe that the value of the partnership at 31 December 20X6 is £400,000 not £320,000. At some time, perhaps at the dissolution of the partnership, the extra unrecorded value will be converted into tangible assets and will be included either in future profits or in the profit on realisation of the assets of the partnership. Of course, the partnership may not make £400,000 on realisation, but this would be deemed to have been due to losses made after 31 December 20X6. Now, if no action is taken in regard to this difference on the admission of the new partner, D will be 'given' a share: 10 per cent (his share in profits) of the unrecorded asset. The methods that are adopted to prevent this happening are discussed in section 10.6. Exactly the same arguments can be applied if there is a change in the profit-sharing ratio of the old partners. If, at the date of the change, they agree that there are no incorrectly valued assets then there is no problem and no adjustment is required.

If our assumption holds, the retirement or death of a partner produces no accounting problems. Suppose A dies. His estate is entitled to his share of the partnership, £140,000, and the only, but often considerable, problem is how the partnership can pay the £140,000 without harming the business.

There are two factors that can give rise to the existence of the incorrectly valued assets referred to above. One is that there may be a difference between the current value of an individual asset then and the amount at which it is shown in the accounts. If agreement can be reached about the current value of the asset then this factor produces few accounting problems. The second factor, termed goodwill, is the one which usually produces the greatest problems.

## 10.6 Goodwill

Goodwill can usefully be illustrated as follows. X is in the process of selling his business to Y; Y considers all the assets of the business and, after deducting the liabilities, arrives at a valuation of the assets less liabilities of £100,000. However, X wants £120,000 for the business and Y happily agrees to this price for he believes that the business has some goodwill.

Goodwill is then:

	£
The value of the business	120,000
Less: The sum of the values of the individual assets /less liabilities	<u>100,000</u>
Goodwill	<u>£20,000</u>

In other words, goodwill is the difference between the value of the business as a whole and the value of the sum of the parts. The idea behind goodwill is that the particular bundle of assets comprising the business will, in the future, generate larger profits than could be obtained if an exactly similar bundle of assets was newly brought together to carry out the same business.

### Key term

■ The **goodwill** of a partnership is the difference between the value of the business as a whole and the sum of the values of the identifiable assets less the sum of its liabilities.

There are a large number of factors which can give rise to goodwill. They include the reputation of the business with customers and suppliers, its location and its efficient and stable workforce. If goodwill has been purchased, as in the above example, it will appear as an asset in the balance sheet of the purchasing firm until it is written off against owner's equity. However, by its nature, goodwill is subject to considerable fluctuations. A smile by a salesman may, marginally, increase goodwill, whereas his rude response to a complaint may reduce it. A change in parking regulations could destroy or increase many times over the goodwill of a small shop. Because of the difficulties involved in valuing the asset of goodwill objectively, other than at the time of purchase, no attempt is made to record changes in purchased goodwill, and non-purchased goodwill is generally not recognised as an asset. In fact, many firms go further and write off purchased goodwill, either immediately or over an arbitrary time period, to owners' equity.

So far we have assumed that the values can be agreed on without difficulty, but this is not usually true. Reasonable estimates can often be made of the values of individual assets by professional valuers and others without too much difficulty (but often at considerable expense). Such valuations are usually done on the basis of comparison. The valuer notes the amounts at which similar assets have been traded recently and adjusts this figure to take account of any different features of the asset being valued and of any market changes. So it is comparatively easy to value a two-year-old Ford Ka that has done 20,000 miles because there are plenty of other such Kas around; but each business tends to be very different from all other businesses and so the valuation of a specific business is a far more difficult task.

The question of valuation is based, with varying degrees of success, on some logical framework. At this stage we will describe some traditional, crude, rules of thumb which are used to estimate the goodwill figure, and hence the value of a business.

## Valuation of goodwill

If the partnership agreement does not contain any provision about the way in which goodwill is to be evaluated, the matter will be one of negotiation. In order to avoid the heat that would be generated by such discussions, partnership agreements might specify a mechanical formula which can be easily applied. The following are some of the methods that may be found.

### Average profit

Goodwill is equal to  $x$  times the average profit of the last  $y$  years. Both  $x$  and  $y$  need to be specified. Sometimes a weighted average is used, weighted so as to give a greater importance to the profits of more recent years.

#### Example 10.3

The partnership agreement of P, Q and R provides that goodwill should be taken as being equal to 2 years' ( $x$ ) purchase of the weighted average profit of the last 3 years ( $y$ ). The weightings are 3 for the most recent year, 2 for the second and 1 for the third year.

Profits for the last three years are:

20X5	£100,000	20X6	£40,000	20X7	£10,000
			£		£
		1×	100,000		100,000
		2×	40,000		80,000
		3×	10,000		<u>30,000</u>
		<u>6</u>			<u>£210,000</u>

$$\text{Weighted average} = \frac{£210,000}{6} = £35,000$$

$$\text{Goodwill} = 2 \times £35,000 = £70,000$$

This method has no logical basis and can produce some strange results. Suppose that the net tangible assets of P, Q and R are £5,000,000, and remember that the whole idea of goodwill is that the partnership is worth more than that. The best profit made in the last three years was £100,000, which is 2 per cent of £5,000,000, so it seems that unless the period of 20X5–X7 is exceptional, the bundle of assets making up P, Q and R is not generating greater profits than would be expected from assets with a value of £5,000,000.

Indeed, P, Q and R would get a greater profit if they wound up the partnership and invested in a building society. This looks to be a case where there may be 'illwill' rather than goodwill, since it is possible that if the same bundle of assets were brought together to form a new firm, a larger profit could be achieved.

Another drawback of this method is that it uses past results, whereas goodwill, like any other asset, is concerned with future prospects. The method is thus based on the assumption that the results of past periods can be used to say something about future results. The second method also relies on this assumption.

### Average revenue

With this method, average revenue is substituted for average profits, and goodwill is calculated by multiplying the average revenue (i.e. sales) of an agreed period by a specified number. This method is often used by professional firms such as accountants. All the arguments marshalled against the ‘average profit’ methods can also be applied here, with the additional point that this method can produce a figure for goodwill even if the business has not seen a profit in years.

### Future profits

A more sensible approach to valuing a business is not to rely on some ‘magic formula’ but:

- to estimate the future cash flows that will be generated by the firm;
- to value that stream of cash flows, which gives the value of the business;
- goodwill is then the difference between the value of the business thus derived and the value of the assets less liabilities.

A variant of this approach, which substitutes profit for cash, is sometimes encountered.

#### Example 10.4

The profits of A, B and C are expected to be £290,000 per year. A fair charge for the services provided by the partners to the partnership is £140,000. Considering the type of the business, it is considered that a return of 15 per cent should be obtained from an investment of this nature. The partnership has tangible net assets of £800,000.

	£
Estimated annual profits	290,000
Less: Charge for the services of the partners	<u>140,000</u>
Return	<u>£150,000</u>

Then if  $V$  is the value of the partnership,  $V \times$  required rate of return = £150,000. This assumes that the return will remain constant at £150,000 p.a. for ever, but other assumptions can be incorporated:

$$V = \frac{£150,000}{0.15} = £1,000,000$$

	£
Value of the partnership	1,000,000
Less: Value of tangible net assets	<u>800,000</u>
Goodwill	<u>£200,000</u>

While this is a more sensible and logical approach, it does require subjective forecasts of both the near-term and the long-term future. These forecasts can easily be the subject of considerable disagreement.



#### Checkpoint question

**10.5** What is goodwill and under what circumstances does it become an important consideration?

## Treatment of goodwill on the admission of a new partner

There are two ways by which the new partner can pay for his or her share of unrecorded goodwill:

1. Recognise the asset of goodwill in the books of the existing partnership (see Example 10.5A).
2. Do not recognise the goodwill. The new partner is asked to pay into the partnership the cash required to buy his or her share of goodwill (see Example 10.5B).

### Example 10.5

The following facts will be common to Examples 10.5A and 10.5B.

A and B are in partnership sharing profit and losses in the ratio A 75 per cent, B 25 per cent. On 31 December 20X5 they admit a new partner N and it is agreed that the new profit-sharing ratio shall be A 50 per cent, B 40 per cent and N 10 per cent. N is to introduce cash of £26,000. A and B's summarised balance sheet as at 31 December 20X5 is as follows:

Capital accounts	£		£
A	120,000	Sundry assets /less liabilities	220,000
B	<u>100,000</u>		
	<u>220,000</u>		<u>£220,000</u>

Goodwill is agreed to be £60,000 and is not included in the above assets figure. (For simplicity we have assumed that A and B have zero balances on their current accounts as at 31 December 20X5.)

### Example 10.5A

Goodwill is to be recognised as an asset in the books. The steps are:

#### Journal entries

		£	£
1. Recognise the asset of goodwill, crediting the capital accounts of the existing partners in their original profit-sharing ratio	Goodwill	60,000	
	A Capital a/c		45,000
	B Capital a/c		15,000
2. N introduces capital in the form of cash	Cash	26,000	
	N Capital a/c		26,000

#### Capital accounts

	A	B	N		A	B	N
	£	£	£		£	£	£
Balances b/d				Balances b/d	120,000	100,000	
Balances c/d	165,000	115,000	26,000	Goodwill a/c	45,000	15,000	
	<u>£165,000</u>	<u>£115,000</u>	<u>£26,000</u>	Cash			£26,000
					<u>£165,000</u>	<u>£115,000</u>	<u>£26,000</u>
				Balances b/d	165,000	115,000	26,000



Balance sheet after adjustments:

<i>Capital</i>	£		£
A	165,000	Goodwill	60,000
B	115,000	Cash	26,000
N	26,000	Sundry assets	
		<i>less liabilities</i>	<u>220,000</u>
	<u>£306,000</u>		<u>£306,000</u>

**Example 10.5B**

No account for goodwill.

Probably the easiest way of proceeding here is to open a goodwill account temporarily. The steps are then:

*Journal entries*

		£	£
(a) Recognise the asset, crediting the capital accounts of the existing partners in their original profit-sharing ratio (A 75 per cent, B 25 per cent)	Goodwill	60,000	
	A Capital a/c		45,000
	B Capital a/c		15,000
(b) N pays in cash to cover his share of goodwill, 10 per cent of £60,000, and his capital	Cash	26,000	
	N Capital a/c		26,000
(c) The goodwill account is closed, and the required debit to the partners' capital accounts uses the new profit-sharing ratio (A 50 per cent, B 40 per cent, N 10 per cent)	A Capital a/c	30,000	
	B Capital a/c	24,000	
	N Capital a/c	6,000	
	Goodwill		60,000

Note that steps (a) and (c) could be combined to give the following journal entry:

	<i>Dr</i>	<i>Cr</i>
	£	£
B Capital a/c	9,000	
N Capital a/c	6,000	
A Capital a/c		15,000

One way of arriving at those figures is:

	<i>Total</i>	<i>A</i>	<i>B</i>	<i>N</i>
	£	£	£	£
Goodwill in old profit-sharing ratio	60,000	45,000	15,000	
Goodwill in new profit-sharing ratio	60,000	<u>30,000</u>	<u>24,000</u>	<u>6,000</u>
Difference (+ credit, – debit)		<u>+£15,000</u>	<u>-£9,000</u>	<u>-£6,000</u>

A perceptive reader may wonder why B's capital account is debited when A's is credited. The reason is that the new arrangements made on the admission of N have resulted in a change in the profit-sharing proportions between A and B.

Under the old arrangements, A and B shared profits in the ratio of 75 : 25 or 3 : 1 while the profit-sharing ratio under the new arrangements is 50 : 40 or 1.25 : 1. Thus B's share of the profit has increased in comparison with A's, and it is necessary for B to 'pay' A for his increased share of the undisclosed goodwill.

<i>Capital accounts</i>							
	A	B	N		A	B	N
	£	£	£		£	£	£
				Balances b/d	120,000	100,000	
Goodwill	30,000	24,000	6,000	Goodwill a/c	45,000	15,000	
Balances c/d	<u>135,000</u>	<u>91,000</u>	<u>20,000</u>	Cash			<u>26,000</u>
	<u>£165,000</u>	<u>£115,000</u>	<u>£26,000</u>		<u>£165,000</u>	<u>£115,000</u>	<u>£26,000</u>
				Balances b/d	135,000	91,000	20,000

Balance sheet after adjustments:

<i>Capital accounts</i>	£		£
A	135,000	Cash	26,000
B	91,000	Sundry assets <i>less</i> liabilities	220,000
N	<u>20,000</u>		
	<u>£246,000</u>		<u>£246,000</u>

If N does not have sufficient cash to pay for his share of goodwill then the necessary amounts could be paid over an agreed period of time by transfers from N's current accounts, i.e. out of his share of the profits. A similar arrangement could be used to enable a new partner to build up his capital contribution.

## 10.7 Change in the profit-sharing ratio

We have already dealt with this as part of Example 10.5 where the introduction of a new partner was accompanied by a change in the profit-sharing ratio between the old partners. However, in order to focus on the points at issue we will introduce an example where there are no other factors to cloud the change in the profit-sharing ratio. The normal method is to make a transfer between the partners' capital accounts along the lines of Example 10.5B.

### Example 10.6

The facts are as in Example 10.5 except that as at 31 December 20X5 there is a change in the profit-sharing ratio, no new partner being admitted.

The old profit-sharing ratio was A 75 per cent, B 25 per cent and the new profit-sharing ratio is to be A 50 per cent, B 50 per cent.

	<i>Total</i>	A	B
	£	£	£
Goodwill in old profit-sharing ratio	60,000	45,000	15,000
Goodwill in new profit-sharing ratio	60,000	<u>30,000</u>	<u>30,000</u>
Difference (+ credit, – debit)		<u>+£15,000</u>	<u>–£15,000</u>

Since B will receive a greater share of profit in the future he will be credited, when the goodwill is changed into profit, with part of the goodwill that 'belongs' to A. Hence B must recompense A and this is done by increasing A's capital or current account (as agreed by the ▶

partners) by £15,000 at the expense of B's capital or current account. The required journal entry is:

	<i>Dr</i>	<i>Cr</i>
B Capital account	£15,000	
A Capital account		£15,000

We have used the short-cut method here. Exactly the same result would have been achieved if we had temporarily opened a goodwill account as shown in Example 10.5B. Alternatively, B could pay A £15,000 in which case no adjustment would be required in the books of the partnership.

### ? Checkpoint question

**10.6** Complete the following tables on the assumption that A and B, who shared profits in the ratio 3 : 1, admit a new partner, C. The new profit-sharing ratio among A, B and C is to be 3 : 2 : 1. Goodwill has not been, and is not to be, recorded in the books.

	(1) £000	(2) £000	(3) £000
Capital and current accounts.			
Before C's admission			
A	80	300	?
B	70	100	?
After C's admission			
A	?	?	115
B	?	?	150
C	?	5	20
Goodwill	60	?	24
Cash introduced by C	40	25	?

## 10.8 The death or retirement of a partner

The basic point here is that all assets should be revalued so that the outgoing partner can be credited with his or her share of the unrecorded assets. We assume in the example that follows that accounts have been prepared at the date of the partner's departure.

### Example 10.7

A, B and C are in partnership sharing profits and losses in the ratio 2 : 1 : 1. C died on 31 December 20X5 and the partnership's balance sheet as at that date was:

	<i>Capital accounts</i>	<i>Current accounts</i>		£
	£	£		£
A	100,000	30,000	Freehold land	140,000
B	120,000	50,000	Sundry assets /less	
C	<u>80,000</u>	<u>20,000</u>	liabilities	<u>260,000</u>
	<u>£300,000</u>	<u>£100,000</u>		<u>£400,000</u>

It was agreed between A and B and C's representative that the freehold land should be revalued at £180,000 and, by using the method outlined in the partnership agreement, goodwill at 31 December 20X5 is valued at £60,000. A and B agree that, in future, they will share profits and losses equally and that they wish to show the enhanced value of the land in the books; however, they do not wish to open a goodwill account.

The capital accounts will then become:

	A £	B £	C £		A £	B £	C £
Goodwill	30,000	30,000		Balances	100,000	120,000	80,000
Balances c/d	120,000	115,000	125,000	Freehold land	20,000	10,000	10,000
	<u>£150,000</u>	<u>£145,000</u>	<u>£125,000</u>	Goodwill	30,000	15,000	15,000
				Current a/c			<u>20,000</u>
				Balances b/d	<u>£150,000</u>	<u>£145,000</u>	<u>£125,000</u>
					120,000	115,000	125,000

Note that, as before, goodwill has been written off against the remaining partners' capital accounts in their new profit-sharing ratio. There is no longer any point in distinguishing between C's capital and current accounts and the balance on his current account has therefore been transferred to his capital account.

The balance sheet now appears as follows:

	<i>Capital accounts</i> £	<i>Current accounts</i> £	£		£
A	120,000	30,000	150,000	Freehold land	180,000
B	<u>115,000</u>	<u>50,000</u>	<u>165,000</u>		
	<u>£235,000</u>	<u>£80,000</u>	315,000	Sundry assets less liabilities	260,000
C's account			<u>125,000</u>		
			<u>£440,000</u>		<u>£440,000</u>

So far so easy, but having worked out the outgoing partner's share of the firm the obligation must now be discharged. The partnership agreement may specify how this is done; alternatively the matter might be negotiated when the partner leaves. Otherwise our old friend the Partnership Act 1890 has a few things to say on the matter.

We describe below some of the many available alternatives and we conclude this section by outlining the appropriate sections of the Act.

### Immediate payment

Immediate payment is the simplest alternative from the point of view of the bookkeeper but it is likely to be the most difficult from the point of view of the financial management of the firm.

The outgoing partner's account will be debited, the appropriate asset account credited with the amount due, and the matter is over. The appropriate asset account is usually, but not always, the cash account. The parties may agree that the outgoing partner or his estate can take over, at an agreed valuation, some of the assets of the partnership, for example a car which the outgoing partner had used.

## Payment by instalments

The bookkeeping is almost as simple. The balance on the outgoing partner's capital account is transferred to a loan account. It then becomes a loan to the partnership and will be treated in the same way as any other loan.

Sometimes it is agreed that the rate of interest should be based on the profit or that the old partner should continue to receive a share in the profits. Such an agreement, so long as it is properly executed in writing, will not mean that the old partner retains his or her status as a partner with all the burdens of the office. However, with this sort of arrangement, he or she would become a deferred creditor in the event of the bankruptcy of the firm.

## Discharge by the payment of an annuity

An annuity is a fixed sum which is paid at regular intervals. It might be agreed that the old partners should discharge their liability by paying an annuity to the outgoing partner or some specified persons until the death of the annuitant (i.e. the recipient of the annuity) or the last survivor if there is more than one.

The balance on the outgoing partner's capital account is transferred to the credit of an account, the annuity suspense account. Each year that account is credited with an amount representing interest, at an agreed rate, on the declining balance of the account, the debit being to the profit and loss account. The payments are debited to the annuity suspense account. The purpose of the interest charge is to recognise the fact that the partnership has had the benefit of the funds available as a result of the delay in the discharge of the liability.

The annuity is like a loan with an added gamble. If the annuitant dies early, the suspense account, will have a credit balance representing the amount that will not now have to be paid, whereas if the annuitant lingers on, a greater sum will have to be paid than if a loan account had been established at the same rate of interest.

If, at the date of death of the annuitant, there is a credit balance on the annuity suspense account, that credit is transferred to the remaining partners' capital or current accounts in accordance with the old profit-sharing ratio. The original ratio is used because the gain does not arise as a result of the activities since the change. By contrast, the annuity interest debited to the profit and loss account is charged in the existing profit-sharing ratio since the partnership is currently receiving the benefit from the use of the funds. Similarly, if a new partner had been admitted after the date of departure, he or she would not be credited with a share of the balance. If the annuitant insists in outliving the account and is alive when the annuity suspense account runs out, then all future payments will be debited to the old partners' capital, or current accounts, according to the old profit-sharing ratio.

### Example 10.8

Following on from Example 10.7, it is agreed that C's widow should be paid an annuity of £2,000 per year, payable in advance on 1 January of each year. A and B agree that 10 per cent is an appropriate rate of interest. Mrs C died on 31 December 20X8. The annuity suspense account then appears as follows:

<i>Annuity suspense account</i>					
20X6			20X6		
1 Jan.	Cash	£ 2,000	1 Jan.	C Capital a/c	£ 12,500
31 Dec.	Balance c/d	11,550	31 Dec.	Profit and loss, interest (10% of £10,500)	1,050
		<u>£13,550</u>			<u>£13,550</u>
20X7			20X7		
1 Jan.	Cash	2,000	1 Jan.	Balance c/d	11,550
31 Dec.	Balance c/d	<u>10,505</u>	31 Dec.	Profit and loss, interest	<u>955</u>
		<u>£12,505</u>			<u>£12,505</u>
20X8			20X8		
1 Jan.	Cash	2,000	1 Jan.	Balance b/d	10,505
31 Dec.	Capital a/c		31 Dec.	Profit and loss, interest	850
	A (2/3)	6,237			
	B (1/3)	<u>3,118</u>			
		<u>£11,355</u>			<u>£11,355</u>

### Use of life policies

One way of ensuring that some cash is available on the death or retirement of a partner is to take out an assurance policy on the lives of the partners. The premiums are paid by the partnership and the partners are the beneficiaries under the policy. The policy may be ‘whole life’, i.e. the benefit is payable on the death of the assured person, or an endowment policy maturing at the expected date of retirement.

## 10.9 The Partnership Act 1890

Human ingenuity is such that many other ways of dealing with the departure of a partner have been devised, but human stubbornness is such that, on occasion, no agreement can be made. One of the functions of the Partnership Act 1890 is to provide against this eventuality.

Basically, a departing partner is entitled to the repayment of his or her capital (this includes the balance on the current account) due to him or her after the adjustment for any unrecorded assets, i.e. taking account of the current valuation of assets, including goodwill, and liabilities. If the amount is not settled immediately, the departing partner or his or her representative is entitled to either interest at 5 per cent per annum or such share of the profits as the court may determine to be attributable to the use of his or her share of the partnership assets. The latter calculation is a difficult one; a sensible way to proceed would be to deduct from the profit a reasonable charge for the services of the remaining partners and to apportion the balance on the basis of the ‘revalued’ capitals.

## 10.10 Absence of accounts at the date of change in partnership arrangements

It is obviously sensible to produce a balance sheet as at the date of change and a profit and loss account covering the period from the date of the last balance sheet to the date of change. However, there will be circumstances when this is not done; for example, the partners may agree to make a retrospective change in the profit-sharing ratio.

The basic principle is that the profit for the year should be apportioned between the periods before and after the date of change. There are no set rules as to how this should be done, and the method employed will depend on the circumstances. An example of this situation is provided in the appendix to this chapter.

### ? Checkpoint question

**10.7** What financial problems might arise on the death of a partner and what steps might be taken to alleviate them?

## 10.11 Dissolution of partnerships

We have, implicitly, assumed above that the retirement of a partner did not lead to the dissolution of the partnership. We now consider this question, first outlining the basic method before looking at a few complications.

The assets have to be sold and the liabilities paid. The difference between the net proceeds and the net book value of the assets less liabilities is termed the ‘profit or loss on realisation’ and is credited or debited to the partners in their profit-sharing ratio. The balances on the partners’ current accounts are transferred to their capital accounts.

If, after this, all the capital accounts are in credit, the total of the capital accounts will equal the cash available, and the final step in the dissolution will be the distribution of the cash to the partners according to the balance on their accounts. If any of the capital accounts end up with a debit balance, the partner or partners concerned will have to pay in sufficient cash to clear the deficit. The method is then as before. In order to help achieve the above, a realisation account is opened and the balances of the various asset accounts are debited to it (so closing the asset accounts). The proceeds from the sale of the assets are credited to the realisation account so that the balance on that account is the profit or loss on realisation of the assets.

If there is any ‘profit’ on paying off liabilities, because of cash discounts, for example, the gain will be credited to the realisation account, while any loss, which could occur if a provision is found to be inadequate, is debited to the account.

### Example 10.9

X, Y and Z were in partnership sharing profits and losses in the ratio 5 : 4 : 1. They decided to dissolve the partnership on 31 December 20X3, and the balance sheet at that date was:

	<i>Capital accounts</i>	<i>Current accounts</i>		<i>Fixed assets</i>	£	£
	£	£	£			
X	60,000	20,000	80,000	Land	60,000	
Y	40,000	10,000	50,000	Motor vehicles	<u>30,000</u>	90,000
Z	<u>10,000</u>	<u>(40,000)</u>	<u>(30,000)</u>	<i>Current assets</i>		
	<u>£110,000</u>	<u>(£10,000)</u>	100,000	Stock	20,000	
				Debtors	30,000	
Partner's advance, X			40,000	Cash	<u>20,000</u>	70,000
Current liability						
Creditors			<u>20,000</u>			
			<u>£160,000</u>			<u>£160,000</u>

We shall describe below the steps that have to be taken to dissolve the partnership and show the necessary journal entries.

*Required journal entries*

	<i>Dr</i>	<i>Cr</i>	£
(a) Transfer the balances from the current accounts to the capital accounts	X current a/c Y current a/c Z capital a/c	X capital a/c Y capital a/c Z current a/c	20,000 10,000 40,000
(b) Transfer the balances from the asset accounts, other than cash, to the realisation account	Realisation a/c	Land Motor vehicles Stock Debtors	60,000 30,000 20,000 30,000
(c) The land is sold for £80,000	Cash	Realisation a/c	80,000
(d) It is agreed that X and Y should take over the vehicles, at their net book values	X capital a/c Y capital a/c	Realisation a/c	20,000 10,000
(e) Stock and debtors are sold <i>en bloc</i> for £40,000	Cash	Realisation a/c	40,000
(f) X, Y and Z agree, in return for £8,000, to recommend their customers to take their future business to PL Ltd	Cash	Realisation a/c	8,000
(g) The creditors are settled, after taking cash discounts, for £18,000	Creditors	Realisation a/c	2,000
(h) X's advance is repaid	X's advance a/c	Cash	40,000
(i) The profit on realisation is transferred to the partners' capital accounts in their profit-sharing ratio	Realisation a/c	X capital a/c (50 per cent) Y capital a/c (40 per cent) Z capital a/c (10 per cent)	10,000 8,000 2,000
(j) Z pays in £28,000 to clear the debit balance on his capital account	Cash	Z capital a/c	28,000
(k) The remaining cash is paid to the partners on the basis of their capital account balances	X capital a/c Y capital a/c	Cash Cash	70,000 48,000



*Capital accounts*

	X	Y	Z		X	Y	Z
	£	£	£		£	£	£
Current a/c (a)			40,000	Balances	60,000	40,000	10,000
Realisation a/c (d)	20,000	10,000		Current a/c (a)	20,000	10,000	
				Realisation a/c (i)	10,000	8,000	2,000
				Cash (j)			28,000
Cash (k)	<u>20,000</u>	<u>10,000</u>	<u>40,000</u>		<u>90,000</u>	<u>58,000</u>	<u>40,000</u>
	<u>£90,000</u>	<u>£58,000</u>	<u>£40,000</u>		<u>£90,000</u>	<u>£58,000</u>	<u>£40,000</u>

*Realisation account*

		£		£	
Land	(b)	60,000	Cash	(c)	80,000
Motor vehicles	(b)	30,000	X Capital a/c	(d)	20,000
Stock	(b)	20,000	Y Capital a/c	(d)	10,000
Debtors	(b)	30,000	Cash	(e)	40,000
			Cash	(f)	8,000
			Creditors	(g)	2,000
		<u>140,000</u>			<u>160,000</u>
Profit on realisation	(i)				
X Capital a/c (50 per cent)		10,000			
Y Capital a/c (40 per cent)		8,000			
Z Capital a/c (10 per cent)		<u>2,000</u>			
		<u>£160,000</u>			<u>£160,000</u>

*Cash account*

		£		£	
Balance		20,000	Creditors	(g)	18,000
Realisation a/c	(c)	80,000	X's advance a/c	(h)	40,000
Realisation a/c	(e)	40,000			
Realisation a/c	(f)	8,000			
Z capital a/c	(j)	<u>28,000</u>			
		<u>176,000</u>			<u>58,000</u>
			Balance distributed to the partners	(k)	
			X Capital a/c		70,000
			Y Capital a/c		48,000
		<u>£176,000</u>			<u>£176,000</u>

**Non-cash proceeds**

Part or all of the proceeds of the sale of the assets may not have been for cash. Typically, some or all of the assets may be sold to a limited company in exchange for shares. There are then two problems: the partners must agree on the value of the shares and how the shares should be divided between them.

So far as the bookkeeping is concerned, an account will be opened to record the non-cash items. Then, if we assume that the non-cash element is shares, the entries relating to the account are:

Debit	Shares account	}	with the agreed value of the shares
Credit	Realisation account		

and

Debit	Capital accounts	}	with the value of the shares distributed to the partners
Credit	Shares account		

## 10.12 Joint ventures

The title 'joint venture' is applied to a partnership which is formed for a specific operation. Typically, the partners will also be in business on their own account but agree to come together for a special purpose; hence joint ventures are of comparatively short duration. The partners may come together again for other projects, but in such cases, unless a permanent partnership is established, the projects will be treated as separate joint ventures. Joint ventures are now rare but are still found from time to time; for example, they are used to exploit North Sea oil resources.

### Key term

■ A **joint venture** is a partnership, usually involving two or more businesses, normally set up for a specific purpose and a limited time.

There are, basically, two ways of dealing with the accounts of joint ventures. One method is to keep a separate set of books, and in this case the accounting treatment will not differ from the standard method of dealing with partnerships described earlier. In practice it is often found that the partners in the joint enterprise provide services for it, for example the provision of office accommodation, and will therefore charge the joint venture for this service. In their own books they will debit the investment in a joint venture account and credit the appropriate expense accounts. In the books of the joint venture, the expenses will be treated as an introduction of capital; so the partner's capital account will be credited with the amount of the expense, and the debit will be made to the expense accounts.

Sometimes no separate bank account will be opened for the joint venture, all receipts and payments being dealt with in the partners' own bank accounts. In such a case, the partners' joint venture capital account will be credited with payments made and debited with cash received on behalf of the venture. There is little point in distinguishing between capital and current accounts unless the participants agree that a charge for capital should be included in the appropriation of profit calculations.

In the alternative method, a separate set of books is not opened. Instead, the transactions undertaken by each partner on behalf of the joint venture will be recorded in the books of his or her own business. Each partner will open a joint venture account in his or her books, and debit expenses and credit revenue to it in respect of his or her participation.

In order to determine the profit and the final settlement between the partners, the information recorded in the joint venture accounts must be brought together. The steps are as follows:

1. A statement, which is not part of the books of any of the partners, is prepared combining the details included in the various joint venture accounts. This statement

is usually called a memorandum joint venture account,\* and is the profit and loss account of the joint venture.

- The profit, or loss, of the joint venture can then be found and its apportionment (based on the agreement between the partners) can be calculated.
- Each partner will debit his or her own joint venture account and credit his or her general profit and loss account with his or her share of the profit.
- The final cash settlement is made between the partners. Partners with credit balances on their joint venture accounts, after dealing with their share of profit or loss, will pay those partners whose accounts are in debit.

The above four steps are illustrated in the following example.

### Example 10.10

- After the completion of the joint venture but before the preparation of the memorandum joint venture account, the books of the two constituent partners A and B might read as follows:

A's Books	B's Books
<i>Joint venture with B account</i>	<i>Joint venture with A account</i>
Balance a	Balance b

So A has incurred more of the joint venture expenses than he has received in receipts, and vice versa for B.

- The profit on the joint venture is then  $b - a$ , and we will assume that this is shared between A and B in the ratio 3 : 1.
- Each partner will then debit his joint venture account and credit his general profit and loss account with his share of the profit. Their joint venture accounts will then be:

A's Books	B's Books
<i>Joint venture with B account</i>	<i>Joint venture with A account</i>
Opening balance a	Opening balance b
Profit and loss a/c $\frac{3}{4}(b - a)$	Profit and loss a/c $\frac{1}{4}(b - a)$
Closing balance = $a + \frac{3}{4}(b - a)$ = $\frac{1}{4}(a + 3b)$ debit	Closing balance = $b - \frac{1}{4}(b - a)$ = $\frac{1}{4}(a + 3b)$ credit

- The payment by B to A of  $\frac{1}{4}(a + 3b)$  will settle the position between them and close the two joint venture accounts.

For those readers who do not find algebra to their taste, we will present a further, numerical, example.

\*As a general rule 'memorandum' refers to statements which do not form part of the double entry system.

**Example 10.11**

Jim Graves is a wine merchant trading in a country town. He wishes to participate in a London wine auction but feels that it would be safer if he did so in collaboration with a London merchant who could provide office and storage facilities as well as additional customers. Accordingly, he enters into an agreement with Fred La Tour. Graves and La Tour agree to share profit and losses equally.

The transactions of the joint venture are:

1. On 2 January, La Tour purchased wine at a cost of £11,000. On the same date, Graves gave La Tour a cheque for £3,000 towards the payment.
2. Each partner sent details of the purchase to his own customers, drawing their attention to the special prices offered. The costs of the mailing, paid on 10 January, were: paid by La Tour £800, paid by Graves £500.
3. The carriage charges paid by the partners on 1 March were: La Tour £200, Graves £1,400.
4. Sales made by the partners were La Tour £8,000, Graves £4,000. The cash was banked on 3 March. The special offer did not prove to be as successful as had been hoped and it was decided that the venture should be terminated on 1 April. It was agreed that La Tour should take over the unsold wine and that £2,800 would be a reasonable estimate of its value.
5. Since a high proportion of the sales were made in La Tour's shop, it was agreed that La Tour should charge the joint venture with £800 for selling expenses in addition to storage charges of £300.
6. The final settlement between the partners was made on 16 April. The various accounts will then appear as follows:

**Graves' books***Joint venture with La Tour account*

			£				£
2 Jan.	Bank (La Tour)		3,000	3 Mar.	Bank (sales)		4,000
10 Jan.	Bank (mailing)		500	1 Apr.	Profit and loss a/c		
1 Mar.	Bank (carriage)		<u>1,400</u>		(share of loss)		<u>100</u>
			4,900				4,100
			<u>£4,900</u>	16 Apr.	Bank (La Tour)		<u>800</u>
							<u>£4,900</u>

**La Tour's books***Joint venture with Graves account*

			£				£
2 Jan.	Bank (purchases)		11,000	2 Jan.	Bank (Graves)		3,000
10 Jan.	Bank (mailing)		800	3 Mar.	Bank (sales)		8,000
1 Mar.	Bank (carriage)		200	1 Apr.	Stock (unsold wine)		2,800
1 Apr.	Selling expenses a/c		800	1 Apr.	Profit and loss a/c		
1 Apr.	Storage charges a/c		<u>300</u>		(share of loss)		<u>100</u>
			13,100				13,900
16 Apr.	Bank (Graves)		<u>800</u>				<u>£13,900</u>
			<u>£13,900</u>				<u>£13,900</u>

*Memorandum joint venture account*

	£	£		£	£
Purchases		11,000	Sales G	4,000	
			LT	<u>8,000</u>	12,000
Mailing G	500				
LT	<u>800</u>	1,300	Wine taken over by LT		2,800
Carriage G	1,400				
LT	<u>200</u>	1,600	Loss G ( $\frac{1}{2}$ )	100	
Shop expenses (LT)		800	LT ( $\frac{1}{2}$ )	<u>100</u>	200
Storage charges (LT)		300			
		<u>£15,000</u>			<u>£15,000</u>

### ? Checkpoint questions

**10.8** What is a joint venture and how does it differ from other forms of partnership?

**10.9** P and Q are joint ventures. They do not keep separate books but share profits and losses in the ratio of 3 : 1. Complete the following tables.

		(1)	(2)
		£	£
Revenue:	collected by P	42,000	12,000
	collected by Q	83,000	?
Expenditure:	incurred by P	79,000	5,000
	incurred by Q	16,000	9,000
Cash paid:	by P to Q	?	2,500
	by Q to P	?	–

### Summary

The particular features of partnership accounts have been described, as has the accounting treatment resulting from changes in the composition of the partnership, including adjustment to the way in which profits and losses are apportioned. The need for this special treatment flows from the fact that the current economic values of the partnership generally differ from the net book value of its assets less liabilities. The most common cause of the difference is goodwill, and the nature of goodwill and some ways of placing a value on it have been discussed.

Joint ventures are special forms of partnerships and a way of accounting for them which does not involve the opening of separate books and records has been described.

### Review questions

- 10.1** What factors should partners take into account when deciding how to divide the profits or losses of the partnership?
- 10.2** As businesses became larger, partnerships became less common. Discuss the reasons for this.
- 10.3** What are the arguments for and against showing partnership goodwill as an asset?

## Exercises

**Solutions to exercises whose number is in colour can be found at the end of the book.**

- 10.1** Anderson and Barrymore are in partnership. Their partnership agreement entitles them to 10 per cent interest on their capital and remaining profits are divided equally. The following trial balance was extracted at 30 June 20X5:

	<i>Dr</i>	<i>Cr</i>
	£	£
Fixtures and fittings	82,000	
Motor vehicles	80,000	
Accumulated depreciation at 1.7.X4		
Fixtures and fittings		19,000
Motor vehicles		20,000
Stock at 1.7.X4	20,000	
Debtors	31,000	
Creditors		24,300
Cash at bank	46,000	
Sales		200,000
Purchases	98,000	
Salaries and wages	21,000	
Rent	11,000	
Other office expenses	12,300	
Capital accounts		
Anderson		100,000
Barrymore		50,000
Current accounts at 1.7.X4		
Anderson		22,000
Barrymore		15,000
Drawings		
Anderson	28,000	
Barrymore	21,000	
	<u>£450,300</u>	<u>£450,300</u>

The following information is available:

- The stock at 30 June 20X5 was valued at £35,000.
- Rent of £4,000 was paid in advance.
- Depreciation is to be provided as follows:

Fixtures and fittings	10 per cent on cost
Motor vehicles	25 per cent on cost

*Required:*

Prepare a profit and loss account for the year ended 30 June 20X5 and the balance sheet as at that date.

**10.2** Priestley and Judge are partners, sharing profits and losses in the ratio 3 : 2. The following is the trial balance in the partnership books at 31 December 20X6.

	£	£
Capital account at 1.1.X6: Priestley		123,000
Judge		99,000
Drawings: Priestley	27,000	
Judge	18,000	
Provision for doubtful debts		3,600
Purchases	762,300	
Sales		988,950
Vans, at cost	87,000	
Fittings, at cost	18,000	
Accumulated depreciation: vans		44,400
fittings		8,550
Stock at 1.1.X6	130,200	
Office expenses	48,000	
Motor vehicle expenses	29,700	
Motor car, at cost 1.1X6	12,000	
Debtors	91,500	
Creditors		31,500
Bank		3,750
Wages and salaries	55,200	
Insurance	4,650	
Discounts allowed	19,200	
	<u>£1,302,750</u>	<u>£1,302,750</u>

The following additional information is available:

1. Stock at 31 December 20X6 was valued at £197,850.
2. Depreciation is to be provided on the fittings at the rate of 10 per cent of the reducing balance and on the vans and car at the rate of 20 per cent of the reducing balance. Priestley is to accept personally £3,000 of the vehicle expenses and one half of the depreciation charge on the car.
3. No rent has been paid on the business premises during the year because of a dispute with the landlord. The rent agreement provides for payment of rent of £6,960 a year.
4. The partners are entitled to interest on capital of 10 per cent a year.
5. Bad debts of £1,500 are to be written off and the provision for doubtful debts to be adjusted to 2.5 per cent of the remaining debtors.
6. Insurance of £525 has been paid in advance.
7. Wages of £2,775 were outstanding at 31 December 20X6.
8. Bank charges of £525 appear in the bank statement but have not yet been entered into the partnership bank account.

*Required:*

Prepare the trading, profit and loss account for the year ended 31 December 20X6 and the balance sheet as at that date.

- 10.3** Dawson, Cobb and Parker have been in partnership for several years sharing profits in the ratio 6 : 5 : 3. The balance sheet of the partnership as at 30 June 20X6 was as follows:

	£	£
Fixed assets		112,000
Goodwill		64,750
Current assets:		
Debtors	367,500	
Bank	<u>52,250</u>	
	419,750	
Less: Current liabilities		
Creditors	<u>338,000</u>	
Net current assets		<u>81,750</u>
		<u>£258,500</u>
Capital accounts:		
Dawson		125,000
Cobb		90,000
Parker		<u>43,500</u>
		<u>£258,500</u>

On 30 June 20X6, Dawson retired from the partnership and it was agreed to admit Williams as a partner on the following terms:

1. Goodwill in the old partnership was to be revalued to two years' purchase of the average profits over the last three years. The profits of the last three years have been £62,000, £68,000 and £70,025. Goodwill was to be written off in the new partnership.
2. Dawson is to take his car out of the partnership assets at an agreed value of £5,000. The car had been included in the accounts as at 30 June 20X6 at a net book value of £2,970.
3. Although work in progress had not been, and will not be, included in the partnership accounts, the new partners were to credit Dawson with his share based on an estimate that the work in progress was equivalent to 20 per cent of the debtors.
4. The new partnership of Cobb, Parker and Williams were to share profits in the ratio 5 : 3 : 2; the initial capital to be £125,000 subscribed in the profit-sharing ratios.
5. Cobb, Parker and Williams were each to pay Dawson the sum of £25,000 out of their personal resources in part-payment of his share of the partnership.
6. Dawson was to lend to Williams any amount required to make up his capital in the firm from the monies due to him, and any further balance due to Dawson was to be left in the new partnership as a loan, bearing interest at 9 per cent a year. Any adjustments required to the capital accounts of Cobb and Parker were to be paid into or withdrawn from the partnership bank accounts.

*Required:*

- (a) Prepare the capital accounts, in columnar form, of the partners reflecting the adjustments required on the change in partnership.
  - (b) Prepare a balance sheet on completion.
- 10.4** Pandov and Slavov have been partners for some years with the following profit-sharing arrangements:

Interest on capital accounts, 5 per cent  
 Salaries: Pandov £20,000; Slavov £40,000  
 Share of balance: Pandov  $\frac{2}{3}$ ; Slavov  $\frac{1}{3}$ .



The profit has been about £230,000 for the last few years. Their balance sheet as at 31 December 20X2 was as follows:

	<i>Capital accounts</i>	<i>Current accounts</i>	
	£	£	£
Pandov	300,000	50,000	350,000
Slavov	<u>100,000</u>	<u>150,000</u>	<u>250,000</u>
	<u>£400,000</u>	<u>£200,000</u>	<u>£600,000</u>
Sundry assets <i>less</i> liabilities			<u>£600,000</u>

Pandov proposes that Trubitsyn, who is at present a manager employed by the partnership at a salary of £80,000 per annum, be admitted as a partner from 1 January 20X3 and that the new profit-sharing arrangements should be:

Interest on capital accounts, 12 per cent

Salaries: Pandov £20,000; Slavov £20,000; Trubitsyn £50,000

Share of balance: Pandov 40 per cent; Slavov 40 per cent; Trubitsyn 20 per cent.

If Trubitsyn's total share of the profit falls below £70,000, the deficiency should be made up equally by the other two partners. Trubitsyn should introduce capital of £20,000. Goodwill should be calculated by using the 'super profit' method and the following estimates:

1. A fair charge for the management services provided by Pandov and Slavov is £120,000 per annum.
2. A rate of return of 12 per cent per annum on the net tangible assets can be expected.
3. The required rate of return on the 'super profits' is 16 per cent per annum.

Goodwill should not be recorded on the books and the necessary payments for goodwill should be made outside the partnership.

*Required:*

- (a) A statement showing the required payments for goodwill.
- (b) The profit and loss appropriation account for 20X3 based on the assumption that the profit will be the same as in 20X2.
- (c) A report comparing the present positions of each of the three parties with that which would exist if the proposed changes were implemented.

- 10.5** Piers, Quick, Right and Squires were in partnership, sharing profits and losses in the ratio 4 : 3 : 2 : 1. They decided to dissolve the partnership on 31 December 20X3 at which date the balance sheet of the partnership was as follows:

	£	£		£
<i>Capital accounts</i>				
Piers	60,000		Goodwill	20,000
Quick	30,000		Land and buildings	110,000
Right	60,000		Stock	20,000
Squires	<u>20,000</u>	170,000	Debtors	40,000
Creditors		<u>30,000</u>	Balance at bank	<u>10,000</u>
		<u>£200,000</u>		<u>£200,000</u>

The assets were realised as follows:

		£
5 Jan.	Stock	18,000
8 Jan.	Debtors (part)	16,000
2 Feb.	Goodwill	6,000
2 Feb.	Land and buildings (part)	22,000
1 Mar.	Debtors (balance)	20,000
1 Mar.	Land and buildings (balance)	120,000

The partners decided that, as soon as the creditors were paid, any cash received should be immediately distributed to the partners. All the creditors were paid on 11 January, after deducting cash discounts of £2,000. On 1 March it was decided that the remaining debts were irrecoverable and that the dissolution should be considered as being completed.

*Required:*

Prepare a schedule setting out the payments that could be made to the partners subject to the proviso that there should be no possibility that any of the partners would be called upon to repay any cash. Realisation expenses should be ignored.

- 10.6** Mr Zed and Mr Wye are partners sharing profits  $\frac{4}{7}$  and  $\frac{3}{7}$ . They allow for interest on capital account balances at 10 per cent and Mr Wye is paid a salary of £1,000 per month. The following is summarised from their trial balance for the year to 31 December 20X5.

	<i>Dr</i>	<i>Cr</i>
	£000	£000
Capital accounts:		
Zed		150
Wye		140
Current accounts:		
Zed		32
Wye		29
Drawings:		
Zed	42	
Wye	37	
Sales		222
Cost of goods sold	80	
Expenses	31	
Cash	<u>383</u>	
	<u>573</u>	<u>573</u>

*Required:*

Prepare a profit and loss, and appropriation account for the partners and prepare their current accounts in columnar form.

- 10.7** Green and Amber are in partnership as traders, sharing profits and losses, Green  $\frac{2}{3}$  and Amber  $\frac{1}{3}$ . Amber also receives a salary of £5,000 per annum before the profits are shared. Green and Amber decide to admit Red into the partnership on 1 October 20X9, and the new partnership agreement provides for the following arrangements from that date:

- Amber and Red to receive salaries of £6,000 and £4,000 respectively, both salaries to be calculated on an annual basis.
- Interest to be allowed on capital at the rate of 10 per cent per annum.

- (c) Goodwill to be brought into the books at a valuation of £18,000, and shared between Green and Amber,  $\frac{2}{3}$  and  $\frac{1}{3}$  respectively.
- (d) The remainder of the profits, after charging partnership salaries and interest on capital, are to be shared between Green, Amber and Red in the ratio of Green  $\frac{2}{5}$ , Amber  $\frac{2}{5}$  and Red  $\frac{1}{5}$ .

The firm's bookkeeper extracts the following information from the books of account, for the year ended 31 March 20X0.

	£
General expenses, including bank charges	33,049
Administration expenses, including rent, rates, insurances and electricity	19,363
Bad debts	328
Interest on loan made by Smith	800
Discounts received	1,110
Purchases of goods for resale	232,174
Stock of goods as at 1 April 20X9	28,567
Sales, less returns inwards	323,072
Fixtures and fittings, at cost	3,000
Motor vehicles, at cost	15,000
Accumulated depreciation written off:	
Motor vehicles to 31 March 20X9	4,500
Fixtures and fittings	1,450
Partners' capital accounts:	
Green	18,000
Amber	14,000
Partners' current accounts:	
Green	1,236 (credit)
Amber	894 (credit)
Partners' drawings:	
Green	9,860
Amber	6,340
Red	2,100
Trade creditors	18,433
Petty cash balance	50
Balance at bank as per cashbook	14,100
Trade debtors	27,964
Loan from Smith	10,000

The following information is relevant to the above accounting period:

1. Stock on hand, as at 31 March 20X0, is valued at £33,259, while there are amounts outstanding for rent and electricity of £300 and £276, respectively. No entries have yet been made in the books, in respect of these items.
2. A provision for doubtful debts is to be made, amounting to £500.
3. Depreciation is written off on the straight-line basis, at the following rates:

Fixtures and fittings	10 per cent per annum
Motor vehicles	20 per cent per annum

There has been no change made in either of these assets, during the year ended 31 March 20X0.

4. The adjustments to be made in respect of goodwill (£18,000) have not yet been effected in the relevant accounts.
5. The bank statements for the month of March 20X0 were not received until several days after the extraction of the above information from the books of account. Upon checking the statements, it is discovered that the bank has debited charges of £64. In all other respects, the balance shown on the bank statements as at 31 March 20X0 agreed with the balance shown in the cashbook.
6. By agreement between the partners, any credit balance outstanding on Red's current account at the end of each financial year is to be transferred to his capital account. Such transfers are to cease when the sum of £10,000 has been credited to capital account.

The allocation of profits between the partners is to be determined on a time basis.

*Required:*

From the above information, prepare a trading and profit and loss account (including an appropriation account) for the year ended 31 March 20X0, together with a balance sheet as at that date. Ignore taxation.

## Appendix An extended example of partnership accounts

The following appendix consists of a fairly detailed example of a change in the composition of a partnership with the added complication that financial statements had not been prepared at the date of change.

The following trial balance was extracted from the books of Plug, a partnership, as at 31 December 20X5.

		<i>Dr</i>	<i>Cr</i>
		£	£
Balance at bank		2,120	
Capital accounts:	P		20,000
	Q		4,000
	R		5,000
Creditors			18,000
Current accounts:	P		1,000
	Q		2,000
	R		1,000
Debtors		25,000	
Drawings:	P	6,000	
	Q	6,000	
	R	2,000	
Fixtures and fittings, at cost		4,000	
Accumulated depreciation			3,000
Motor vehicles, at cost		16,000	
Accumulated depreciation			9,000
Purchases		242,000	
Rates		7,000	
Rent		8,000	
Salaries		10,000	
Sales			300,000
Selling expenses		4,500	

Stock, 1 Jan. 20X5	22,000	
Sundry expenses	5,500	
Wages	4,680	
Payment made by N for goodwill		1,800
	<u>£364,800</u>	<u>£364,800</u>

1. You are also told that:

(a) As at 31 December 20X5

Prepaid expenses	Rates	£1,000
	Sundry expenses	£500
Accrued expenses	Wages	£600
	Rent	£2,000
Stock, at cost		£24,000

(b) Depreciation is to be provided at the following rates:

Fixtures and fittings	10 per cent on cost
Motor vehicles	20 per cent on cost.

- Up to 30 June 20X5, P, Q and R were the three partners, and their partnership agreement provided that profit and losses should be divided in the ratio of 5 : 3 : 2 after charging 5 per cent interest on capital and a salary to Q of £4,000.
- On 30 June 20X5, R retired from the partnership. It was agreed that goodwill should be valued at £18,000 at that date but otherwise the book value of the assets less liabilities was a reasonable estimate of their current values. On his departure from the partnership R took with him a car (cost £6,000, accumulated depreciation at 1 January 20X5, £4,000) and certain office furniture (cost £1,000, accumulated depreciation, 1 January 20X5, £600). P and Q agreed that the furniture should be a retirement gift from the partnership and that the necessary adjustment should be made through their current accounts. It was also agreed that R should be paid interest, at 10 per cent per annum, on the amount due to him from the date of his retirement.
- On 30 June 20X5, N, who had been employed as a manager, was admitted to the partnership. It was agreed that, after charging interest on capital at 10 per cent per annum and crediting Q and N with salaries of £6,000 and £12,000 per year respectively, that the balance should be divided as between P, Q and N in the ratio 6 : 3 : 1.
- It was agreed that N should introduce sufficient cash into the partnership to pay for his share of goodwill; this he did on 30 June 20X5. N's capital contribution is to be £4,000 and this is to be built up by transfers from his current account as at 31 December of each year, the amount of the transfer to be the lower of £1,000 or 50 per cent of his share of the 'balance of profit'.
- The partners do not wish to open an account for goodwill and all the necessary adjustments are to be made through the capital accounts.
- Sales were at a constant rate throughout the year except that the sales for October, November and December were each twice the sales of the other months.
- The only salary earner was N and the charge of £10,000 represents the total amount paid to him during the year in 12 equal monthly instalments.
- The number of wage earners had remained constant during the year but all wage earners received a 20 per cent increase in pay on 1 July 20X5.

*Required:*

- (a) The partnership's trading and profit and loss accounts for the year ended 31 December 20X5 and for the periods 1 January 20X5 to 30 June 20X5 and 1 July 20X5 to 31 December 20X5 and the appropriation accounts for the two periods.
- (b) The balance sheet as at 31 December 20X5.
- (c) The partners' capital and current accounts and R's loan account.

**Answer**

<b>Plug</b>						
<b>Trading and profit and loss accounts year ended 31 December 20X5</b>						
	Year		1 Jan.–30 June		1 July–31 Dec.	
	£	£	£	£	£	£
Sales		300,000				
Less: Opening stock	22,000					
Purchases	<u>242,000</u>					
		<u>264,000</u>				
Less: Closing stock	<u>24,000</u>					
Gross profit		<u>60,000</u>		24,000		36,000
Less: Salaries	5,000		5,000			–
Wages	5,280		2,400		2,880	
Selling expenses	4,500		1,800		2,700	
Rent	10,000		5,000		5,000	
Rates	6,000		3,000		3,000	
Sundry expenses	5,000		2,500		2,500	
Loan interest	314		–		314	
Depreciation						
Motor vehicles	2,600		1,600		1,000	
Fixtures and fittings	<u>350</u>		<u>200</u>		<u>150</u>	
		<u>39,044</u>		<u>21,500</u>		<u>17,544</u>
Net profit		<u>£20,956</u>		<u>£2,500</u>		<u>£18,456</u>

<b>Appropriation accounts</b>			
<b>1 January–30 June 20X5</b>			
	£	£	£
Net profit			2,500
Less: Interest on capital			
P $2\frac{1}{2}$ per cent of £20,000	500		
Q $2\frac{1}{2}$ per cent of £4,000	100		
R $2\frac{1}{2}$ per cent of £5,000	<u>125</u>	725	
Salary Q		<u>2,000</u>	
		2,725	
Share of loss			
P 50 per cent	112		
Q 30 per cent	68		
R 20 per cent	<u>45</u>	<u>(225)</u>	<u>£2,500</u>

## 1 July–31 December 20X5

	£	£	£
Net profit			18,456
Less: Interest on capital			
P 5 per cent of £18,200	910		
Q 5 per cent of £4,000	<u>200</u>	1,110	
Salaries			
Q	3,000		
N	<u>6,000</u>	9,000	
Share of profit			
P 60 per cent	5,007		
Q 30 per cent	2,504		
N 10 per cent	<u>835</u>	<u>8,346</u>	<u>£18,456</u>

## Balance sheet as at 31 December 20X5

	Cost	Accumulated depreciation	Net book value
	£	£	£
Fixed assets			
Motor vehicles	10,000	7,000	3,000
Fixtures and fittings	<u>3,000</u>	<u>2,700</u>	<u>300</u>
	<u>£13,000</u>	<u>£9,700</u>	3,300
Current assets			
Stock, at cost		24,000	
Debtors		25,000	
Prepaid expenses (1,000 + 500)		1,500	
Balance at bank		<u>2,120</u>	
		52,620	
Less: Current liabilities			
Creditors	18,000		
Accrued expenses (2,000 + 600)	<u>2,600</u>	<u>20,600</u>	<u>32,020</u>
			<u>£35,320</u>

## Capital accounts

		P	Q	R	N			P	Q	R	N
		£	£	£	£			£	£	£	£
30 Jun.	Current a/c			920		1 Jan.	Opening balances	20,000	4,000	5,000	
30 Jun.	Loan account			7,680		30 Jun.	Goodwill	9,000	5,400	3,600	
30 Jun.	Goodwill	10,800	5,400		1,800	30 Jun.	Cash				1,800
30 Jun.	Balances c/d	<u>18,200</u>	<u>4,000</u>					<u>£29,000</u>	<u>£9,400</u>	<u>£8,600</u>	<u>£1,800</u>
		<u>£29,000</u>	<u>£9,400</u>	<u>£8,600</u>	<u>£1,800</u>	1 Jul.	Balances b/d	18,200	4,000		
31 Dec.	Balances c/d	<u>18,200</u>	<u>4,000</u>		418	31 Dec.	Current account				418
		<u>£18,200</u>	<u>£4,000</u>		<u>£418</u>			<u>£18,200</u>	<u>£4,000</u>		<u>£418</u>
						1 Jan.	Balances b/d	18,200	4,000		418

Current accounts

	P	Q	R	N		P	Q	R	N
	£	£	£	£		£	£	£	£
30 Jun. Drawings			2,000		1 Jan. Opening balances	1,000	2,000	1,000	
30 Jun. Share of loss	112	68	45		30 Jun. Interest on capital	500	100	125	
30 Jun. Fixtures and fittings	219	131			30 Jun. Salary		2,000		
31 Dec. Drawings	6,000	6,000			30 Jun. Capital account			920	
31 Dec. Salaries account				5,000	31 Dec. Interest on capital	910	200		
31 Dec. Capital account				418	31 Dec. Salaries		3,000		6,000
31 Dec. Balances c/d	<u>1,086</u>	<u>3,605</u>	<u>2,045</u>	<u>1,417</u>	31 Dec. Share of profit	<u>5,007</u>	<u>2,504</u>	<u>1,045</u>	<u>835</u>
	<u>£7,417</u>	<u>£9,804</u>	<u>£2,045</u>	<u>£6,385</u>		<u>£7,417</u>	<u>£9,804</u>	<u>£2,045</u>	<u>£6,835</u>
					1 Jan. Balances b/d	1,086	3,605		1,417

	Capital accounts	Current accounts	
P	18,200	1,086	19,286
Q	4,000	3,605	7,605
N	418	1,417	1,835
	<u>£22,618</u>	<u>£6,108</u>	28,726
Loan account – R			<u>6,594</u>
			<u>£35,320</u>

R Loan account

	£		£
30 Jun. Motor vehicles	1,400	30 Jun. Capital a/c	7,680
31 Dec. Balance c/d	6,594	31 Dec. Interest, 5 per cent on £6,280	314
	<u>£7,994</u>		<u>£7,994</u>
		1 Jan. Balance b/d	£6,594

- The first step is to apportion the revenue and expenses between the two time periods so that the profit for the first period can be found. Note that the profit for the second half of the year cannot be found until the partnership's indebtedness to R and, hence, the loan interest payable is calculated.
  - Gross profit.* We will assume that the gross profit percentage has remained constant over the year and, as we are not given any indication to the contrary, this seems to be a sensible assumption. Thus the gross profit will be apportioned on the basis of sales. If average monthly sales in the first half-year are  $x$ , the sales in the first half-year will be  $6x$ , and in the second half-year  $9x$  (sales of the last three months being twice the previous monthly average). Then gross profit for the first half-year =  $6x/15x$  of £60,000 = £24,000 and £36,000 for the second half-year.
  - Salaries.* Since N was a partner for the second half-year, the payments made to him called salaries are in fact drawings. Thus the £5,000 paid in the second half-year has been debited to his current account.
  - Wages.* Let  $x$  be the amount paid in the first half-year. Then, since all workers received an increase of 20 per cent on 1 July, the total expense for the year which is £4,680 + £600 = £5,280 is equal to  $x + 120/100x = 2.2x$ , i.e.

$$2.2x = £5,280$$

$$x = £2,400$$

and the wages for the second half-year = £2,880.



- (d) *Selling expenses*. These have been apportioned on the same basis as sales, i.e. first half-year 6/15 of £4,500 = £1,800, second half-year 9/15 of £4,500 = £2,700.
- (e) *Rent, rates and sundry expenses*. These have been apportioned on the basis of time.
- (f) *Depreciation*

	Cost	Accumulated depreciation	
	£	£	£
Motor vehicles			
Balance 1 January	16,000		9,000
Depreciation charge first half-year, 10% of £16,000			<u>1,600</u>
			10,600
		(4,000)	
Taken over R	<u>(6,000)</u>	<u>(600)</u>	<u>(4,600)</u>
	10,000		6,000
Depreciation charge second half-year, 10% of £10,000			<u>1,000</u>
Balance 31 December	<u>£10,000</u>		<u>£7,000</u>
Fixtures and fittings			
Balance 1 January	4,000		3,000
Depreciation charge first half-year, 5% of £4,000			<u>200</u>
			3,200
		(600)	
Given to R	<u>(1,000)</u>	<u>(50)</u>	<u>(650)</u>
	3,000		2,550
Depreciation charge second half-year, 5% of £3,000			<u>150</u>
	<u>£3,000</u>		<u>£2,700</u>

- (g) N's capital contribution (Note 5, page 178). The transfer from N's current account is 50 per cent of his share of the profit, after interest and salaries (50 per cent of £835). This is lower than £1,000.

2. The entries relating to the departure of R now have to be made.

- (a) *Goodwill*. £18,000, the agreed value of the goodwill, has been credited to the capital accounts of the original partners in the old profit-sharing ratio and debited to the capital accounts of the remaining, and new, partners in the new profit-sharing ratio.
- (b) *R's takeover of the motor vehicle*. The net book value as at 30 June 20X5 is debited to R's loan account. Note that the accumulated depreciation at 30 June 20X5 is £4,000 plus the depreciation charge for the first half-year (£600). See working (f).
- (c) *Gift to R of the office furniture*. Since this transfer is to be a gift, the net book value cannot be debited to R's loan account but instead is debited to P and Q in the ratio of 5 : 3. The complete journal entry is:

Appendix: An extended example of partnership accounts

	<i>Dr</i>	<i>Cr</i>
	£	£
Fixtures and fittings		
Accumulated depreciation	650	
P current account	219	
Q current account	131	
Fixtures and fittings, at cost		1,000

- (d) The balances on R's current and capital accounts are transferred to his loan account.

# 11

## Limited company accounts

### Introduction

First, we introduce some of the structural and legal aspects of limited companies. The subjects covered are: limited liability; dividends; the various types of share capital; public and private companies; and listed and unlisted companies. A good knowledge of this material will help you to understand many of the features of accounting for limited companies.

In the second part of the chapter we describe and explain the items in the financial statements which are specifically related to the accounts of limited companies. We then go on to show how to prepare the financial statements of a limited company. Finally we outline the basis of taxation in the accounts.

### Learning objectives

At the end of this chapter, after completing the checkpoint questions and exercises, you should be able to:

- explain what is meant by limited liability;
- define a dividend and explain how the amount of the proposed dividend is expressed;
- describe the various types of share capital and discuss their characteristics;
- distinguish between private and public, and quoted (or listed) and unquoted companies;
- explain the differences between the financial statements of sole traders and those of limited companies and prepare the profit and loss account and balance sheet of a limited company;
- explain the nature and treatment of taxation in limited company accounts.

### 11.1 Structural and legal aspects: the nature of limited liability companies

Most firms in the UK are limited companies. The main reason for this is that sole traders and partners have unlimited liability for the debts of the firm. In other words, if the firm cannot pay its creditors in full the creditors may proceed against the owner(s) of the firm to obtain settlement. This could result in the owner(s) having to

sell personal assets – house, car, etc. – to raise the cash to settle the debts. A limited company is created by law. It is said to be incorporated. It is looked upon in law as a legal person, separate from its owners. The creditors are liabilities of the company, not of its owners. The owners of a limited company, on the other hand, have limited liability, i.e. the creditors can look only to the company for settlement; they do not have the right to proceed against the owners.

The ownership of the company is divided into shares, which may be of any denomination, for example £1 shares, 50 pence shares or £5 shares. The shares can be bought and sold (in the case of a quoted public company this may be done easily on a stock market).

### Key terms

■ The distinction between **quoted** (or listed) and **unquoted** (or unlisted) **companies** is not based in law. It depends on whether the shares of the company are traded on the Stock Exchange, i.e. are quoted, or listed. Because of the restriction on the offering of shares to the public, a private company cannot be a listed company. Therefore all listed companies must be public companies. However, public companies do not have to be quoted or listed; only a minority of public companies are listed.

Transferring shares from one shareholder to another does not affect the existence of the company. Transfers of shares are not recorded in the company's accounts.

The company is a legal entity separate from its owners (shareholders); it continues in existence indefinitely regardless of changes in shareholdings; for example, on the death of a shareholder the shares become the property of the shareholder's heirs, who then become the shareholders.

The liability of the shareholders is limited. If the company cannot pay its debts the creditors cannot require the shareholders to satisfy them from their private assets.

Most limited companies are owned by one person or a small number of people and the owners manage their own business. Large public companies may have thousands of shareholders and the company is managed on behalf of the owners by directors, who may have only a small number of shares, or none at all. There are many variations between these extremes, for instance a medium-sized company may have some directors who are major shareholders and some (perhaps accountants, marketing specialists, etc.) who have few, or no, shares.

Because of the separation of ownership and management (actual or potential) in limited companies the calculation of periodic profit becomes particularly important. We can no longer assume that the owner or owners of a business are directly in touch and in control of the day-to-day affairs of the company. The owners have to rely on the accounts in order to assess the success or otherwise of the business. The reporting of annual profits has an important part in accounting for stewardship.

Also under the law, dividends paid to shareholders may not exceed the profits earned by the company (in the current and previous years). In other words, the capital of the company must be maintained in order to provide some protection for creditors.

### Key term

■ The financial capital of the company must be maintained, so as to protect the interests of the creditors: this is **capital maintenance**. The capital may only be reduced by the making of losses or with the permission of the courts. If dividends were to be declared greater than the balance on the profit and loss account the equity capital would be reduced, as would the net assets figure, thus putting the creditors at risk.

### ? Checkpoint question

11.1 Why are limited companies so called?

## 11.2 Dividends

The shareholders receive their reward for investing in the company in the form of dividends. The directors, having considered the amount of profits available for dividends, the cash position of the company and so on, propose the payment of a certain amount of dividend, which may be expressed as so much per cent of the issued share capital, or as so many pence per share. Consider the following example (ignoring the effects of taxation).

### Example 11.1

A Co. Ltd has issued share capital of 100,000 ordinary shares of £1 each. The directors decide to recommend a dividend of 10 per cent. The total amount of the dividend is 10 per cent of £100,000 which equals £10,000. A shareholder who held 200 shares would receive £20. Alternatively, the directors could have proposed a dividend of 10 pence per share which amounts to  $10p \times 100,000$  which also equals £10,000.

### ? Checkpoint question

11.2 How do shareholders receive their reward for investing in a limited company? What is the limitation on the maximum they may receive?

## 11.3 Share capital

The amount of share capital which the company is allowed to issue and on which it has paid the appropriate duty is known as the authorised share capital. The amount of the capital which has been issued to shareholders is known as the issued capital.

The company may decide not to ask for full payment when shares are issued; it may for instance ask for 50p at the time £1 shares are issued, reserving the right to call up the remaining 50p at a later date. The total amount which has been asked for is known as the called-up capital, the balance being called the uncalled capital.

### Example 11.2

D Company Ltd has an authorised share capital of 200,000 shares of £1 each, of which 120,000 have been issued, 60p per share having been called-up. The position then is as follows:

Authorised share capital	£200,000
Issued share capital	£120,000
Called-up capital $120,000 \times 60p$	= £72,000
Uncalled capital $£120,000 - £72,000$	= £48,000

It may be that, at any given date, not all shareholders have paid all the calls. The amounts owing are known as calls in arrear, while any monies paid before the due date are known as calls in advance. The amount actually paid is known as the paid-up capital.

### Example 11.3

If, in Example 11.2, a shareholder still owed £500 then the position would be:

Paid-up capital	£72,000 – £500 = £71,500
Calls in arrear	£500

It is rare, in practice, for shares not to be fully paid.

## Types of share capital

The two main types of share are preference shares and ordinary shares. Holders of both types of share are members of the company.

### Preference shares

The most important feature of this type of share is that the holder is entitled to a specified rate of dividend out of profits before the ordinary shareholders receive anything.

### Example 11.4

B Company Ltd has issued share capital comprising 100,000 8 per cent preference shares of £1 each and 1,000,000 ordinary shares of 50p each. Before recommending a dividend on the ordinary shares, the directors must allow for a preference dividend of 8 per cent of £100,000, i.e. £8,000, so that if the profits available for dividend amounted to, say, £10,000 only £2,000 would be available for a dividend on the ordinary shares.

Preference shares may be cumulative or non-cumulative. If the available profits in any one year are insufficient to cover the specified rate of dividend, any deficiency on cumulative preference share dividend will be carried forward as arrears of dividend; these arrears must be paid before the ordinary shareholders receive anything. In the case of non-cumulative shares the deficiency is not carried forward and is therefore lost to the preference shareholders. An example will help to make this distinction clearer.

### Example 11.5

C Company Ltd has issued the following shares:

100,000	£1 ordinary
20,000	10% £1 preference

Profits available for dividend are

Year 1	£5,000	Year 2	£1,200	Year 3	£6,000
--------	--------	--------	--------	--------	--------

If the preference shares were cumulative, dividends would be as follows (assuming that all available profits are paid out):

	Year 1	Year 2	Year 3
	£	£	£
Profits	<u>5,000</u>	<u>1,200</u>	<u>6,000</u>
Preference dividend	<u>2,000</u>	<u>1,200</u>	<u>2,800</u>
Ordinary dividend	<u>3,000</u>	<u>–</u>	<u>3,200</u>
	<u>£5,000</u>	<u>£1,200</u>	<u>£6,000</u>

The preference dividend in year 3 is made up as follows:

	£
Arrears	800
10% normal dividend	<u>2,000</u>
	<u>£2,800</u>

If the preference shares were non-cumulative, dividends would be:

	Year 1	Year 2	Year 3
	£	£	£
Profits	<u>5,000</u>	<u>1,200</u>	<u>6,000</u>
Preference dividend	<u>2,000</u>	<u>1,200</u>	<u>2,000</u>
Ordinary dividend	<u>3,000</u>	<u>–</u>	<u>4,000</u>
	<u>£5,000</u>	<u>£1,200</u>	<u>£6,000</u>

Another variation of dividend rights is that preference shares may be ‘participating’. Such shares have a fixed minimum annual dividend, often cumulative, plus an additional, variable dividend which is calculated in relation to the size of the ordinary dividend by means of some specified formula.

### Ordinary shares

All companies have ordinary shares, whereas relatively few have preference shares. Ordinary shares have no right to a fixed rate of return, but they do have a right to any profits which remain after payment of any preference dividend. This is known as the ‘equity interest’ in the company and the shares are often referred to as equity shares. Usually, some part of the profits available to ordinary shareholders is retained and reinvested in the company on behalf of the ordinary shareholders. The shareholders cannot increase the size of a dividend proposed by the directors. They may be able, at a general meeting, to reduce the dividend. As you may imagine, this happens very seldom.

### ? Checkpoint question

11.3 Identify and describe the two main types of shares.

## 11.4 Public and private companies

A company may be a public company or a private company. There are far more private than public companies, many of the private companies being small.

A public company is one that:

- states in its Memorandum of Association that it is to be a public company;
- has a minimum allotted share capital of £50,000; also, at least one-quarter of the nominal value of the allotted shares and the whole of any share premium must be paid up.

(The Memorandum of Association is one of two important documents which must be lodged with the Registrar of Companies; it deals with the relationship between the company and the outside world. The other document is the Articles of Association which contains the rules for the internal relationships of the company.)

A private company is any company which is not a public company. Private companies are not allowed to offer their shares or debentures to the public.

### ? Checkpoint questions

11.4 Distinguish between public and private companies.

11.5 Explain what is meant by a quoted (or listed) company. Is 'quoted' or 'listed' company a legal term?

## 11.5 Limited companies: financial statements

The preparation of the financial statements of limited companies does not present many new problems. Accrued and prepaid expenses, depreciation, bad and doubtful debts and other similar adjustments are dealt with in the same way as for a sole trader. The unique features of the financial statements of limited companies arise because of the way in which a limited company is owned, through the owners holding shares in the company. Both the profit and loss account and the balance sheet are affected, especially the capital (equity) section of the balance sheet. The legal requirements of the Companies Acts also affect both the content and the form of the accounts. We have already seen that the accounts of sole traders and partnerships do not have these particular features.

The preparation of financial statements for publication under the Companies Acts involves complex rules which are outside the scope of this introductory text. We will be concentrating on accounts prepared for management purposes rather than for publication. In this way you will be able to understand the principles without having to learn the very detailed requirements of the Acts. For the same reason we shall not be dealing with the detailed requirements and recommendations of the former Accounting Standards Committee, which were published as Statements of Standard Accounting Practice (SSAPs), and the Financial Reporting Standards (FRSs) issued by the committee's successor, the Accounting Standards Board. We shall, however, refer to the Acts and Standards where necessary to explain why something is done in a certain way.

### Contents of the financial statements

Example 11.6 shows the profit and loss account and balance sheet of a trading company. When you study it you will see a number of features which are different from



the accounts of a sole trader. You will find it helpful to refer to the example as you read through the text. In practice, much of the required information is provided by way of notes to the financial statements. We show the essential information on the face of the profit and loss account and balance sheet to make it easier for you to follow without having to refer to separate notes. The law requires a great deal of additional information to be provided by way of notes. This sort of detail is outside the scope of this text.

### The profit and loss account

The profit and loss account is, in many respects, the same for a limited company as it would be for a sole trader, but there are some items which are different.

The remainder of this section defines and describes those items which you can expect to find in a limited company's profit and loss account.

#### Key terms

■ **Turnover** includes the revenue earned by the company from the sale of goods and the provision of services. It replaces the term 'sales' which was previously used.

■ If there were **other income** it would have to be divided into **other operating income** and **investment income**. Other income would include royalties and rent receivable, for example. Investment income would be derived from investments by the company, for example investments in shares in other companies.

■ **Directors' emoluments** are the amounts paid or payable to the directors of the company in respect of the accounting year. (In addition, under the law, certain information must be given about employees' remuneration.)

■ Limited companies are required to have their accounts audited in respect of each accounting period. A firm of accountants (or an individual accountant) qualified to undertake audits carries out a number of checks on the figures in order to establish whether, in their opinion, the financial statements show a 'true and fair view' of the company's results for the period and its financial position at the end of the period. **Auditors' remuneration** represents the amount payable to them in respect of the period of the accounts. (Some small firms are not required to have an audit.)

■ **Debenture interest** is the interest payable on the debenture loans. The interest is an expense and is payable whether or not a profit is made (unlike dividends). (A sole trader or partnership could also issue debentures.)

■ For a sole trader or partnership, taxation is a matter for the owner or owners and is assessed on their total income from all sources. A limited company is a separate entity, liable to **corporation tax** on its profits; taxation is therefore shown as a deduction after arriving at the figure of profit. Taxation is not an expense in the ordinary accounting sense but is an appropriation (or use) of profit. In this case, the appropriation is made by the government, not the directors. (We outline the basis of the charge to tax in section 11.7.)

■ In limited companies it is the practice to appropriate some of the profit as **dividends** payable to the shareholders. Such dividends are then distributed to the shareholders as their reward for investing in the company. The dividends shown in the accounts are in respect of the year: already paid (known as interim dividends); or proposed (final) dividends. The proposed dividend will be paid in the following year if approved by the

shareholders at the company's annual general meeting. A dividend is an appropriation (or use) of profit, not an expense. That is, it is not incurred in earning revenue.

■ **Unappropriated profit for the year** represents the balance of profit after deducting taxation payable, transfers to reserves and dividends; it is added to 'Unappropriated profit brought forward' (from previous years) to give 'Unappropriated profit carried forward' (to next year) which forms part of 'Capital and reserves', that is, owner's equity (see balance sheet).

■ In addition, if there were any unusual items outside the company's normal business they would have to be shown separately, if material, as **exceptional items**.

### The balance sheet: capital and reserves

This section is different from the equivalent section in sole trader or partnership accounts because the company is a legal entity; it is separate and distinct in law from its owners. It is said to be incorporated. Nevertheless, the total of capital and reserves represents the owners' equity in the firm. In effect it is the amount of the shareholders' claim on the company's assets. In fact, one of the alternative formats (or layouts) allowed by the Act includes capital and reserves under liabilities (although shown separately from other liabilities) despite not falling under the normal definition of liability. We want to emphasise that, despite the title 'reserves', this is a specialised use of that word in accounting. You will have seen that 'reserves' in accounting terms appear on the credit side: they therefore cannot represent assets. It follows that these figures cannot be used to pay for anything: they are liabilities which are owed to the shareholders by the firm.

There follow definitions and descriptions in respect of balance sheet items.

#### Key terms

■ **The total of capital and reserves** represents owners' equity in the firm: in effect, the amount of the shareholders' claim on the firm's assets.

■ **Called-up share capital** represents the 'nominal' (or face) value of the shares issued to shareholders.

■ **Share premium account** represents the difference between the sums received from the issue of shares and their nominal value. An established, successful company will be able to issue shares at a price higher than the nominal value; the law requires that the excess be shown separately. The company may not distribute this reserve by way of dividend. It must be shown separately under reserves.

■ **Revaluation reserve** arises if the company revalues any of its assets (usually land and buildings) in its balance sheet. The difference between the valuation and cost must be credited to this reserve account. For example, suppose the land and buildings of B Co. Ltd are shown in the balance sheet at cost £500,000. The asset is then revalued, giving a value of £850,000 and the directors decide to include this amount in the balance sheet. Then

Debit	Land and buildings	£350,000*
Credit	Revaluation reserve	£350,000

\* £(850,000 – 500,000)

It may not be treated as profit, as it is not realised. It follows that this amount may not be used for dividends. The revaluation reserve must be shown separately under reserves.

■ **Profit and loss account** represents earnings retained in the business, i.e. not paid out in dividends. This balance must be shown separately under reserves.

■ **Assets and liabilities: fixed assets** are the same as for the sole trader. The cost (or valuation) figure should be shown together with accumulated depreciation from the date of purchase to the balance sheet date. **Current assets** are the same as for a sole trader. **Current liabilities** are amounts owing and payable within one year of the balance sheet date. In the Act these items are described as ‘Creditors: amounts falling due within one year’.

■ **Current corporation tax:** limited companies in the UK are subject to a tax on profits, the corporation tax. It is deducted from the profit and, although it is not payable until after the balance sheet date, is shown as owing to the Inland Revenue at that date, in order to comply with the matching convention (that is, it is shown in the same period as the profit on which it is charged).

■ **Proposed dividends** represents dividends proposed by the directors but not paid at the balance sheet date. Because the company is a separate legal entity, the owners cannot simply draw part or all of the available profits but instead receive dividends. The amount appears as a creditor because it is, in effect, owed by the company to the shareholders once it is declared and approved.

■ **Net current assets:** notice that, when using the vertical format, current liabilities are deducted from current assets to arrive at the figure of ‘net current assets’.

■ **Creditors, amounts falling due after more than one year:** under the Act these items must be shown under a separate heading.

■ **Debenture loans:** companies may raise long-term capital by means of issuing securities called debentures, giving the holders the right to receive a fixed sum of interest each year and repayment, normally, of a fixed capital sum at a given date (or between given dates) or on liquidation of the company.



### Checkpoint questions

**11.6** List and explain the items which you might expect to see in the capital and reserves section of a limited company balance sheet.

**11.7** Explain the following balance sheet items:

- (a) revaluation reserve;
- (b) profit and loss account.

**11.8** What is included in the figure of dividends in the profit and loss account? What part of this figure also appears in the balance sheet? Where does it appear and why?

**11.9** What is the name of the tax on profits which is applied to limited companies? Where does it appear in the financial statements?

## 11.6 Preparation of financial statements

The preparation of the financial statements of limited companies is demonstrated through the use of a worked example.

### Example 11.6

The following balances have been extracted from the books of A.B. Co. Ltd at 31 December 20X2:

	£	£
Called-up share capital:		
900,000 Ordinary shares of £1 each		900,000
450,000 6% Preference shares of £1 each		450,000
Share premium account		255,000
Profit and loss account		720,000
10% Debenture loan		900,000
Debtors – trade	365,000	
Creditors – trade		585,000
Cash in bank and in hand	25,000	
Freehold property at cost	2,400,000	
Plant and machinery at cost	2,850,000	
Stock	450,000	
Provision against doubtful debts		30,000
Accumulated depreciation:		
Freehold property		600,000
Plant and machinery		1,050,000
Directors' emoluments	260,000	
Auditors' remuneration	15,000	
Administrative expenses	400,000	
Selling and distribution expenses	525,000	
Debenture interest	90,000	
Sales		6,045,000
Cost of goods sold	<u>4,155,000</u>	
	<u>£11,535,000</u>	<u>£11,535,000</u>

The following information is to be taken into account:

- Depreciation on plant and machinery is to be provided at 10 per cent per annum on cost.
- The provision against doubtful debts is to be adjusted to 2.5 per cent of debtors.
- Corporation tax based on the year's profit is calculated to be £75,000. The tax will be paid during 20X3.
- The directors have decided to:
  - pay the preference dividend for the year, payment to be made during January 20X3;
  - recommend a dividend of 10 pence per share on the ordinary shares.
- Freehold property:
  - At 31 December 20X2 the freehold property (land and buildings) was valued at £3,000,000. The directors have decided to bring this amount into the balance sheet.
  - Depreciation at the rate of 5 per cent per annum is to be provided for the year on the buildings, which were valued at £2,000,000, the balance of the valuation figure for freehold property being in respect of the land.

The extended trial balance is shown in Figure 11.1.

	A	B	C	D	E	F	G	H	I	J
1	A.B. Co. Ltd extended trial balance									
2			Trial	balance		Adjustments		Profit & loss account		Balance sheet
3	Ordinary shares			900,000						900,000
4	Preference shares			450,000						450,000
5	Share premium			255,000						255,000
6										
7	P&L account			720,000				720,000		
8	Debenture			900,000						900,000
9	Debtors		365,000						365,000	
10	Creditors			585,000						585,000
11	Cash		25,000						25,000	
12	Freehold property		2,400,000		600,000				3,000,000	
13	Plant & machinery		2,850,000						2,850,000	
14	Stock		450,000						450,000	
15	Provision doubtful debts			30,000	20,875					9,125
16	Accumulated depreciation property			600,000		100,000				700,000
17	Accumulated depreciation plant & m/c			1,050,000		285,000				1,335,000
18	Directors' emoluments		260,000				260,000			
19	Auditors' remuneration		15,000				15,000			
20	Administration expenses		400,000				400,000			
21	Selling & distribution		525,000				525,000			
22	Debenture interest		90,000				90,000			
23	Sales			6,045,000				6,045,000		
24	Cost of goods sold		4,155,000				4,155,000			
25										
26	Depreciation plant & m/c				285,000		285,000			
27	Bad debts expenses					20,875		20,875		
28	Corporation tax				75,000	75,000	75,000			75,000
29										
30	Preference dividend				27,000	27,000	27,000			27,000
31	Ordinary dividend				90,000	90,000	90,000			90,000
32	Revaluation reserve					600,000				600,000
33	Depreciation buildings				100,000		100,000			
34			11,535,000	11,535,000	1,197,875	1,197,875	6,022,000	6,785,875	6,690,000	5,926,125
35	Profit for the year						763,875			763,875
36							6,785,875	6,785,875	6,690,000	6,690,000

**Figure 11.1** Extended trial balance for A.B. Co. Ltd

### Comments on the extended trial balance

- Row: 7 Opening balance brought forward.  
 12 Increase to valuation of property.  
 15 Provision for doubtful debts debited, decreasing provision.  
 16 Depreciation for the year added.  
 17 Depreciation for the year added.  
 25 Trial balance totals.  
 26 Depreciation expense for the year.  
 27 Reduction in provision credited to profit and loss account.  
 28 The debit of £75,000 represents the appropriation of profit; the credit represents the amount owing to the Inland Revenue.  
 30 The debit is the deduction from profit and loss account; the credit is the amount owed to the shareholders.  
 31 As for row 30.  
 32 The amount of revaluation reserve needed to balance the increase in value of the property (£3,000,000 – 2,400,000).  
 33 The depreciation expense in respect of buildings.  
 34 Totals of the columns.  
 35 The balance of unappropriated profit carried forward.

The following are the profit and loss account of A.B. Co. Ltd for the year ended 31 December 20X2 and the balance sheet as at that date.

**Profit and loss account for the year ended 31 December 20X2**

	£	£	£
Turnover			6,045,000
Cost of goods sold			<u>4,155,000</u>
Gross profit			1,890,000
Directors' emoluments		260,000	
Auditors' remuneration		15,000	
Administrative expenses		400,000	
Selling and distribution expenses		525,000	
Depreciation: buildings	100,000		
plant and machinery	<u>285,000</u>	385,000	
Debenture interest		<u>90,000</u>	
		1,675,000	
Less: Reduction in provision for doubtful debts		<u>20,875</u>	<u>1,654,125</u>
Operating profit before taxation			235,875
Corporation tax			<u>75,000</u>
Profit after taxation			160,875
Unappropriated profit brought forward			<u>720,000</u>
			880,875
Preference dividend		27,000	
Proposed ordinary dividend		<u>90,000</u>	<u>117,000</u>
Unappropriated profit, carried forward			<u>£763,875</u>

**Balance sheet as at 31 December 20X2**

	£	£	£
Fixed assets	<i>Cost or valuation</i>	<i>Accumulated depreciation</i>	
Land and buildings at valuation	3,000,000*	700,000†	2,300,000
Plant and machinery at cost	<u>2,850,000</u>	<u>1,335,000‡</u>	<u>1,515,000</u>
	<u>5,850,000</u>	<u>2,035,000</u>	3,815,000
Current assets			
Stock		450,000	
Debtors – trade	365,000		
Less: Provision for doubtful debts	<u>9,125#</u>	355,875	
Cash at bank and in hand		<u>25,000</u>	
		830,875	
Less: Current liabilities			
Creditors – trade	585,000		
Proposed dividends	117,000		
Current corporation tax	<u>75,000</u>	<u>777,000</u>	
Net current assets			<u>53,875</u>
Total assets less current liabilities			3,868,875
Creditors: amounts falling due after more than one year			
10% Debenture loan			<u>900,000</u>
			<u>£2,968,875</u>

\* (2,400,000 + 600,000) † (600,000 + 100,000) ‡ (1,050,000 + 285,000) # (30,000 – 20,875)

Capital and reserves	
Called-up share capital	
900,000 Ordinary shares of £1 each	900,000
450,000 6% Preference shares of £1 each	450,000
Share premium account	255,000
Revaluation reserve	600,000
Profit and loss account	<u>763,875</u>
	<u>£2,968,875</u>

As we explained earlier, we have not shown the statements in published form. The figures are displayed so as to help you understand the principles.

## 11.7 Taxation in company accounts

The present system of corporation tax in the UK is known as the imputation system. Under this system companies are liable to pay corporation tax on all chargeable profits, at a single rate of tax. ‘Chargeable profit’ means the whole of a company’s income (except for dividends received from other UK companies). Capital gains are also taxable. If a company makes a loss for tax purposes it may deduct the amount of the loss from any other income it has for the same year, or carry it forward and deduct it from profits made later. It may also carry the loss back and deduct it from the profits of the three previous years. The corporation tax payable in any one year may therefore be affected by the situation in other years. This can mean that looking at the net profit after tax may be misleading when trying to judge a company’s performance.

### Calculation of chargeable (i.e. taxable) profit

While taxable profit is based on the accounting profit, there are a number of differences between the two. This arises because the rules which govern the computation of taxable profit are different in some respects from the principles which govern the preparation of financial statements. The differences are set out below.

The following are the main items which have to be added to the profit shown in the accounts:

- Expenses which are not allowed as deductions for tax purposes, for instance entertaining expenditure, some types of donations and subscriptions, and expenditure not wholly and necessarily incurred in the course of trade.
- Depreciation, which is not allowed as a deduction for tax purposes. It is replaced by capital allowances, which are calculated on the basis laid down in the tax regulations.
- Capital expenditure: the definition of capital expenditure under the tax law is somewhat different from that adopted in accounting practice; as a result some items which may be treated as expenses in the accounts may be added back to the profit for tax purposes.
- Losses on sales of fixed assets: these are in effect depreciation underprovided (as explained in Chapter 6); these losses are therefore replaced by adjustments to the capital allowances.

The following are the main items to be deducted from the profit in the accounts:

- Capital allowances which replace depreciation.
- Profits on sale of fixed assets which are, in effect, over-provisions of depreciation.
- Dividends received from UK companies. The profits from which they are declared have borne corporation tax in the hands of the company paying the dividend.



### Checkpoint question

**11.10** Outline the main adjustments which have to be made to the accounting profit in order to arrive at the chargeable profit for a period.

### Summary

In this chapter we described and explained the structural and legal aspects of limited companies and explained what is meant by limited liability. We defined 'dividend', and explained the limitations on the amount declared and how it is expressed. We also described the various types of share capital and discussed their characteristics. We also distinguished between private and public companies, and quoted (listed) and unquoted (unlisted) companies. We went on to explain the differences between the financial statements of sole traders and those of limited companies, but without attempting to deal with accounts for publication. We also defined and explained the items which are specific to the financial statements of limited companies. We then went on to show how to prepare the financial statements of a limited company, again for management purposes rather than for publication. Our purpose was to help you to understand the principles involved without getting bogged down in technicalities related to the law (and accounting standards).

Finally, we outlined the basis of corporation tax and the main differences between accounting profit and chargeable profit for tax. We treated the topic in as non-technical a way as possible, with the aim of helping you to understand this important feature of the accounts of limited companies rather than teaching you how to calculate tax liabilities.

### Review questions

- 11.1** 'Many people (not only students but also business people) think that 'capital' is an asset, or even actual money, which can be spent on new investments.' Discuss this statement.
- 11.2** 'The differences between the accounts of sole traders, partnerships and limited companies arise from the way in which firms are owned, not because of the law.' Discuss.
- 11.3** Owner's equity is a claim on the company's assets, as are the total liabilities. Explain the similarities and differences between the two.
- 11.4** Explain the nature of the charge for corporation tax in the accounts of a limited company. Is it an expense, or is it something else entirely?





## Exercises

**Solutions to exercises whose number is in colour can be found at the end of the book.**

**11.1** The following accounting information relates to Past Limited for the year to 30 June 20X3:

### Trial balance at 30 June 20X3

	£	£
Share capital		200,000
Freehold land and building at cost	350,500	
– accumulated depreciation at 1 July 20X2		14,040
Plant and machinery at cost	185,000	
– accumulated depreciation at 1 July 20X2		118,000
Stocks at 1 July 20X2	165,000	
Purchases	205,000	
Sales		702,000
Wages	254,440	
Administrative expenses	44,500	
Selling expenses	24,000	
Establishment expenses	30,000	
Debtors	50,000	
Provision for doubtful debts at 1 July 20X2		2,500
Creditors		33,300
Bank balance	15,900	
Profit and loss account		159,500
Debenture loan (10%)		100,000
Loan interest paid	5,000	
	<u>£1,329,340</u>	<u>£1,329,340</u>

*Notes:*

- The stocks held at 30 June 20X3 are valued at £120,500.
- Adjustments are required for the following accrued expenses:
  - loan interest due of £5,000;
  - rent of £8,000.
- Administration expenses paid include a payment in advance of £1,200.
- Depreciation is to be charged for the year at 10 per cent of the cost of plant and machinery and at 2 per cent of the cost of buildings. The cost of the freehold land was £200,000.
- The provision for doubtful debts is to be adjusted to 15 per cent of the debts outstanding at the year end.
- The directors have decided to recommend a dividend of 10 per cent on the ordinary shares.

Prepare a profit and loss account and balance sheet from this information.

**11.2** The following is the trial balance of Anne Smith Ltd at 31 December 20X3:

	£	£
Share capital		1,350,000
Share premium account		428,000
Loan capital		180,000
Freehold land and buildings	850,000	
Leasehold land and buildings	440,000	
Plant and equipment	2,940,000	
Accumulated depreciation:		
Freehold land and buildings		160,000
Leasehold land and buildings		320,000
Plant and equipment		1,108,000
Stocks at cost	483,000	
Debtors and prepaid expenses (trade debtors £220,000)	224,000	
Cash	1,000	
Creditors and accrued expenses		389,400
Bank overdraft		7,600
Sales		3,960,000
Cost of goods sold	2,420,000	
Other expenses	564,000	
Dividends paid	12,000	
Interest payable	9,000	
Directors' remuneration	500,000	
Profit and loss account		<u>540,000</u>
	<u>£8,443,000</u>	<u>£8,443,000</u>

*Notes:*

- The issued share capital is made up of 1,350,000 ordinary shares of £1 each; the authorised share capital is 2,000,000 ordinary shares of £1 each.
- The loan capital is made up of £180,000 10% secured debenture stock, repayable 20X6/X8.
- No adjustment has been made for interest for the half-year to 31 December 20X3 not yet paid.
- Provide for an audit fee of £10,000.
- Provide for depreciation for the year as follows:

	£
Freehold land and buildings	20,000
Leasehold land and buildings	40,000
Plant and equipment	<u>280,000</u>
	<u>£340,000</u>

- Create a provision for doubtful debts of 5 per cent of trade debtors.
- The directors recommend a final dividend of 2p per share.
- Ignore taxation.

*Required:*

Balance sheet as at 31 December 20X3 and profit and loss account for the year ended 31 December 20X3.

**11.3** The trial balance of Alan Jones & Co. Ltd, a trading company, as at 31 December 20X1 was as follows:

	£	£
Profit and loss account		120,000
Ordinary shares of £1 each		1,000,000
Share premium account		80,000
Land and buildings at cost	800,000	
Motor vehicles at cost	400,000	
Creditors – trade		300,000
Cash at bank	20,000	
Stock at cost as at 1 January 20X1	500,000	
Sales		3,200,000
Purchases	1,900,000	
Overhead expenses	600,000	
Debtors – trade	700,000	
Accumulated depreciation – motor vehicles		200,000
Provision against doubtful debts		20,000
	<u>£4,920,000</u>	<u>£4,920,000</u>

The following information is relevant:

1. Stock as at 31 December 20X1, at cost, amounted to £300,000.
2. Bad debts of £10,000 are to be written off.
3. The provision against doubtful debts is to be adjusted to 5 per cent of debtors.
4. Depreciation is to be provided on motor vehicles at the rate of 25 per cent per annum on the reducing balance.
5. Depreciation is to be provided on the buildings at the rate of 2 per cent per annum on £600,000; the balance of the figure of £800,000 relates to the land.
6. Provision is to be made for an audit fee of £10,000.
7. Corporation tax based on the year's profit will be £100,000 and will be paid during 20X2.
8. The directors propose to pay a dividend of 10 per cent on the ordinary share capital.

Prepare the profit and loss account for the year ended 31 December 20X1 and the balance sheet as at that date, in good form, for use by the directors.

**11.4** The trial balance of van der Pant Ltd, a trading company, as at 31 December 20X0 was as follows:

	£	£
Sales		4,500,000
Purchases	3,000,000	
General expenses	840,000	
Debenture interest	25,200	
Debentures, 7%		360,000
Ordinary share capital		1,200,000
Share premium		30,000
8% preference shares		300,000
Fixtures and fittings at cost	480,000	
Motor vehicles at cost	210,000	
Profit and loss account		55,800
Creditors, trade		517,200
Debtors, trade	1,500,000	

Provisions for depreciation:		
Fixtures and fittings		60,000
Motor vehicles		30,000
Bank	31,800	
Stock as at 1 January 20X0	900,000	
Directors' salaries	123,000	
Directors' current accounts		57,000
	<u>£7,110,000</u>	<u>£7,110,000</u>

*Notes:*

- The stock on hand at 31 December 20X0 was £1,200,000.
- The preference dividend for 20X0 will be paid on 10 January 20X1.
- Corporation tax based on the year's profit will be £240,000 and will be paid on 1 October 20X1.
- Directors' fees of £87,000 are to be provided in respect of the year.
- A dividend is to be proposed of 25 per cent on the ordinary shares.
- Depreciation is to be provided for the year:

fixtures and fittings	£96,000
motor vehicles	£42,000

Prepare the profit and loss account for the year ended 31 December 20X0 and the balance sheet as at that date.

- 11.5** The following balances have been extracted from the books of Eksweye Co. Ltd at 31 December 20X2:

	£	£
Called-up share capital		
600,000 Ordinary shares at £1 each		600,000
300,000 6% Preference shares at £1 each		300,000
Share premium account		120,000
Revaluation reserve		100,000
Profit and loss account		330,000
5% Debenture loans		600,000
Debtors	400,000	
Creditors		375,000
Bank balance		150,000
Freehold property at valuation	1,600,000	
Plant and machinery at cost	1,900,000	
Stock	300,000	
Cash	10,000	
Provision for doubtful debts		20,000
Provision for depreciation:		
Land and buildings		400,000
Plant and machinery		700,000
Directors' remuneration	250,000	
Other administrative expenses	185,000	
Selling and distribution expenses	250,000	
Debenture interest	30,000	
Sales		4,030,000
Cost of goods sold	2,800,000	
	<u>£7,725,000</u>	<u>£7,725,000</u>

The following information is to be taken into account:

1. The value of the buildings is estimated at £800,000. The balance of the figure for property represents the site. Depreciation at 5 per cent per annum is to be provided on the value of the buildings.
2. Depreciation on plant and machinery is to be provided at 10 per cent per annum on cost.
3. The provision for doubtful debts is to be adjusted to 2.5 per cent of debtors.
4. Corporation tax based on the year's profit is calculated to be £50,000. Tax will be paid during 20X3.
5. The audit fee for the year is estimated to be £15,000.
6. The directors have decided:
  - (a) to pay the preference dividend for the year, payment to be made during January 20X3;
  - (b) to recommend a dividend of 10 pence per share on the ordinary shares.

Prepare the profit and loss account of Eksweye Co. Ltd for the year ended 31 December 20X2 and the balance sheet as at that date.

**11.6** The following is the trial balance of Baxter Ltd as at 31 December 20X3:

	£	£
Called-up share capital		4,000,000
Profit and loss account		329,600
8% Debenture loan		800,000
Plant and machinery at cost	5,840,000	
Fixtures and fittings at cost	704,000	
Accumulated depreciation		
– plant and machinery at 1.1.X3		1,168,000
– fixtures and fittings at 1.1.X3		236,400
Debtors	432,000	
Bad debts written off during the year	31,000	
Bank	112,000	
Trade creditors		537,000
Sales		6,400,000
Stock	1,232,000	
Cost of goods sold	3,616,000	
Wages and salaries	608,000	
Distribution expenses	265,600	
General expenses	598,400	
Debenture interest paid	32,000	
	<u>£13,471,000</u>	<u>£13,471,000</u>

The following information is available:

1. Depreciation is to be provided on fixtures and fittings at the rate of 10 per cent on cost; on plant and machinery it is to be provided at the rate of 20 per cent on the reducing balance.
2. The directors have decided to make a provision of 10 per cent of debtors in respect of doubtful debts.
3. Audit fees are estimated to be £20,000.
4. Corporation tax on the profit for the year is calculated to be £48,000.
5. The directors have decided to recommend a dividend of 5 per cent on the called-up share capital.
6. Provision is to be made for outstanding debenture interest.

Prepare Baxter Ltd's profit and loss account for the year ended 31 December 20X3 and balance sheet as at that date.

11.7 The trial balance of Clarion Ltd at 31 March 20X6 was as follows:

	£	£
Issued share capital		400,000
Share premium account		40,000
Profit and loss account at 1.4.X5		82,000
Land and buildings at cost	600,000	
Office equipment at cost	410,000	
– accumulated depreciation at 1.4.X5		89,000
Motor vehicles at cost	200,000	
– accumulated depreciation at 1.4.X5		37,500
Stock	250,000	
Sales		2,600,000
Cost of goods sold	1,100,000	
Wages and salaries	166,000	
Administrative expenses	261,200	
Selling expenses	190,000	
Debtors	266,000	
Provision for doubtful debts		25,000
Creditors		130,000
Bank	50,300	
Long-term loan		100,000
Loan interest	10,000	
	<u>£3,503,500</u>	<u>£3,503,500</u>

The following information is relevant:

1. Provision is to be made for audit fees of £16,000.
2. Depreciation is to be provided for the year at the rate of 15 per cent per annum on the cost of office equipment and at 25 per cent per annum on the cost of the motor vehicles.
3. The provision for doubtful debts is to be adjusted to 10 per cent of the debtors outstanding at 31 March 20X6.
4. The directors have had the land and buildings valued at £800,000 and they have decided to revalue them in the accounts.
5. Corporation tax of £100,000 is to be provided.
6. The directors propose to declare a dividend of 12 per cent.

Prepare the profit and loss account for the year ended 31 March 20X6 and the balance sheet as at that date.

# 12

## Consolidated accounts: an introduction

### Introduction

In this chapter we introduce the topic of consolidated, or group, accounts which have, by law, to be prepared when one company (the *parent* or *holding* company) controls one or more other companies, called *subsidiary* companies. Such subsidiaries may be wholly or partly owned; however, the degree of outside ownership (the *minority interest*) in the partly owned subsidiaries must not be so great as to prevent the parent company controlling the activities of its subsidiary.

Although we demonstrate the basic principles involved in the preparation of a set of group accounts, our main concern is to ensure that you understand how the accounts have been prepared and understand the significance of the special features of consolidated accounts.

We also briefly introduce the subject of associated companies. These are companies in which the investing company holds a substantial, but not dominant, interest such that it can influence but not control their activities. In such cases the company whose shares are held by the investing company is known as an *associated company* and, for reasons which we explain, both the law and accounting standards require special treatment for such investments in the accounts of the investing company.

### Learning objectives

At the end of this chapter, after completing the checkpoint questions and exercises, you should be able to:

- describe the nature of a group of companies and explain the reasons for using a group structure;
- define what is meant by wholly and partly owned subsidiaries;
- explain the principal accounting issues involved in the preparation of a set of consolidated accounts;
- prepare a set of simple consolidated accounts and understand its special features;
- understand the term 'goodwill' as used in accounting for groups of companies;
- define an associated company and understand the main accounting issues involved in accounting for an investment in an associated company.

## 12.1 The advantages of a group structure

A firm can expand by internal growth or through the acquisition of the whole or part of an existing business. Even when the whole of an existing business is acquired, the acquiring firm can, if it so wishes, incorporate the individual new assets and liabilities within its own books, but where the business acquired is itself a limited company the almost universal practice is to retain the identity of the acquired company, the subsidiary, in which case the assets shown in the books of the parent company are the shares acquired and not the separate underlying assets and liabilities.

### Key terms

■ A **group of companies** exists when one company is able to control the affairs of one or more other companies. A **subsidiary company** is one which is controlled by another company (the parent or holding company).

There are a number of reasons for adopting this practice which can be categorised as convenience, risk avoidance, financial flexibility and marketing and operating factors.

- *Convenience.* The newly acquired subsidiary will normally be a party to numerous legal contracts. The closing of the subsidiary would mean that the ‘parent’ company would have to renegotiate these agreements.
- *Risk avoidance.* The new subsidiary remains a separate legal identity and hence its shareholders (now the parent company) retain limited liability. Hence, the parent company remains protected if the subsidiary fails, although in practice this advantage may be reduced if the parent company decides to guarantee the debts of the subsidiary either because the suppliers of finance insisted that they should or to protect the reputation of the parent company.
- *Financial flexibility.* Should the parent company wish to disinvest from or sell the acquired business, it would be easier to do so by selling shares in a company than the collection of assets and liabilities making up the business.
- *Marketing and operating factors.* The name of the subsidiary may well be of value in the market-place and the parent company might wish to preserve customer loyalty. Similarly it might want to retain the loyalty of staff who would remain employed by the subsidiary.

The above arguments have been related to the acquisition of a business but it can be seen that some of the advantages also apply to what can be termed internal growth, and so a company might set up a new company as its subsidiary to carry out a new line of business.

Partly owned subsidiaries are in a sense a special case. The creation of a partly owned subsidiary is the only practical way in which a company can, while maintaining control, share with others the ownership of a limited company.

### Key term

■ A **partly owned subsidiary** is one in which the company that controls it does not own all of its shares (otherwise it is a wholly owned subsidiary).



There are many reasons why the parent company would want to share the ownership of its subsidiary with others. These include the following:

- The desire to harness the commitment and enthusiasm of individuals and other companies whose contribution is essential to the effective operation of the subsidiary.
- The wish to spread risk.
- In the case of overseas subsidiaries, the sharing of ownership may be a legal requirement or, at the very least, highly desirable.

## ? Checkpoint questions

12.1 What is meant by a 'group of companies'?

12.2 Suppose that A Limited purchases the whole of the share capital of B Limited. What are the advantages of continuing to operate through B Limited rather than incorporating its assets and liabilities into A? Are there any disadvantages?

12.3 Suppose that X Limited, a manufacturing company, decides to start selling directly to the public by opening a chain of retail stores. What are the advantages and disadvantages of engaging in this new activity through a subsidiary company?

## 12.2 Why consolidate?

To see why the existence of a group of companies requires special accounting treatment, consider the following example.

Suppose that on 1 January year 1, two companies, H Limited and A Limited, started business and that, except for one factor, they were identical. The only difference is that A Limited carries on the trade itself while H Limited forms a subsidiary company, S Limited, to conduct the business. The only function of H Limited is to receive dividends from its subsidiary which are then paid to its shareholders. We will ignore taxation and assume that no expenses are incurred by H Limited. Let us assume that H Limited and A Limited each started with a capital of £10,000, that the trading profits are £1,000 per year, and that dividends of £200 are paid each year.

The three balance sheets as at 1 January year 1 were:

<i>H Limited</i>			
Share capital	<u>£10,000</u>	Shares in S Ltd	<u>£10,000</u>
<i>S Limited</i>			
Share capital	<u>£10,000</u>	Sundry assets	<u>£10,000</u>
<i>A Limited</i>			
Share capital	<u>£10,000</u>	Sundry assets	<u>£10,000</u>

The various profit and loss accounts for, say, year 8 are:

	<i>H Ltd</i>	<i>S Ltd</i>	<i>A Ltd</i>
	£	£	£
Profit from trading	–	1,000	1,000
Dividends received	<u>200</u>	<u>–</u>	<u>–</u>
	200	1,000	1,000
Less: Dividends paid	<u>200</u>	<u>200</u>	<u>200</u>
	–	800	800
Retained earnings, Start of year 8	<u>–</u>	<u>5,600</u>	<u>5,600</u>
End of year 8	<u>£ –</u>	<u>£6,400</u>	<u>£6,400</u>

The balance sheets as at the end of year 8 are:

	<i>H Ltd</i>	<i>S Ltd</i>	<i>A Ltd</i>
Sundry assets	–	16,400	16,400
Shares in S Limited, at cost	<u>10,000</u>	<u>–</u>	<u>–</u>
	<u>£10,000</u>	<u>£16,400</u>	<u>£16,400</u>
Share capital	10,000	10,000	10,000
Retained earnings	–	6,400	6,400
	<u>£10,000</u>	<u>£16,400</u>	<u>£16,400</u>

Now suppose that the shareholders of H Limited were presented only with the balance sheet and profit and loss account of that company. It is clear that they would receive an extremely misleading and incomplete description of the results of their investment. They would be given no indication of the profits earned by the business they, albeit indirectly, own. They would receive no information about how the funds which have not been distributed have been used. The information supplied to the shareholders of H Limited should be contrasted with that provided to the shareholders of A Limited.

It can be seen that, if no special steps were taken, the directors of companies could avoid the disclosure requirements of the Companies Act by creating a subsidiary company to conduct the business. One way of solving the problem is to ensure that the shareholders of H Limited are supplied with the accounts of S Limited. This approach is practicable in a simple case such as the one illustrated, but it would not be very helpful in cases where there are numerous subsidiaries.

## 12.3 Consolidated accounts

In general, a more useful approach is to produce a balance sheet and profit and loss account which cover the activities of the group as a whole. These accounts are known as consolidated accounts. This is a reasonable approach, for it recognises the fact that a group of companies represents an economic entity, i.e. a bundle of assets subject to common ownership.

There are, in practice, a number of complexities associated with the preparation of consolidated accounts, but in this chapter we shall concentrate on the basic principles, which are straightforward.

**Key term** ■ **Consolidated accounts** (or financial statements) show the results and position of the parent company and its subsidiaries as if they were a single entity.

There are two ways of preparing consolidated accounts – the *purchase* (or *acquisition*) method, which is the one that is almost always used in the UK, and the alternative, used somewhat more often in the United States, which is the *pooling* (or *merger*) method. In this book we will concentrate on the purchase method. As the name suggests, the merger method was designed to cover business combinations which were created by the merger of two companies of more or less equal size and value rather than the ‘takeover’ of one company by another. For a more detailed treatment see *Advanced Financial Accounting* by Lewis and Pendrill (details are in the further reading appendix).

## 12.4 Goodwill on consolidation

We introduced goodwill in Chapter 10 in the context of partnerships. There we observed that goodwill arises because, generally, the current economic value of the business will differ from the balance sheet total of assets and liabilities. When the current economic value is greater than the balance sheet value, the difference is known as goodwill. In order to concentrate on the main principles we will not deal in detail with situations where the book value is greater than the economic value. In practice such situations are rare because the book value of the assets would normally be written down to make them equal to their current economic value.

**Key term** ■ **Goodwill on consolidation** is the difference between the fair value of the purchase consideration and the sum of the fair values of the identifiable assets and liabilities as at the date of acquisition.

Goodwill, which in a sense always exists, only becomes an issue, in the case of a partnership, when there is a change in the way in which the ownership of the partnership is divided. In the case of limited companies goodwill becomes a relevant issue when a limited company purchases sufficient shares in another limited company to gain control or a significant degree of influence.

This can be best illustrated by a simple example. Suppose that on 1 January 20X2, H Limited purchased all the shares of S Limited for £170,000. The balance sheets as at that date were as follows:

	<i>H Ltd</i>	<i>S Ltd</i>
	£000	£000
Sundry assets	350	210
100,000 shares in S Limited	170	—
	<u>520</u>	<u>210</u>
Share capital, £1 shares	300	100
Retained earnings	100	40
	400	140
Sundry liabilities	120	70
	<u>520</u>	<u>210</u>

H Limited paid £170,000 for S Limited but acquired assets less liabilities with a book value of £140,000. A possible explanation for the difference is that the book value is understated, in which case the assets, and possibly the liabilities, should be revalued as at the date of acquisition. Company law requires this, but in most cases it will not explain the whole of the difference. For simplicity we will assume that the assets and liabilities of S Limited are recorded on its balance sheet at figures equal to their current economic values as at the date of acquisition.

So we must look for an additional explanation for the differences of £30,000 and this might succinctly be stated by observing, in the case of a successful business, that the value of the whole is more than the value of the sum of the parts, and in this case £30,000 represents the excess.

There are two ways of explaining what gives rise to goodwill which, although they may appear different, are actually no more than different ways of saying the same thing. One way of explaining goodwill is that the particular bundle of assets and liabilities which is shown by the balance sheet to constitute the business will in the future generate larger profits than would an exactly similar bundle of assets, newly brought together to carry out the same business.

The 'alternative' way of looking at this is to observe that there are reasons why the existing business will, all other things being equal, do better than the new business. Such reasons might include its reputation, the loyalty of its workforce or customers, or the knowledge and experience gained by those working for the business. These are all important assets but because they were not purchased at some time in the past for a measurable cost, they are not assets which are recorded on the balance sheet. Hence, on this interpretation, goodwill is the sum of all these important, but in balance sheet terms unmentionable, assets. The two interpretations are not different since the return from the existing business will be higher, as expressed as a percentage of the assets which appear on the balance sheet, because of the existence of the unrecorded, but nevertheless 'real', assets such as experience and reputation. Or to put it slightly differently, one cannot 'purchase' from new an identifiable bundle of assets which constitutes a successful business.

There are many factors which give rise to goodwill but they are almost all of a type whose value will fluctuate, hence so too will the value of goodwill. But it is sometimes possible to measure goodwill quite objectively, and that is when someone pays for it: when the company (or more strictly the shares which control the company) is purchased.

We will return later to the question of how to deal with the fluctuations in the value of goodwill, but at this stage we will return to our example to see how goodwill affects the consolidated accounts.

We stated earlier that the objective of a consolidated balance sheet is to describe the state of the group as a whole. In our example, therefore, it should show total tangible assets of £560,000 (£350,000 + £210,000) and total liabilities of £190,000 (£120,000 + £70,000). In addition, it must also recognise the existence of the additional asset of goodwill on consolidation.

The consolidated balance sheet can be prepared by replacing the cost of shares in the subsidiary shown in the parent company's balance sheet by the assets acquired plus the goodwill on consolidation less the liabilities taken over, i.e.:

	<i>H Ltd's balance sheet £000</i>		<i>Consolidated balance sheet £000</i>
Sundry assets	350	—	560
Shares in subsidiary	170		Debit £210K
	<u>520</u>	Goodwill on consolidation	Debit £30K
Share capital	300		<u>30</u>
Retained earnings	<u>100</u>		<u>590</u>
	400		300
Sundry liabilities	<u>120</u>		<u>100</u>
	<u>520</u>		400
			Credit £70K
			<u>190</u>
			<u>590</u>

Goodwill is the difference between the cost of the investment in the subsidiary and the value of the assets less liabilities at acquisition. But for practical reasons there is a more convenient way of calculating goodwill. In order to do this we should note that, by definition, owner's equity equals assets less liabilities.

**? Checkpoint questions**

**12.4** What is goodwill in the context of consolidated accounts? How can it be measured?

**12.5** In terms of the types of business in which they engage, what sorts of company are likely to produce very high values for goodwill on consolidation?

Hence the definition that goodwill is the difference between

- the cost of the investment and
- the value of the assets and liabilities as at the date of acquisition

can be reformulated to state that goodwill is the difference between

- the cost of the investment and
- owners' equity as at the date of acquisition.

The above adjustment made to produce the consolidated balance sheet can be expressed as follows:

	£	£
Cost of investment		170,000
Less: Owners' equity as at the date of acquisition		
– Share capital	100,000	
– Retained earnings	<u>40,000</u>	<u>140,000</u>
Goodwill		<u>30,000</u>

A useful systematic approach to preparing consolidated financial statements is based on the use of consolidated worksheets and what we have done so far can be expressed in a consolidated balance sheet worksheet as follows:

**Consolidated balance sheet worksheet**  
(All figures £000)

	<i>H Ltd</i>	<i>S Ltd</i>	<i>Sub- total</i>	<i>Adjustments</i>		<i>Consolidated balance sheet</i>
				<i>Dr</i>	<i>Cr</i>	
Sundry assets	350	210	560			560
Shares in S Ltd	170	–	170		170	–
Goodwill on consolidation				30		30
	<u>520</u>	<u>210</u>	<u>730</u>			<u>590</u>
Share capital	300	100	400	100		300
Retained earnings	100	40	140	40		100
	<u>400</u>	<u>140</u>	<u>540</u>			<u>400</u>
Sundry liabilities	120	70	190			190
	<u>520</u>	<u>210</u>	<u>730</u>	<u>170</u>	<u>170</u>	<u>590</u>

Now let us assume that the profits made by the two companies in 20X2 were H Limited £50,000, and S Limited £20,000, but that no dividends were paid. For simplicity, we assume that the profits resulted in increases in sundry assets, i.e. the sundry liabilities remain unchanged.

The balance sheets of the two companies at 31 December 20X2 are shown on the following consolidated worksheet:

**Consolidated balance sheet worksheet at 31 December 20X2**  
(All figures £000)

	<i>H Ltd</i>	<i>S Ltd</i>	<i>Sub- total</i>	<i>Adjustments</i>		<i>Consolidated balance sheet</i>
				<i>Dr</i>	<i>Cr</i>	
Sundry assets	400	230	630			630
Shares in S Ltd	170	–	170		170	–
Goodwill on consolidation				30		30
	<u>570</u>	<u>230</u>	<u>800</u>			<u>660</u>
Share capital	300	100	400	100		300
Retained earnings	150	60	210	40		170
	<u>450</u>	<u>160</u>	<u>610</u>			<u>470</u>
Sundry liabilities	120	70	190			190
	<u>570</u>	<u>230</u>	<u>800</u>	<u>170</u>	<u>170</u>	<u>660</u>

Note that the consolidation adjustment at 31 December 20X2 is the same as the one which applied at 1 January 20X2, the date of acquisition. This is because the adjustment relates to circumstances that applied at the date of acquisition and, as long as the goodwill is not written off (see below), the adjustment will remain constant for all future consolidated balance sheets.

The consolidated balance sheet of H Limited and its subsidiary company as at 31 December 20X2 is shown below, together with a commentary describing its various components:

**H Limited and its subsidiary**  
**Consolidated balance sheet as at 31 December 20X2**

	£000	
Sundry assets	630	← The total assets of the companies making up the group

Goodwill on consolidation	30	← <i>The difference between the cost of shares in the subsidiary company and the net book value of the subsidiary's assets less liabilities as at the date of acquisition</i>
	<u>660</u>	
Share capital	300	← <i>The share capital of the parent company</i>
Retained earnings	170	← <i>The retained earnings of the parent company plus the change in retained earnings in the subsidiary between the date of acquisition and the balance sheet date</i>
	<u>470</u>	
Sundry liabilities	190	← <i>The total liabilities of the companies making up the group</i>
	<u>660</u>	

When the parent company purchased the subsidiary company it simply acquired a bundle of assets and took over certain liabilities. It did not acquire any retained earnings. Hence it would be wrong to show the retained earnings at acquisition as part of the retained earnings of the group. The increase in retained earnings since acquisition is another matter. This represents profits which have been earned by the group and thus should be included in the retained earnings of the group.

The above discussion has been couched in terms of retained earnings. However, exactly the same principles apply to any other form of reserve. The reserves at acquisition are not added to the reserves of the group but are 'eliminated' in the goodwill adjustment. Changes in the reserves since acquisition, on the other hand, are reflected in the consolidated balance sheet.

The treatment of owners' equity in the consolidated balance sheet deserves special mention. The purpose of consolidated accounts is to disclose the position and financial performance of a single economic entity, the group of companies, as if it were a single company, so far as this is possible. Hence the share capital disclosed in the consolidated balance sheet is the share capital of the parent company because this records the funds that have been supplied to the group through the subscription of shares by its owners, the shareholders in the parent company. The share capital of the subsidiary is an intra-group item in that it is owned by the parent company. It does not represent funds subscribed by the shareholders of the parent company and hence it would not be correct to include the share capital of the subsidiary as part of the share capital of the group.

## 12.5 Goodwill – what to do with it

Goodwill on consolidation is a tricky sort of asset which makes accountants very uncomfortable. One reason for this is that it is in some respects a historical accident resulting from the way in which the group has developed. To take an extreme example, consider two companies which hold identical assets and face exactly the same prospects. If one company had reached the state through the acquisition of other companies it would, all other things being equal, 'display' an asset called goodwill in its group accounts whereas the other company which had developed purely through internal growth would not.

Goodwill just does not fit into the basic accounting model because it is a consequence of the valuation of the business as a whole. As pointed out earlier, it is difficult

to value the business as a whole other than at the time when it is acquired. Hence, even if individual assets and liabilities are revalued, the traditional accounting model does not allow for the incorporation of ‘internally generated’ goodwill in the balance sheet, which is why there would be differences between the balance sheets of the two hypothetical companies.

Not surprisingly, therefore, the debate about what to do with goodwill has raged for some time and continues to do so. Indeed, it may be that within the constraints of the traditional accounting model no satisfactory resolution is achievable.

There are basically four available options for dealing with goodwill. Goodwill can be:

1. retained as an asset unless and until there is evidence of a permanent fall in its value;
2. written off immediately on acquisition by reducing the reserves shown in the consolidated balance sheet (this will not generally affect the balance sheet of the parent company);
3. written off against the reserves not immediately but over a period which may be arbitrarily selected or be related to what is thought to be the effective life of the asset;
4. not written off but left on the face of the balance sheet as a deduction from owners’ equity – the ‘dangling debit’ method.

The accountancy profession has, at different times, come to different views about the treatment of goodwill. At one time the preferred UK option was to write it off immediately but to give companies the right to amortise it over a period of years. The position has changed and the ASB now believes that goodwill should be amortised over its useful life. This is not normally expected to exceed 20 years, but companies can argue that goodwill has a longer or even an indefinite life; in the latter case no amortisation would be required.

A number of reasons can be advanced to support this change, including the greater significance attached to goodwill in a world where assets such as knowledge and a skilled workforce, that do not appear on a balance sheet and so give rise to goodwill, are becoming increasingly important. This is all to the good, but does leave us with the problem of comparability with companies that have not been acquired and whose goodwill remains unreported on any balance sheet.

### ? Checkpoint question

**12.6** Explain why two groups of companies with exactly the same physical assets and liabilities and which have always generated the same operating profits and paid the same dividends might show different levels of reserve in the consolidated balance sheet.

## 12.6 Partly owned subsidiaries

We have so far dealt only with wholly owned subsidiaries, but a company can have a subsidiary even if it does not own all its shares. A basic accounting text is not the place to go into the legal rules for deciding whether one company is a subsidiary of another. For our purpose it is sufficient to identify the key criterion as control. If one company can control the affairs of another, then the first company is a parent and the other its subsidiary. Normally the existence of control is shown by the fact that the parent company owns a majority of the voting rights in the subsidiary, but control can be



exercised in other ways, for instance through the power to appoint a majority of the directors of the subsidiary.

## 12.7 Consolidated balance sheets

The basic principle is that the consolidated balance sheet should show the total assets and total liabilities of the group. Thus, for example, the total fixed assets shown on the consolidated balance sheet will be the same whether H owns 100 per cent or 51 per cent of the shares in S. In the case of a partly owned subsidiary the total pool of assets less liabilities has been partly financed by the ‘other shareholders’ in the subsidiary company, and this source must be shown on the face of the consolidated balance sheet where it is usually described as a *minority interest*.

**Key term** ■ **Balance sheet minority interest** is the proportion of the capital and reserves of the subsidiary companies which relates to the shares in those companies not held by the parent company.

We introduce this topic by means of a simple example. The balance sheets of H Limited and S Limited as at 31 December 20X2, the date on which H acquired its shares in S, are shown below:

	<i>H Ltd</i>	<i>S Ltd</i>
	£000	£000
Sundry assets <i>less</i> liabilities	75	50
8,000 shares in S Limited	<u>42</u>	<u>–</u>
	<u>117</u>	<u>50</u>
Share capital		
£1 Ordinary shares	70	10
Retained earnings	<u>47</u>	<u>40</u>
	<u>117</u>	<u>50</u>

Note that H owns 80 per cent of the shares in S.

H Limited paid £42,000 for 80 per cent of the assets less liabilities of S Limited. The goodwill on consolidation is then £42,000 less 80 per cent of £50,000 = £2,000. Of the total assets less liabilities of the subsidiary, 20 per cent had been obtained from funds supplied by the outside shareholders in the subsidiary and this ‘source of assets’, amounting to £10,000, will appear on the consolidated balance sheet described as ‘minority interest’.

The ‘conversion’ of the holding company’s balance sheet into the consolidated balance sheet can be illustrated as follows.

### Consolidated balance sheet as at 31 December 20X2 (the date of acquisition)

	£000
Sundry assets <i>less</i> liabilities	
H £75,000 + S £50,000	125
Goodwill on consolidation	
Cost of shares	£42,000
Less: 80% of assets <i>less</i> liabilities acquired, 80% of £50,000	<u>£40,000</u>
	<u>2</u>
	<u>127</u>

Share capital	
£1 ordinary shares H only	70
Retained earnings H only	<u>47</u>
	117
Minority interest	
20% of S's assets <i>less</i> liabilities, 20% of £50,000	<u>10</u>
	<u>127</u>

In order to illustrate the use of a consolidated worksheet in the case of a partly owned subsidiary we will now assume that the profits made by the two companies in 20X3 were H Limited £12,000 and S Limited £5,000 and that neither company paid any dividends in the year.

The balance sheets of the two companies at 31 December 20X3 are shown below:

**Consolidated balance sheet worksheet**  
(All figures £000)

	<i>H Ltd</i>	<i>S Ltd</i>	<i>Sub-totals</i>	<i>Adjustments</i>	<i>Consolidated</i>
				<i>Dr</i>	<i>Cr</i>
					<i>balance sheet</i>
Sundry assets					
<i>less</i> liabilities	87	55	142		142
8,000 shares in S Ltd	42	–	42		(a) 42
Goodwill on consolidation				(a) 2	<u>2</u>
	<u>129</u>	<u>55</u>	<u>184</u>		<u>144</u>
Share capital, £1 shares	70	10	80	(a) 8	
				(b) 2	70
Retained earnings				(a) 32	
	<u>59</u>	<u>45</u>	<u>104</u>	(b) 9	<u>63</u>
	129	55	184		133
Minority interest					(b) 11
	<u>129</u>	<u>55</u>	<u>184</u>	<u>53</u>	<u>53</u>
					<u>144</u>

The two adjustments displayed on the worksheet can be explained as follows:

	<i>Dr</i>	<i>Cr</i>
	£000	£000
(a) The 'goodwill' adjustment		
Goodwill on consolidation	2	
Share capital of subsidiary 80 per cent of £10,000	8	
Retained earnings of subsidiary 80 per cent of retained earnings at acquisition, i.e. 80 per cent of £40,000	32	
Shares in subsidiary		42
(b) The 'minority interest' adjustment		
Share capital of subsidiary 20 per cent of £10,000	2	
Retained earnings of subsidiary 20 per cent of <i>current</i> retained earnings, i.e. 20 per cent of £45,000	9	
Minority interest		11

We should emphasise, as we did earlier, that the above form of adjustment is simply a convenient way of producing the consolidated balance sheet. The meaning of the terms goodwill on consolidation and minority interest is still best expressed in terms of the assets and liabilities of the subsidiary, i.e.

#### Goodwill on consolidation

= Cost of shares in the subsidiary minus parent company's share of the share capital and reserves of the subsidiary as at the date of acquisition

= Cost of shares in the subsidiary minus parent company's share in the net book value of the assets less liabilities of the subsidiary as at the date of acquisition.

#### Minority interest

= Outside shareholders' interest in the share capital and reserves of the subsidiary at the *balance sheet date*

= Outside shareholders' interest in the assets less liabilities of the subsidiary at the *balance sheet date*.

The consolidated balance sheet as at 31 December 20X3 together with our commentary is shown below:

<b>H Limited and its subsidiary</b>		
<b>Consolidated balance sheet as at 31 December 20X3</b>		
	£000	
Sundry assets <i>less</i> liabilities	142	← <i>The total of the assets less liabilities of the companies comprising the group</i>
Goodwill on consolidation	2	← <i>The difference between the cost of shares in the subsidiary and the parent company's share of the net book value of the subsidiary's assets less liabilities as at the date of acquisition</i>
	<u>144</u>	
Share capital	70	← <i>The share capital of the parent company</i>
Retained earnings	63	← <i>The retained earnings (or in general, the reserves) of the parent company plus the parent company's share in the change in the retained earnings of the subsidiary company since acquisition</i>
	<u>133</u>	← <i>Total interest of the shareholders of the parent company</i>
Minority interest	11	← <i>The outside shareholders' share of the book value of the assets less liabilities of the subsidiary company as at the balance sheet date</i>
	<u>144</u>	

The reserves of the subsidiary often produce problems for students. It should be noted that the reserves are divided into three parts as illustrated in Figure 12.1.

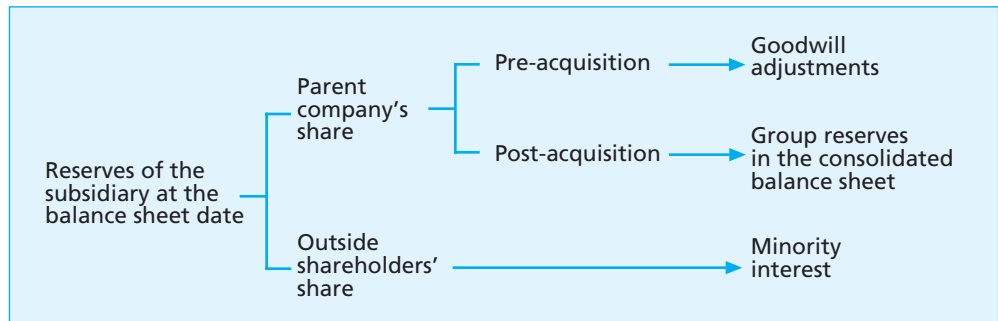


Figure 12.1 The tripartite nature of a subsidiary's reserves

## 12.8 The consolidated profit and loss account

The format of a consolidated profit and loss account may be summarised as follows:

	Profit of the group for the period	x
Less:	Taxation on the profits for the period	<u>x</u>
	Profits of the group after taxation	x
Less:	Minority interest share in the profit for the period	<u>x</u>
	Profit after taxation attributable to the shareholders of the parent company	x
Less:	Dividends paid and proposed	<u>x</u>
	Retained profit for the period	<u>£x</u>

The first section of the consolidated profit and loss account shows the total revenue, expenses and taxation charges of all the companies in the group. Thus the user of the accounts is provided with some indication of how successful the managers of the parent company have been in operating the total assets under their control. It should be noted that the amount of the profit of the group after taxation is independent of the existence and extent of the minority interests in the subsidiaries.

The dividends, paid and proposed, are only those paid or payable by the parent company to its shareholders. Dividends paid by the subsidiary to the parent will cancel out with dividends received by the parent, but the dividends paid to minority interests are a different issue. They represent an outflow of resource from the group but they are not disclosed in the consolidated profit and loss account or indeed anywhere in the consolidated financial statements. They will, however, affect the consolidated financial statements in that the payment of dividends to minority interest shareholders will reduce the amount of the minority interest shown in the balance sheet.

Any transfers to or from reserves which will appear in the consolidated financial statements will be those of the parent company plus its share of those of its subsidiaries.

The minority interest's share in the profit of the group is deducted after group profit after tax. If a subsidiary company only has ordinary shares in issue the minority interest's share in its profits will be  $x$  per cent ( $x$  being the proportion of the ordinary shares held by the outside shareholders) of the subsidiary's profit after tax. Note that this figure is independent of the size of any dividends paid by the subsidiary companies – the figure represents the minority interest's share of the profits for the year and not their share of the distributed profit.

We will now illustrate the construction of a consolidated profit and loss account by continuing the saga which we left earlier.

The profit and loss accounts of H Limited and S Limited for the year ended 31 December 20X4 and their balance sheets as at that date are shown below:

#### Profit and loss accounts

	<i>H Ltd</i>	<i>S Ltd</i>
	£000	£000
Sales	180	160
Less: Expenses	<u>130</u>	<u>100</u>
	50	60
Add: Dividends received from S Ltd	<u>16</u>	<u>–</u>
Profit before tax	66	60
Less: Taxation*	<u>25</u>	<u>30</u>
	41	30
Less: Dividends paid	<u>15</u>	<u>20</u>
	26	10
Retained earnings 1 January 20X4	<u>59</u>	<u>45</u>
Retained earnings 31 December 20X4	<u><u>85</u></u>	<u><u>55</u></u>

#### Balance sheets

	<i>H Ltd</i>	<i>S Ltd</i>
	£000	£000
Sundry assets <i>less</i> liabilities	113	65
8,000 shares in S Limited	<u>42</u>	<u>–</u>
	<u>155</u>	<u>65</u>
Share capital, £1 shares	70	10
Retained earnings	<u>85</u>	<u>55</u>
	<u><u>155</u></u>	<u><u>65</u></u>

#### Notes:

- There was no inter-company trading during the year.
- On 31 December 20X2, the date on which H purchased its holding of shares in S, the retained earnings of S Limited amounted to £40,000.

\* A parent company is not normally subject to tax on dividends received from a subsidiary company.

We present below a consolidated profit and loss account working sheet. For convenience we have changed the position of the dividend received from S Limited in H's profit and loss account. In the worksheet it is shown following the trading profit after taxation.

#### Consolidated profit and loss account worksheet

(All figures £000)

	<i>H Ltd</i>	<i>S Ltd</i>	<i>Sub-</i>	<i>Adjustments</i>		<i>Consolidated</i>
			<i>totals</i>	<i>Dr</i>	<i>Cr</i>	<i>profit and loss</i>
						<i>account</i>
Sales	180	160	340			340
Less: Expenses	<u>130</u>	<u>100</u>	<u>230</u>			<u>230</u>
	50	60	110			110
Less: Taxation	<u>25</u>	<u>30</u>	<u>55</u>			<u>55</u>
Trading profit after tax	25	30	55			55
Minority interest				(A)(i) 6		<u>6</u>
c/f	<u>25</u>	<u>30</u>	<u>55</u>	6		49

The consolidated profit and loss account

b/f	25	30	55	6		49
Dividends received from S	<u>16</u>	<u>–</u>	<u>16</u>	(B) 16		<u>–</u>
	41	30	71			49
					(B) 16	
Less: Dividends paid	<u>15</u>	<u>20</u>	<u>35</u>		(A)(ii) 4	<u>15</u>
	26	10	36			34
Opening retained earnings	<u>59</u>	<u>45</u>	<u>104</u>	(C) 32		<u>63</u>
	<u>85</u>	<u>55</u>	<u>140</u>	(A)(iii) 9		<u>63</u>
						20
Adjustments carried to the consolidated balance sheet				(A)(ii) 4	(A)(i) 6	
					(A)(iii) 9	
					(C) 32	
				<u>67</u>	<u>67</u>	

- The minority interest shareholders' share in the profits of the year (adjustment A(i)) is 20 per cent of S Limited's profit after tax: 20 per cent of £30,000 = £6,000. This amount is debited to the consolidated profit and loss account and credited to the balance sheet, as part of minority interest.
- The subsidiary paid a dividend of £20,000. Eighty per cent of this (£16,000) was paid to the parent company and cancels out the dividend shown as received by H Limited (adjustment B). The balance represents payments made to the minority interests and reduces the amount of the minority interest shown on the balance sheet, hence £4,000 is debited to the balance sheet (adjustment A(ii)). Note the minority interest as shown in the balance sheet has been increased by £2,000, which is 20 per cent of the increase in S Limited's retained earnings.
- Adjustments A(iii) and C have already been introduced. Adjustment A(iii), £9,000, represents the minority interests' share in opening (1.1.20X4) retained earnings and is credited to the balance sheet, while £32,000 (C) is H Limited's share of the retained earnings *as at the date of acquisition* (note the difference in the dates, see page 211) and will be credited as part of the goodwill adjustment.

**Consolidated balance sheet worksheet**  
(All figures £000)

	<i>H Ltd</i>	<i>S Ltd</i>	<i>Sub-totals</i>	<i>Adjustments</i>		<i>Consolidated balance sheet</i>
				<i>Dr</i>	<i>Cr</i>	
Sundry assets						
Less: Liabilities	113	65	178			178
8,000 shares in S Ltd	42		42		(C) 42	
Goodwill on consolidation	<u>155</u>	<u>65</u>	<u>220</u>	(C) 2		<u>2</u>
	70	10	80	(C) 8		70
Share capital				(A) 2		
£1 shares				(C) 32	(A) 4	97
Retained earnings	85	55	140	(A) 9		
	<u>155</u>	<u>65</u>	<u>220</u>	(A) 6		<u>167</u>
Minority interest					(A) 13	<u>13</u>
	<u>155</u>	<u>65</u>	<u>220</u>	<u>59</u>	<u>59</u>	<u>180</u>

The adjustments made above can be explained as follows:

(A) Minority interest	<i>Dr</i>	<i>Cr</i>
	£000	£000
Share capital, S Ltd	2	
Retained earnings, S Ltd		
Opening	9*	
Share of profit for year	6*	
Share of dividend		4*
Minority interest	—	<u>13</u>
	<u>17</u>	<u>17</u>
(C) Goodwill adjustment		
	<i>Dr</i>	<i>Cr</i>
	£000	£000
Share capital S Ltd	8	
Retained earnings S Ltd	32	
Cost of shares		42
Goodwill on consolidation	<u>2</u>	—
	<u>42</u>	<u>42</u>

\* Note the adjustment has been set out in full, but since

$$\text{Closing retained earnings} = \text{Opening retained earnings} + \text{Profit} - \text{Dividend}$$

the net figure of £11,000, the minority interest in closing retained earnings (20 per cent of £55,000), would in practice be the figure used in the adjustment.

There are a number of technical problems associated with the preparation of consolidated accounts: for example, the payment, by a subsidiary, of dividends out of pre-acquisition profits, the problems which arise if the companies in the group do not have a common year end and a long list of etceteras. The aim of this chapter is to concentrate on basic ideas and so will avoid many of these issues but we do need to stress the importance of agreeing the inter-company balances.

In general, inter-company balances will cancel out, so if Subsidiary 1 owes Subsidiary 2 £30,000, then when preparing the consolidated accounts the asset of £30,000, comprising the debtor in the books of Subsidiary 2, will be exactly offset by the creditor for £30,000 included in the liabilities of Subsidiary 1. But what happens if the balances do not agree? The answer is to make the necessary adjustment and make them agree.

Suppose, for example, Subsidiary 1 had recognised the need to accrue interest in respect of the loan and suppose that the interest for the period, but not yet paid, is £3,500. Then the following items would appear on the accounts of Subsidiary 1:

Profit and loss account	
Expense, interest payable	£3,500
Balance sheet	
Liability, amount due to Subsidiary 2	£33,500

Now if Subsidiary 2 had not picked up the adjustment the only entry that would appear in its accounts would be

Balance sheet	
Asset, amount due from Subsidiary 1	£30,000

In order to make the inter-company balances agree we can either:

- recognise the interest receivable in the books of Subsidiary 2 and debit the account of Subsidiary 1, to make the balance of £33,500, or
- remove the entry in the books of Subsidiary 1, thus eliminating the expense and reducing the liability to £30,000.

If both the subsidiaries are wholly owned then it does not matter which alternative is chosen but it does if either of them is partly owned because of the effect on the minority interest. It would therefore usually be better to take the first alternative.

## 12.9 Preference shares in subsidiary companies

We have so far assumed that the subsidiary companies have only one class of share, but we should now consider the effect of preference shares on the determination of minority interest. In the straightforward case where preference dividends are paid up to date, the minority interest share in profit for the year will be the amount of preference dividend payable in the year. Complications arise when a subsidiary has cumulative preference shares and has failed to pay a dividend. In such a case it seems best to show the maximum dividend payable as part of the minority interest's share of profits, on the grounds that no dividend can be paid to the ordinary shareholders, including the holding company, until the arrears have been cleared.

In the balance sheet, the minority interest is made up of the nominal value of the preference shares plus any arrears of cumulative dividends.

If the holding company owns any of the preference shares a standard 'goodwill adjustment' is made, i.e. the cost of the shares is compared with their nominal value and the difference is added to or subtracted from the goodwill on consolidation.

### ? Checkpoint questions

12.7 Complete the following table:

	1	2	3	4
	£000	£000	£000	£000
Cost of investment in subsidiary	100	80	130	?
Share capital of subsidiary	50	60	?	100
Percentage of shares in subsidiary held by parent	100%	80%	60%	?
Reserves of subsidiary				
– at acquisition	30	?	30	140
– at balance sheet date	80	120	?	130
Minority interest at balance sheet date	–	?	84	23
Goodwill on consolidation	?	16	10	15

Assume in all cases:

1. There is only one class of share in the subsidiary.
2. There have been no changes in share capital since acquisition.
3. Goodwill has not been written off.

12.8 Does the minority interest item in the consolidated balance sheet represent a liability to the group?



## 12.10 Associated companies

The traditional way of accounting for investments in other companies, which are not subsidiaries, is to show the investment at cost, or written-down value, and to recognise income only when it is received in the form of dividends. This is, however, an unsatisfactory basis when the investing company can exert influence over the affairs of the company whose shares it owns, the associated company. If the investing company is able to influence the dividend policy of the associated company it could arrange for a higher dividend to be paid in a year in which its own profits have fallen, thus smoothing its reported profits. Adequate disclosure of the composition of the reported profits might be a way of overcoming the problem, but such is the emphasis placed by many users of accounts on the ‘bottom line’, the reported profit, standard setters did not believe that this would be an adequate response and instead called for a different accounting treatment.

### Key term

■ An **associated company** is one over which another company has significant influence but not control.

As a result, both company law and accounting standards require the use of *equity accounting* when reporting the results of associated companies. The main elements of the equity method are as follows:

- In the investing company’s profit and loss account (or consolidated profit and loss account), the income credited (or debited) is the investing company’s share of the profit (or loss) of the associated company irrespective of the amount paid by way of dividend.
- In the investing company’s balance sheet (or consolidated balance sheet), the investment in the associated company is shown as the investing company’s share of the net assets of the associated company plus any premium on acquisition (the direct equivalent of goodwill on consolidation).

For the reasons given earlier, the investing company’s share in the current book value of the net assets of the associated company plus any premium on acquisition is equal to the cost of its investment in the shares plus its share of the change in the associated company’s reserves since acquisition.

In other words the investment will originally be shown at cost and unless any amount has been written off, say, to remove any premium on acquisition, the book value will increase to the extent that the investing company’s share in the profits of the associated company exceeds the dividends it has received from it.

Note the differences between consolidation and the equity accounting (or ‘one line consolidation’ as it is sometimes called). In the consolidated accounts the total figures are shown (total profits, total assets, total liabilities) and the outside (minority) interest’s shares in the profit (or loss) of the subsidiary and in the net book value of the subsidiary are shown as separate lines in the consolidated profit and loss account and consolidated balance sheet. With equity accounting only the ‘net’ figures are shown, i.e. the investing company’s share in the profit (or loss) and in the net assets.

The decision as to whether the influence of the investing company is enough to justify the treatment of the company in which it owns shares is a matter which must in

the end depend on the facts of each individual case, but the law, the Companies Act 1989, provides that a holding of 20 per cent or more of the voting shares of the other company is presumed to carry significant influence to create an associated company relationship, unless the contrary can be shown to be true.

### ? Checkpoint questions

- 12.9** Explain the justification for treating investments in associated companies differently from investments in (a) subsidiary companies and (b) other companies.
- 12.10** In what circumstances might an investing company's holding of 35 per cent of the shares in a company not lead to the other company being treated as an associated company?

### Summary

This chapter described what is meant by a 'group of companies' and outlined the advantage of employing this type of structure. The main principles involved in the preparation of the accounts of the group – consolidated accounts – were explained and attention paid to the particular features of these accounts – goodwill on consolidation and minority interest. The chapter also provided a brief introduction to equity accounting, the method used to account for the results of associated companies.

### Review questions

- 12.1** What are the advantages of operating a business as a group rather than as a single company?
- 12.2** Discuss the factors which give rise to goodwill on consolidation.
- 12.3** Why do those who set the rules of accounting find it difficult to decide how to treat goodwill on consolidation?

## Exercises

**Solutions to exercises whose number is in colour can be found at the end of the book.**

- 12.1** The following information relates to the balance sheets of Johnson Ltd and Samson Ltd at 31 December 20X6. At this date Johnson Ltd purchased all the shares of Samson Ltd.

	<i>Johnson Ltd</i>		<i>Samson Ltd</i>	
	£000	£000	£000	£000
Fixed assets		1,400		580
Investment at cost		920		–
Current assets:				
Stock	640		290	
Debtors	280		100	
Bank	<u>160</u>		<u>40</u>	
	1,080		430	
Less: Current liabilities:				
Creditors	<u>520</u>		<u>160</u>	
Net current assets		<u>560</u>		<u>270</u>
		<u>2,880</u>		<u>850</u>
Share capital and reserves				
Share capital		2,000		750
Retained earnings		<u>880</u>		<u>100</u>
		<u>2,880</u>		<u>850</u>

*Required:* Prepare a consolidated balance sheet as at 31 December 20X6.

- 12.2** On 31 December 20X4 Highgate Ltd purchased 100 per cent of the shares in Southgate Ltd. At that date, the retained earnings of Southgate Ltd were £3,000,000.

The summarised balance sheets of the two companies at 31 December 20X6 were as follows:

	<i>Highgate Ltd</i>		<i>Southgate Ltd</i>	
	£000	£000	£000	£000
Fixed assets		30,000		13,000
Investment at cost		20,000		–
Current assets:				
Stock	10,500		5,500	
Debtors	7,500		3,500	
Cash	<u>2,000</u>		<u>1,500</u>	
Less: Current liabilities:	20,000		10,500	
Creditors	<u>9,500</u>		<u>4,000</u>	
Net current assets		<u>10,500</u>		<u>6,500</u>
		<u>60,500</u>		<u>19,500</u>
Share capital and reserves				
Share capital		40,000		15,000
Retained earnings		<u>20,500</u>		<u>4,500</u>
		<u>60,500</u>		<u>19,500</u>

*Required:* Prepare a consolidated balance sheet as at 31 December 20X6.

- 12.3** Gieves Ltd purchased 80 per cent of the shares in Hawkes Ltd on 31 December 20X6. The summarised balance sheets of the companies at 31 December 20X7 were as follows:

	<i>Gieves Ltd</i>		<i>Hawkes Ltd</i>	
	£000	£000	£000	£000
Fixed assets		255,000		170,000
Investment in Hawkes Ltd		160,000		
Current assets:				
Stock	22,000		22,000	
Debtors	23,000		20,000	
Cash	<u>15,000</u>		<u>10,000</u>	
	60,000		52,000	
Less: Current liabilities	<u>45,000</u>		<u>32,000</u>	
Net current assets		<u>15,000</u>		<u>20,000</u>
		430,000		190,000
Long-term liabilities		<u>50,000</u>		<u>–</u>
		<u>380,000</u>		<u>190,000</u>
Share capital		250,000		100,000
General reserve		80,000		60,000
Profit and loss account		<u>50,000</u>		<u>30,000</u>
		<u>380,000</u>		<u>190,000</u>

At the date Gieves Ltd purchased the shares in Hawkes Ltd, the balances on the revenue reserve accounts of Hawkes Ltd were as follows:

General reserve	£50,000,000
Profit and loss account	£20,000,000

*Required:*

Prepare a consolidated balance sheet as at 31 December 20X7.

- 12.4** The following balance sheets are as at 31 December 20X6:

	<i>H Limited</i>	<i>S1 Limited</i>	<i>S2 Limited</i>
	£000	£000	£000
Fixed assets	20,000	6,000	12,000
6m shares in S1 Limited	11,000		
8m shares in S2 Limited	14,000		
Current assets	<u>12,000</u>	<u>6,000</u>	<u>7,000</u>
	57,000	12,000	19,000
Less: Current liabilities	<u>10,000</u>	<u>1,000</u>	<u>3,000</u>
	<u>47,000</u>	<u>11,000</u>	<u>16,000</u>
Share capital and reserves			
Ordinary shares of £1 each	30,000	6,000	10,000
General reserve	5,000	2,000	2,000
Profit and loss account	<u>12,000</u>	<u>3,000</u>	<u>4,000</u>
	<u>47,000</u>	<u>11,000</u>	<u>16,000</u>

The subsidiaries had the following balances on their reserve accounts at their dates of acquisition:

	<i>S1 Limited</i>	<i>S2 Limited</i>
	£000	£000
General reserve	1,000	2,000
Profit and loss account	2,000	3,000

*Required:*

Prepare the consolidated balance sheet as at 31 December 20X6.

- 12.5** The profit and loss accounts of H Ltd and S Ltd for the year ended 31 December 20X5 are shown below together with their balance sheets at that date:

	<i>Profit and loss accounts</i>	
	<i>H Ltd</i>	<i>S Ltd</i>
	£000	£000
Sales	200	180
Expenses	<u>110</u>	<u>100</u>
	90	80
Dividends from S Ltd	<u>30</u>	–
Profit before tax	120	80
Taxation	<u>35</u>	<u>20</u>
Profit after tax	85	60
Dividends paid	<u>35</u>	<u>40</u>
	50	20
Retained profits brought forward	<u>30</u>	<u>7</u>
Retained profits carried forward	<u>80</u>	<u>27</u>
	<i>Balance sheets</i>	
	£000	£000
Assets minus liabilities	140	52
Investment in S Ltd (18,750 shares)	<u>40</u>	–
	<u>180</u>	<u>52</u>
Share capital, £1 per share	100	25
Retained earnings	<u>80</u>	<u>27</u>
	<u>180</u>	<u>52</u>

There was no inter-company trading during the year.

On 31 December 20X3, the date on which H purchased its holding of shares in S, the retained earnings of S Ltd amounted to £2,000.

*Required:*

Prepare a consolidated profit and loss account for the year ended 31 December 20X5 and a consolidated balance sheet as at that date.

- 12.6** The following information is extracted from the balance sheets of A Ltd and B Ltd as at 31 March 20X7. At that date, A Ltd purchased all the shares in B Ltd.

	<i>A Ltd</i>		<i>B Ltd</i>	
	£000	£000	£000	£000
Fixed assets		800		300
Investments in B Ltd		550		–
Current assets:				
Stock	300		160	
Debtors	160		70	
Bank	<u>90</u>		<u>20</u>	
	550		250	
<i>Less: Current liabilities:</i>				
Creditors	<u>250</u>		<u>90</u>	
Net current assets		<u>300</u>		<u>160</u>
		<u>1,650</u>		<u>460</u>
Share capital and reserves				
Share capital		1,000		400
Retained earnings		<u>650</u>		<u>60</u>
		<u>1,650</u>		<u>460</u>

*Required:*

Prepare a consolidated balance sheet as at 31 March 20X7.

- 12.7** Brenda Ltd purchased 60 per cent of the shares of Ogden Ltd on 31 March 20X6. The summarised balance sheets of the two companies as at 31 March 20X7 were as follows:

	<i>Brenda Ltd</i>		<i>Ogden Ltd</i>	
	£000	£000	£000	£000
Fixed assets		125,000		85,000
Investment in Ogden Ltd		75,000		–
Current assets				
Stock	12,000		11,000	
Debtors	11,000		10,000	
Cash	<u>8,000</u>		<u>6,000</u>	
	31,000		27,000	
<i>Less: Current liabilities</i>	<u>23,000</u>		<u>16,000</u>	
Net current assets		<u>8,000</u>		<u>11,000</u>
		208,000		96,000
Long-term liabilities		<u>24,000</u>		<u>–</u>
		<u>184,000</u>		<u>96,000</u>
Share capital		130,000		55,000
Retained earnings		<u>54,000</u>		<u>41,000</u>
		<u>184,000</u>		<u>96,000</u>

At 31 March 20X6 the retained earnings of Ogden Ltd amounted to £30,000.

*Required:*

Prepare a consolidated balance sheet as at 31 March 20X7.



# Part III



## Special topics in accounting

13 Incomplete records	231
14 Accounts of clubs, societies and charities	248
15 Branch accounts	263
16 Computerised accounting: an introduction	274
17 Auditing: an introduction	280





# 13

## Incomplete records

### Introduction

In this chapter we describe the various degrees of incompleteness in the records of some firms, mostly sole traders. We explain how to build up accounting records from the available information and describe the difficulties likely to be encountered. We then go on to show how to prepare financial statements from such records.

### Learning objectives

At the end of this chapter, after completing the checkpoint questions and exercises, you should be able to:

- explain the procedures needed to construct accounting records from incomplete information;
- explain how to deal with unidentified payments and drawings;
- prepare accounting records from information and explanations provided;
- prepare financial statements from such records.

### 13.1 Dealing with incomplete records

You may be surprised to learn that not all firms maintain complete accounting records. Many firms' records lack a lot or a little, and such systems are usually described as *incomplete records*.

This chapter is important because a surprisingly large number of firms rely on incomplete records. We do not have clear evidence, but experience suggests that most sole traders, some partnerships and some small limited companies have records which are more or less incomplete.

There are many kinds and degrees of incompleteness. At one extreme there may be very little or virtually nothing, while at the other the firm may have complete cash books and personal ledgers and may lack only a nominal ledger.

In practice, a firm of accountants is employed, at the end of each year, to complete the double entry and prepare the accounts. The procedure depends on the circumstances of

each case. The following represents a fairly standard framework:

1. A balance sheet as at the start of the year must be prepared if one is not already available. This may be a difficult task as more than a year would have passed since the critical date and, in particular, the evaluation of stocks often produces considerable difficulties. By using what evidence is available, the memory of the owner, and his or her own judgement, the accountant will try to identify the assets and liabilities as at the appropriate date, and hence estimate the owner's equity. A balance sheet drawn up under such circumstances is sometimes called a *statement of affairs*.



### Checkpoint question

**13.1** What kinds of firm are most likely to have incomplete records? Why do you think this is?

2. A cash book and a petty cash book will next be prepared in conventional double entry form. The source documents for the cash book will usually be the bank statements. Unfortunately, most bank statements show only cheque numbers, and so reference will have to be made to the cheque counterfoils and returned cheques. However, they will only provide the names of the payees and so the accountant must investigate further to find the nature of the payments. He or she hopes to find an invoice, a statement or some other documentary evidence to support the payment. These documents, which are often called vouchers, may have been kept in good order in some cases but others may well be in no order at all. Many such exercises start with the client presenting his or her accountant with a box full of loose papers.

### Key term

■ A **voucher** is any document which provides evidence of the validity of a payment or receipt, for instance sales or purchases invoices, petty cash vouchers, cheque counterfoils.

The preparation of the petty cash book can present many difficulties since the vouchers may be incomplete or non-existent. The accountant will often have to undertake a considerable amount of detective work and will, of course, have to fall back on his or her own judgement.

To facilitate the next step in the process, making the entries in the ledger, it is customary to use an analysed cash book and petty cash book. An analysed cash book is illustrated in Figure 13.1. Columns are provided for the major heads of receipts and payments, and these enable the accountant to post one figure for, say, travelling expenses, instead of having to deal separately with each item. For the same reason, this form of cash book is also usually maintained by firms keeping complete records. The client firm will often keep a cash book and petty cash book itself as it is useful to know how much money the firm has. In such cases the accountant's task is reduced to checking what has been done and performing the necessary analysis.

3. The next step is to make the entries in the ledger from the cash book and petty cash book. Depending on the circumstances, and in particular the extent of the sales and purchases made on credit, personal ledgers and control accounts may be used. Alternatively, trade debtors and creditors may be shown as balances on the sales and purchases accounts in the same way as, for example, prepaid rates.



## Unidentified payments

Although the name of the payee may be known, the voucher may be missing and the client may not be able to remember what the payment was for. Should it be treated as a drawing or as a sundry expense? The accountant may, in the circumstances, feel that it should be treated as a drawing. However, the client may well insist that although he or she could not remember what that particular payment was for, he or she does know that drawings were not made in this way and that the payment must have been made on behalf of the business.

The client will win, for it must be recognised that the client is responsible for his or her own accounts, and that the accountant is simply providing a service to him or her. If the accountant has evidence that the client is lying, he or she may prefer to stop acting for the client, but it is more usually a case of being obliged, despite some misgivings, to rely on the memory of the client.

The accountant may also act as an auditor, and in this case he or she would have to carry out such investigations as would enable him or her to report that the accounts give a true and fair view of the trading results for the year and of the business affairs as at the end of the year. If he or she does not perform the audit function, any statement attached to the accounts will say little more than 'I prepared the accounts on the basis of the information supplied to me' – that is, 'I did what I was told'. (It is not likely that the accountant will act as auditor, now that most very small limited companies do not require an audit.)

## Drawings

Many traders make non-business payments from the business bank accounts and cash box. The accountant must be on guard and ensure, for example, that rates for the client's house do not find their way into office expenses instead of drawings.



### Checkpoint question

**13.5** Explain how you would deal with unidentified payments.

## Cash receipts and payments

Bank transactions are comparatively easy to deal with because there is bound to be some documentation, but there are problems related to cash receipts and payments. There are, however, some guidelines which may be of help.

The first step is usually to estimate the cash available to the firm. An estimate of the opening cash balance has to be made, and to this is added any cash withdrawn from the bank. The estimation of the cash received from the supply of goods and services is usually the main difficulty. The firm may have some records such as till rolls or other records from the cash registers. If the records are complete there is no problem but some of the records may be lost.

Sometimes the absence of records is such that indirect methods have to be used. The purchase records are often in better order than the sales records, and use may be made of this if it is believed that a reasonably reliable estimate may be made of the 'mark-up', to make an estimate of sales. Thus, after making the necessary adjustments for opening and closing debtor balances and for receipts from customers which have been paid

directly into the bank, the amount of cash that should have been received from customers can be determined. This procedure is illustrated in Example 13.1.

**Key term**

■ The **mark-up** is the percentage which is added to the cost of goods to arrive at the sale price. In other words, it is the gross profit expressed as a percentage of cost of goods sold. For example, if goods for sale were bought for £10 each and the mark-up is 100 per cent, the sale price will be £20. The gross profit percentage will be  $\frac{£(20 - 10)}{£20}$ , multiplied by 100, which equals 50 per cent.

**Example 13.1**

Relevant information about Eugene is as follows:

Payments made to suppliers in 20X0	£116,000
Cheques received from customers paid directly into the bank in 20X0	£62,100

The mark-up is 30 per cent.

	1 January 20X0 £	31 December 20X0 £
Creditors	12,000	18,000
Stock at cost	22,000	24,000
Debtors	4,500	3,800

1. Find the purchases:

<i>Creditors' account</i>			
	£		£
Cash	116,000	Opening balance	12,000
Closing balance	<u>18,000</u>	Purchases	<u>122,000*</u>
	<u>£134,000</u>		<u>£134,000</u>

\* Balancing figure.

2. Cost of goods sold = Opening stock + purchases – closing stock  
 = £22,000 + £122,000 – £24,000  
 = £120,000

3. Sales = Cost of goods sold plus 30 per cent of cost of goods sold  
 = £120,000 + 30 per cent of £120,000  
 = £156,000

4. Find the total receipts from customers:

<i>Debtors' account</i>			
	£		£
Opening balance	4,500	Receipts	156,700*
Sales	<u>156,000</u>	Closing balance	<u>3,800</u>
	<u>£160,500</u>		<u>£160,500</u>

\* Balancing figure.

5. Cash received = total receipts less cheques banked  
 = £156,700 – £62,100  
 = £94,600

Sometimes use has to be made of the gross profit percentage rather than the mark-up. The gross profit percentage is the gross profit expressed as a percentage of sales.

Say that the gross profit is  $P$  per cent. Then

$$\text{Sales} - \text{Cost of goods sold} = \frac{P}{100} \times \text{Sales}$$

$$\text{Cost of goods sold} = \text{Sales} \times \frac{(100 - P)}{100}$$

$$\text{Sales} = \text{Cost of goods sold} \times \frac{100}{(100 - P)}$$

Hence if, for example, the gross profit percentage is 25 per cent, then sales =  $\frac{4}{3}$  of the cost of goods sold.

So a gross profit percentage of 25 per cent is equal to a mark-up of  $33\frac{1}{3}$  per cent.

Even if it appears that all the necessary information has been provided, the accountant will, as a check, consider the mark-up (in addition to other factors) to see whether the figure revealed by the profit and loss account is reasonable in the circumstances.

A similar approach may be used to estimate such things as the amount of stock lost in a fire or the amount of cash stolen by an employee. The key is the trading account, which in the form of a T account is as follows:

<i>Trading account</i>			
	£		£
Opening stock	x	Sales	x
Purchases	x	Closing stock	x
Gross profit	<u>x</u>		
	<u>£xx</u>		<u>£xx</u>

or, in the form of an equation,

$$\text{Opening stock} + \text{Purchases} + \text{Gross profit} = \text{Sales} + \text{Closing stock}$$

If any four of the above five items are known, the remaining item can be determined.

Having estimated the cash available to the firm, the next task is to deal with the payments that have been made in cash. A reasonably reliable petty cash book may be available, but it is the practice in many small businesses to take cash out of the till to pay certain expenses, and these may not be recorded in the petty cash book. We shall concentrate on those items which have not been dealt with through the petty cash system.

**Key terms**

■ A **till** is a general term for any type of machine which shops, etc., use to keep cash received for sales. The amounts received are recorded on a **till roll**, a paper record of sales, and/or a computer record.

There may be some vouchers available and/or there may be a notebook or some other record showing the cash payments. However, such information will usually be incomplete, and so the accountant will have to make further enquiries. He or she will consider whether there are any regular payments that have been made, perhaps for part-time help. He or she will also use his or her knowledge of the business to see whether there are necessary payments which have not been recorded (for example,

rent). The client should be asked for details of his or her drawings, and the accountant will use his or her knowledge of the client's standard of living and other sources of income to help judge if the figure is reasonable. However, as has already been mentioned, the client and not the accountant is responsible for the accounts and so the accountant will usually accept the client's word.

The difference between the cash available less the cash paid out is now compared with the year-end cash balance. It should be noted that these are all likely to be estimates, even the year-end cash balance, as the accountant may not have started work until some time after the end of the year.

The last question is, then, how to treat the difference: as sundry expenses or drawings? The answer will depend on the circumstances.

Sometimes, but rarely, the estimated payments exceed the cash available less the closing balance. This may be due to an error in the estimation of the mark-up, but can also be caused by the client's paying business expenses out of his or her own pocket, keeping the vouchers but neglecting to withdraw the cash.

### Totally incomplete records

Sometimes there may be no records at all. Can an accountant attempt to determine the profit in such circumstances? Surprisingly, perhaps, he or she can make an estimate. The key is the fundamental accounting identity:

$$\text{Assets} - \text{Liabilities} = \text{Owner's equity}$$

If the accountant can estimate

- assets minus liabilities at the start of the period, and
- assets minus liabilities at the end of the period, and
- the drawings made during the period, and
- any capital introduced during the period.

then he or she can estimate the profit for the period by using the following steps:

1. Increase in owner's equity = Closing assets less liabilities – Opening assets less liabilities
2. Increase in owner's equity = Profit + Capital introduced – Drawings  
So Profit = Increase in owner's equity – Capital introduced + Drawings

There are, of course, difficulties involved in making the above estimates.

If the above method has to be used it will not be possible to produce a profit and loss account. The most that can be achieved is an estimate of the profit for the period.



#### Checkpoint question

13.6 How would you estimate cash receipts from sales where the information is inadequate?



### Example 13.2

Seamus O'Toole is the proprietor of the Donaghadee General Trading Company. He approaches you in April 20X3 and asks you to prepare his accounts for the year ended 31 December 20X2. He had started business on 1 January 20X1 and the 20X1 accounts had been prepared by a friend, but owing to an argument as to who was to pay for the next round, he has lost both his friend and the accounts.

O'Toole has kept a cash book which he presents to you together with some vouchers. O'Toole is not entirely unversed in the ways of business, so he can supply you with the following information:

	1 January 20X2 £	31 December 20X2 £
Stock at cost	24,000	32,000
Due from customers	3,000	4,500
Due to suppliers	11,000	13,200

O'Toole made certain payments from the cash received from customers, the balance of which was banked. He used to keep a float of about £200 in the till but he increased this to £300 midway through 20X2. He kept a notebook which recorded the payments made out of the takings and a summary of the information contained in the notebook is as follows:

	£
Wages	2,600
Suppliers	3,000
Sundry expenses	4,200
Drawings	<u>18,720</u>
	<u>£28,520</u>

The summarised cash book is:

	£		£
Amounts banked	125,000	Opening balance	2,000
		Suppliers	72,000
		Wages	18,000
Closing balance	7,000	Rates	16,000
		Insurance	8,000
		Fixtures and fittings	2,000
		Unidentified payments	<u>14,000</u>
	<u>£132,000</u>		<u>£132,000</u>

An analysis of the cash book and discussions with O'Toole revealed the following:

- O'Toole owns his shop which cost £60,000 on 1 January 20X1. O'Toole's father paid for the shop and O'Toole agreed to pay his father interest of 10 per cent per annum on the loan. O'Toole has not repaid anything to his father and the last interest payment was made on 30 June 20X1.
- O'Toole valued his fixtures and fittings at £8,000 on 1 January 20X2 and at £8,500 on 31 December 20X2.
- Wages are paid in arrears and wages payable were £300 on 1 January 20X2 and £400 on 31 December 20X2.
- The payment for insurance was the premium for the year ended 30 June 20X3. The premium for the year ended 30 June 20X2, which was paid in 20X1, was £6,400.

5. Prepaid rates at 1 January 20X2, £3,500 and at 31 December 20X2, £4,500.
6. All the debts at the start of the year were subsequently paid but O'Toole thinks that £600 of the year-end debts should be written off.
7. It is agreed that all the unidentified payments are in fact drawings.
8. Your fees will be £1,650.

The first task is to prepare the opening balance sheet and hence determine the owner's equity at 1 January 20X2.

**Balance sheet as at 1 January 20X2**

	£	£
<b>Assets</b>		
Shop		60,000
Fixtures and fittings		8,000
Stock		24,000
Debtors		3,000
Prepaid expenses (3,200 + 3,500)		6,700
Cash in hand		<u>200</u>
		101,900
<b>Less: Liabilities</b>		
Loan	60,000	
Interest on loan	3,000	
Creditors	11,000	
Accrued expenses	300	
Bank overdraft	<u>2,000</u>	<u>76,300</u>
Capital account at 1 January 20X2		<u>£25,600</u>

A summary of the cash (bank) account is given in the question so there is little point in repeating it; however, we need to prepare an account showing payments and receipts made in cash:

	£		£
Opening balance	200	Wages	2,600
		Suppliers	3,000
Cash received from customers		Sundry expenses	4,200
(balancing figure)	153,620	Drawings	18,720
		Amounts banked	125,000
		Closing balance	<u>300</u>
	<u>£153,820</u>		<u>£153,820</u>

We have assumed that all receipts from customers were in the form of cash but had some of the customers paid O'Toole by cheque it would not have made any difference to the final results.

In a practical case the next stage would be to set up a ledger by using the balances shown in the opening balance sheet and then make the necessary postings from the bank and cash accounts. However, we shall restrict ourselves to the provision of the necessary workings.

*Trade debtors*

	£		£
Opening balance b/d	3,000	Cash	153,620
Sales*	155,120	Bad debts	600
		Closing balance c/d	<u>3,900</u>
	<u>£158,120</u>		<u>£158,120</u>

*Trade creditors*

		£			£
Bank		72,000	Opening balance b/d		11,000
Cash		3,000	Purchases*		77,200
Closing balance c/d		<u>13,200</u>			
		<u>£88,200</u>			<u>£88,200</u>

*Wages*

		£			£
Bank		18,000	Opening balance b/d		300
Cash		2,600	Wages*		20,700
Closing balance c/d		<u>400</u>			
		<u>£21,000</u>			<u>£21,000</u>

*Rates*

		£			£
Opening balance b/d		3,500	Rates*		15,000
Bank		<u>16,000</u>	Closing balance c/d		<u>4,500</u>
		<u>£19,500</u>			<u>£19,500</u>

*Insurance*

		£			£
Opening balance b/d		3,200	Insurance*		7,200
Bank		<u>8,000</u>	Closing balance c/d		<u>4,000</u>
		<u>£11,200</u>			<u>£11,200</u>

*Loan interest*

		£			£
Closing balance c/d		9,000	Opening balance b/d		3,000
		<u>£9,000</u>	Interest		<u>6,000</u>
					<u>£9,000</u>

*Fixtures and fittings*

		£			£
Opening balance b/d		8,000	Depreciation*		1,500
Bank		<u>2,000</u>	Closing balance c/d		<u>8,500</u>
		<u>£10,000</u>			<u>£10,000</u>

\* Balancing figures.

**DONAGHADEE GENERAL TRADING COMPANY**  
(Prop. S. O'Toole)

**Trading and profit and loss account**  
**Year ended 31 December 20X2**

	£	£
Sales		155,120
Less: Stock at 1 January 20X2	24,000	
Purchases	<u>77,200</u>	
	101,200	
Less: Stock at 31 December 20X2	<u>32,000</u>	69,200
Gross profit		85,920
Less: Wages	20,700	
Rates	15,000	
Accountant's fees	1,650	
Insurance	7,200	
Loan interest	6,000	
Bad debts	600	
Sundry expenses	4,200	
Depreciation of fixtures and fittings	<u>1,500</u>	56,850
Net profit		<u><u>£29,070</u></u>

**Balance sheet as at 31 December 20X2**

	£	£	£
Fixed assets			
Premises at cost			60,000
Fixtures and fittings at valuation			<u>8,500</u>
			68,500
Current assets			
Stock at cost		32,000	
Trade debtors		3,900	
Prepaid expenses (4,500 + 4,000)		8,500	
Cash in hand		<u>300</u>	
		44,700	
Less: Current liabilities			
Trade creditors	13,200		
Accrued expenses (400 + 9,000 + 1,650)	11,050		
Bank overdraft	<u>7,000</u>	<u>31,250</u>	13,450
			<u><u>£81,950</u></u>
O'Toole's capital account			
Balance 1 January 20X2			25,600
Add: Profit for the year			29,070
			54,670
Less: Drawings (14,000 + 18,720)			<u>32,720</u>
			21,950
Loan account			60,000
			<u><u>£81,950</u></u>

## Summary

In this chapter we described the nature of incomplete records which are likely to be encountered and showed how to construct accounting records from such information. We also discussed the difficulties likely to be met in doing so. In particular we discussed ways of dealing with unidentified payments and drawings. Finally we showed how to prepare financial statements from such records.

## Review questions

- 13.1** You are a practising accountant. A friend of your brother has asked you to prepare his accounts. He brings you invoices, copy invoices, various notes on scraps of paper and his bank account statements, in a cardboard box. The bank statements cover both his personal and business affairs in one bank account.  
Explain why you would or would not accept the commission to prepare his business accounts.
- 13.2** Assume that you have accepted your brother's friend as a client. You find he has no proper records of sales. What would you do? How satisfactory would you consider the result to be?
- 13.3** 'Owners of businesses who do not keep complete, double entry records are often doing so deliberately so as to get tax relief on personal expenditure.' Comment on this statement.

## Exercises

**Solutions to exercises whose number is in colour can be found at the end of the book.**

- 13.1** Wren received a legacy of £200,000 on 1 January 20X3 and on that date purchased a small retail business. The completion statement from the solicitor revealed the following:

	£
Freehold shop property	100,000
Goodwill	20,000
Stock in trade	16,000
Trade debtors	4,000
Shop fixtures	26,000
Rates in advance to 31 March 20X3	<u>1,000</u>
	<u>£167,000</u>

The legacy was used to discharge the amount due on completion and the balance was paid into a newly opened business bank account.

Wren had not kept proper records of his business transactions but was able to supply the following information:

1. A summary of the cash till rolls showed his shop takings for the year to be £255,050; this includes all cash received from debtors including those at 1 January 20X3.

2. The takings had been paid periodically into the bank after payment of the following cash expenses:

	£
Wrapping materials	5,250
Staff wages and National Insurance	34,230
Purchases for resale	1,650
Petrol and oil	2,360

3. Personal cash drawings were estimated at £200 per week and goods taken for own use at £20 per week.
4. A summary of the bank statements showed:

	£		£
Legacy – residual balance	33,000	Purchases for resale	148,630
Sale of fixtures (cost £2,000)	1,300	Motor expenses	7,280
Loan at 10 per cent p.a. Robin	20,000	Delivery van (cost – 1 April 20X3)	12,000
Cash banked	199,000	General expenses	6,250
		Loan interest (6 months to 30 September)	1,000
		Private cheques	13,290
		Electricity	2,280
		Rates (year to 31 March 20X4)	5,000
		Balance per statement (on 31 December 20X3)	<u>57,570</u>
	<u>£253,300</u>		<u>£253,300</u>

A cheque drawn on 28 December 20X3 of £1,250 for goods purchased was presented at the bank on 4 January 20X4.

5. During the year bad debts of £2,230 arose and were irrecoverable. The trade debtors on 31 December 20X3 amounted to £6,370 of which £1,000 is doubtful and for which provision should be made.
6. On 31 December 20X3 there were

	£
Stock in trade	23,600
Stock of wrapping materials	530
Trade creditors – purchases	3,580
Electricity accrued	500
Accountancy fees accrued	1,000
Cash float in till	1,800

7. The difference arising on the cash statement was discussed with Wren but remained unexplained and was dealt with in an appropriate manner.
8. Depreciation is to be provided at the rate of 10 per cent per annum on the fixtures and 20 per cent per annum on the van.

You are required to prepare in vertical form:

- (a) Trading and profit and loss account for the year ended 31 December 20X3; and  
 (b) Balance sheet as on that date.

- 13.2** Oliver, who owns a retail shop which is managed by Sykes, finds Sykes stealing from the shop till and dismisses him on 30 September 20X1, the accounting year end. Oliver then supplies the following information:

	30 September 20X0	30 September 20X2
	£	£
Stock	8,250	10,375
Creditors – goods for resale	16,900	22,123
Trade debtors	1,260	1,870
Cash float in till	200	Nil

2. During the year to 30 September 20X1, takings of £60,134 had been banked; the following items were paid from takings before they were banked:

	£
Oliver – Drawings	8,000
Sykes – Salary	4,000
Purchases for resale	1,365
Petty cash expenses	275
Wages	£50 per week

3. During the year to 30 September 20X1, cheque payments to suppliers (all goods for resale) amounted to £55,537.
4. Oliver's gross profit margin for the year is estimated at 40 per cent on cost.

*Required:*

- (a) Compute the estimated amount of cash stolen by Sykes during the year to 30 September 20X1.
- (b) Discuss three factors which could account for the estimate in (a) being overstated.

- 13.3** Bob Dean has been in business for some years as a grocer. He has hitherto prepared his own accounts, but he has experienced increasing difficulties with his Inspector of Taxes. You have been recommended to him as a competent accountant and he telephoned you in December 20X3 to ask you to prepare his accounts for the year ended 30 November 20X3. You were rather busy and did not have enough time to visit Dean; so you asked him to send you certain records. He, accordingly, sent you the following letter:

Dear Mr Land,

Thank you very much for agreeing to prepare my accounts for the year to 30 November 20X3. I am afraid that I can't find a copy of the accounts I prepared for last year, but I hope that the following information will be sufficient.

I own a small 'lock-up' shop, the freehold of which I purchased six years ago for £100,000. My only other assets are vans I use to deliver goods and my car which I never use for business purposes. The vans cost me £23,000 on 1 December 20X1. I usually keep my vans for four years and I expect that I will be able to get £7,000 when I trade them in.

I purchase all my goods on credit and I have a small number of credit customers. I had some trouble keeping track of my credit purchases and sales some years ago and I now keep pretty good records of these transactions. I enclose all the invoices, etc. As you can see, I owed my suppliers £18,260 on 30 November 20X2 and £17,250 on 30 November 20X3. My credit customers owed me £2,870 on 30 November 20X2 and £3,240 on 30 November 20X3 but I fear that I won't be able to collect £560 of the £3,240.

I always count the stock myself and I reckon that my stock on 30 November 20X2 was £5,620 and on 30 November 20X3, £28,430. I was ill at the end of last November and I didn't get to counting the

stock until the Christmas holiday; so I had to adjust my stock take for sales and purchases since the year end. I am afraid I cannot send you detailed stock sheets because I can't find them.

As I told you I work full-time in the shop myself but old age is creeping up on me and I've employed an assistant since 1 June 20X3. I pay her £1,000 per month out of the takings. I also pay for my petrol out of the takings, and this came to £600 for the year. Otherwise I pay all my takings into the bank although I do keep a float. It used to be £300 but I increased it to £500 three or four months ago.

I enclose my bank statements for both my current and deposit accounts and, on the former, I have made sufficient notes for you to identify the nature of the payments.

I hope that you'll be able to keep your fees down. My costs are going up all the time. My insurance premium for both the vans and the shop went up by 40 per cent. In fact the only thing that did not go up was the cost of the van licences.

Yours sincerely  
B. Dean

A summary of the information obtained from Dean's current account bank statements is given below:

	£	£
Balance 1 December 20X2		4,670
<i>Add:</i> Sundry bankings of cash takings	189,920	
Sundry cheques received from credit customers	<u>52,550</u>	<u>242,470</u>
		247,140
<i>Less:</i> Sundry cheques		
To suppliers of goods	188,340	
Cash drawings	12,000	
Sundry expenses	1,180	
Other payments		
20X3		
10 Jan. Electricity (quarter ended 31 December X2)	300	
3 Mar. Insurance, car (year ended 28 February X4)	460	
5 Mar. Insurance, shop (year ended 31 March X4)	420	
20 Apr. Electricity (quarter ended 31 March X3)	320	
29 May Licence for vans (year ended 31 May X4)	400	
31 May Insurance, vans (year ended 31 May X4)	840	
5 Jul. Repairs, vans	580	
17 Jul. Electricity (quarter ended 30 June X3)	280	
1 Aug. Transfer to deposit account	40,000	
8 Oct. Electricity (quarter ended 30 September X3)	<u>360</u>	<u>245,480</u>
Balance 30 November 20X3		<u>£1,660</u>

The deposit account statement shows that the account was opened with the transfer of £40,000 from the current account on 1 August 20X3 and that no other items were recorded in the period 1 August–30 November.

Your experience of businesses of a similar nature to Dean's suggests that they usually earn a gross profit of between 25 and 28 per cent. You estimate that your fee will be £450.

*Required:*

- Prepare, on the basis of the above information, Dean's trading and profit and loss account for the year ended 30 November 20X3 and his balance sheet as at that date.
- Draw up a list of questions to put to Dean when you meet him.



- 13.4** Miss Codd owns a retail business. The only records she maintains are her bank statement and a file of outstanding debtors and unpaid suppliers.

The following balances were shown on her balance sheet as at 1 January 20X0:

	£
Creditors	19,600
Shopfittings at written-down value (cost £20,000)	16,000
Stock	38,000
Debtors	400
Cash at bank	8,800
Cash in hand (float in till)	800

The following is a summary of her bank statement for the year ended 31 December 20X0:

Takings banked	558,640
Payments to suppliers	503,200
Rent of premises to 31 December 20X0	32,000
A. Wood – Shopfitters	6,800
Advertising	4,000
Sundry expenses	3,040

The following information is relevant:

1. Takings are banked daily and all suppliers are paid by cheque, but Miss Codd keeps £1,200 per week for herself and pays the staff £880 per week out of the takings.
2. The work by A. Wood was for new fittings and repairs to existing fittings. The cost of the new fittings is estimated at £4,000.
3. The cash in hand float has been raised to £1,200.
4. Miss Codd took £6,000 worth of goods (at cost) for her own use, without payment.
5. Accountant's charges will be £2,000 for preparing the accounts.
6. The file of outstanding accounts shows £18,400 due to suppliers, £800 outstanding in respect of sundry expenses and £6,800 outstanding debtors.
7. Depreciation on shopfittings is provided at 10 per cent on cost and a full year's charge is made in the year of purchase.
8. Stock at 31 December 20X0 was £56,800.

*Required:*

Miss Codd's profit and loss account for the year ended 31 December 20X0 and balance sheet as at that date.

- 13.5** Mr Inc trades as a sole trader and asks you to prepare accounts covering the previous year's period. He does not keep books of account but, by questioning him, you obtain the following information about his current situation, with information for the start of the year also being provided.

	31 Dec. 20X2	1 Jan. 20X2
	£	£
Premises	120,000	100,000
Creditors	50,000	40,000
Plant and machinery	50,000	35,000
Cash	5,000	5,000
Vehicles	20,000	15,000
Stock (raw materials and finished goods)	40,000	35,000
Debtors	15,000	10,000

You find that he introduced £25,000 of his own capital into the business during the year, and made drawings of £20,000. He also took finished goods from the business valued at £2,500 for his own use. The figures provided are net of depreciation which can be ignored in this exercise.

# 14

## Accounts of clubs, societies and charities

### Introduction

In this chapter we explain the need for financial statements of clubs, societies and charities and describe the most common types of statement. We also discuss some of the most common difficulties and complications which may be met in preparing such statements. Finally we provide worked example of a typical set of club and charity accounts.

### Learning objectives

At the end of this chapter, after completing the checkpoint questions and exercises, you should be able to:

- explain the particular needs for financial statements for clubs, societies and charities;
- explain and deal with the particular difficulties which may be met with in preparing such statements;
- prepare financial statements for such organisations.

### 14.1 Unincorporated clubs and societies

These are entities (a) which are not incorporated under the Companies Act and (b) whose objectives are to provide services to their members or the pursuit of one or a number of activities rather than the earning of profit. Such entities may be, and often are, very small in both membership and wealth. However, they can also be very large.

So long as subscriptions are charged, there will be a need for financial records, the minimum possible being a cash book and a petty cash book. Clubs which rely on this minimum package often confine their annual accounts to a receipts and payments account. The account is simply a summary of the cash received and paid for a period. This form of report is adequate for many clubs but has important deficiencies when used by clubs which have substantial assets (in addition to cash) and liabilities. The arguments in favour of accrual accounting apply to clubs as well as to profit-making entities, and most large clubs do produce financial statements based on accrual accounting.

In fact the only differences between the accrual accounting statements produced by clubs and those produced by profit-making entities are terminological. The main differences between the terms used are given in Table 14.1. The balance sheet continues to be described as a balance sheet.

**Table 14.1** Terminological differences between the accounting statements produced by a profit-making entity and those produced by a club

<i>Profit-making entity (e.g. a sole trader)</i>	<i>Club</i>
Profit and loss account	Income and expenditure account
Profit for the year	Excess (or surplus) of income over expenditure for the year
Loss for the year	Excess (or surplus) of expenditure over income for the year
Capital account	Accumulated (or general) fund

Some profit-making entities also describe their profit and loss accounts as income and expenditure accounts. This is usually done by such concerns as professional businesses (doctors, solicitors and so on) and property companies.

There are a number of topics which, although they are not necessarily unique to the accounts of clubs, have special relevance to them.



### Checkpoint question

14.1 What are the club equivalents to the following terms (sole trader)?

- Profit and loss account
- Profit for the year
- Loss for the year
- Capital account

## Presentation

The undue use of technical terms cannot be justified in any form of financial report, and especially not in the case of clubs. Not only is it likely that the ‘average’ club member has even less financial knowledge than the ‘average’ shareholder and less access to financial advisers, but it is also probable that he or she will take a more active part in running the club than shareholders take in running the companies in which they hold shares.

Another point is that clubs generally do not trade, or if they do, trading forms only a part of their activities. So the standard division of the overall profit and loss account into manufacturing, trading and profit and loss sections is inappropriate. Generally, clubs obtain income from a number of different sources, and so the income and expenditure account should be more than a mere listing of income and expenditure. A good general rule is to bring together income and expenditure relating to the same activity.

Say, for example, a tennis club runs a tournament, the expenses of which were covered in part by entry fees, then the expense of the tournament could be shown as follows:

	£	£
Expenses of Easter Tournament	1,500	
Less: Entry fees	<u>200</u>	1,300

If the entry fees were judged to be insignificant then only the net expense would be shown.

Many clubs have bars: it is customary to show on the face of (or as a note attached to) the income and expenditure account the trading and profit and loss account for the bar. If it appears as a note, the residual profit or loss must appear as an item in the income and expenditure account.

### Special funds

Clubs may receive donations or other forms of income which are tied to a specific purpose, for example a political association may have a special election fund or it may wish to make a transfer from its general funds to the special fund.

The simplest way of dealing with this requires no more than a reclassification of the accumulated (or general) fund. Thus if a donation is received the entry is:

	<i>Debit</i>	<i>Credit</i>
Cash	£105	
Election fund		£105

or, if a transfer is made from the accumulated fund:

	<i>Debit</i>	<i>Credit</i>
Accumulated fund	£1,200	
Election fund		£1,200

Having established the fund, any expenditure which relates to it is not charged against the income and expenditure account but, instead, may be shown on the face of the balance sheet, as a deduction from the special fund. This is illustrated below:

#### Southern Branch of the Centre Party Balance sheet as at 31 December 20X4

	£	£	£
Accumulated fund			
Balance 1 January 20X4			120,000
Add: Excess of income over expenditure for the year		50,000	
Less: Transfer to the election fund		<u>20,000</u>	<u>30,000</u>
			150,000
Election fund			
Balance at 1 January 20X4		30,000	
Add: Donations	18,000		
Transfer from accumulated fund	<u>20,000</u>	<u>38,000</u>	
		68,000	
Less: Election expenses		<u>15,800</u>	<u>52,200</u>
			<u>£202,200</u>
Sundry assets less liabilities			<u>£202,200</u>

The bookkeeping entries shown above will not automatically lead to cash, or other liquid assets, being available. In order to ensure that cash is available the club must take additional steps; for example, it can open a special bank account and ensure that the balance on that account is equal to the balance on the fund account.

An alternative is to separate the fund completely from the remaining activities, and this will require the preparation of a separate income and expenditure account and balance sheet. This alternative has to be adopted when the fund, although associated with the activities of the club, is set up under a legal agreement such as a trust fund.

### ? Checkpoint question

**14.2** Give an example of a special fund. How may a club or association make sure that cash in respect of the fund is available?

## Outstanding subscriptions

It is not uncommon – indeed it is more than likely – that a person resigning from a club does not bother to send the secretary a formal letter of resignation. The resigning member just does not bother to pay the next subscription. Because of this practice, many clubs only take credit for subscriptions received in cash and ignore outstanding subscriptions even if they use accrual accounting for all other items.

## Life subscriptions and entry fees

The problem with life subscriptions and entry fees is that they cover more than one year. Strictly, the best way to deal with them is to estimate the life expectancy of the member and to credit the amounts to the income and expenditure account over that period. This is rarely, if ever, done, and life subscriptions and entry fees may be credited to the income and expenditure account in the period in which the member joins, or credited to that account over an arbitrary time period, or credited direct to the accumulated fund.

### ? Checkpoint question

**14.3** How would life subscriptions be dealt with in theory? How are they dealt with in practice?

We conclude this section by presenting an example illustrating the conversion of a receipts and payments account into an income and expenditure account.

### Example 14.1

The receipts and payments account of the Chelsea Croquet and Lawn Tennis Club for the year ended 31 December 20X4 is as follows: 

<i>Receipts</i>	£	<i>Payments</i>	£
Opening balance	8,000	Rent of croquet lawn	12,000
Subscriptions	40,000	Property costs of clubhouse	8,000
Bar sales	182,000	Bar purchases	140,000
Entrance fees	8,000	Wages of barman	18,000
Donation	30,000	Coaching fees for schoolchildren's croquet course	7,000
Gate money from tennis tournaments	12,000	Hire of extra seating for tennis tournament	3,800
Sales of programmes at tournaments	100	Other tennis tournament expenses	2,000
Closing balance	24,500	Hoops, clubs and mallets	1,800
		Extension to clubhouse	80,000
		Sundry clubhouse expenses	32,000
	<u>£304,600</u>		<u>£304,600</u>

1. An analysis of subscriptions reveals the following:

	<i>Croquet members</i>	<i>Tennis members</i>	<i>Total</i>
	£	£	£
Received in 20X3 for 20X4	<u>£1,200</u>	<u>£600</u>	<u>£1,800</u>
Received in 20X4 for 20X3	800	12,000	
for 20X4	14,800	10,000	
for 20X5	<u>2,200</u>	<u>200</u>	
	<u>£17,800</u>	<u>£22,200</u>	<u>£40,000</u>

The club does not wish to take credit for outstanding subscriptions.

- Entrance fees are to be credited direct to the accumulated fund.
- The donation of £30,000 was to establish the programme of croquet-coaching courses for schoolchildren.
- The club owns its own clubhouse which cost £140,000. Hoops, clubs and mallets are to be charged against the income and expenditure account in the period in which they are acquired. The club's tennis section constructed a court at a total cost of £8,000 in 20X2 and it is thought that this will last for five years.
- Sundry assets and liabilities at the start and end of the year were:

	<i>1 January 20X4</i>	<i>31 December 20X4</i>
	£	£
Bar stocks	20,100	18,700
Creditors – bar purchases	18,400	19,500
hire of extra seats for tennis tournaments	–	800
Prepaid property costs	2,000	2,500
Sundry clubhouse expenses owing	700	900
Cash in hand	5,200	4,500

- We are asked to prepare an income and expenditure account and a balance sheet and are further instructed that the income and expenditure account should distinguish, as far as is possible, between the activities of the two sections.

We use the same procedures as with incomplete records and start by preparing the opening balance sheet.

**Chelsea Croquet and Lawn Tennis Club**  
**Balance sheet as at 1 January 20X4**

	£	£
<b>Assets</b>		
Clubhouse		140,000
Court (£8,000 – 3,200)		4,800
Bar stocks		20,100
Prepaid property costs		2,000
Balance at bank and cash in hand		<u>8,000</u>
		174,900
<b>Less: Liabilities</b>		
Subscriptions received in advance	1,800	
Creditors for bar purchases	18,400	
Sundry clubhouse expenses	<u>700</u>	<u>20,900</u>
Accumulated fund at 1 January 20X4		<u>£154,000</u>

**Chelsea Croquet and Lawn Tennis Club**  
**Income and expenditure account**  
**Year ended 31 December 20X4**

	£	£	£
<b>Croquet section</b>			
Subscriptions (1,200 + 17,800 – 2,200)		16,800	
Less: Rent of croquet lawn	12,000		
Hoops, clubs and mallets	<u>1,800</u>	<u>13,800</u>	3,000
<b>Tennis section</b>			
Subscriptions (600 + 22,200 – 200)		22,600	
Tournament gate money	12,000		
Less: Expenses			
(3,800 + 2,000 + 800 – 100)	<u>6,500</u>	<u>5,500</u>	
		28,100	
Less: Depreciation of court		<u>1,600</u>	<u>26,500</u>
			29,500
Bar profits (see below)			<u>21,500</u>
			51,000
<b>Less: Property costs of clubhouse</b>			
(2,000 + 8,000 – 2,500)		7,500	
Sundry clubhouse expenses			
(900 + 32,000 – 700)		<u>32,200</u>	<u>39,700</u>
Excess of income over expenditure for the year			<u>£11,300</u>

*Bar account*

	£	£
Sales		182,000
Less: Opening stock	20,100	
Purchases (19,500 + 140,000 – 18,400)	<u>141,100</u>	
	161,200	
Less: Closing stock	<u>18,700</u>	<u>142,500</u>
Gross profit		39,500
Less: Barman's wages		<u>18,000</u>
Profit		<u>£21,500</u>



**Balance sheet as at 31 December 20X4**

	Cost £	Accumulated depreciation £	Net book value £
Fixed assets			
Clubhouse	220,000	–	220,000
Tennis court	<u>8,000</u>	<u>4,800</u>	<u>3,200</u>
	<u>£228,000</u>	<u>£4,800</u>	<u>£223,200</u>
Current assets			
Bar stocks		18,700	
Prepaid property costs		2,500	
Cash in hand		<u>4,500</u>	
		25,700	
Less: Current liabilities			
Creditors (19,500 + 800 + 900)	21,200		
Subscriptions received in advance	2,400		
Bank overdraft (24,500 + 4,500)	<u>29,000</u>	<u>52,600</u>	<u>(26,900)</u>
			<u>£196,300</u>
Accumulated fund			
Balance 1 January 20X4		154,000	
Add: Excess of income over expenditure			
For the year		11,300	
Entrance fees		<u>8,000</u>	173,300
Coaching fund			
Donations		30,000	
Less: Coaching expenses		<u>7,000</u>	<u>23,000</u>
			<u>£196,300</u>

## 14.2 The accounts of charities

In this section we will discuss the special issues relating to the accounts of charities. While many charities are very small, others are very large indeed; examples in the UK include Oxfam and the Royal National Institute for the Blind (RNIB). Both the size of the larger charities and the vulnerability of many charities to mismanagement, or dishonesty, justify the need for special oversight of charities and this is undertaken by the Charity Commissioners.

Charities may be incorporated as companies limited by guarantee, which are special sorts of limited company that do not have shareholders, and are thus covered by companies legislation. For non-company charities in England and Wales the main source of legislation is the Charities Act 1993; there is separate legislation for Scotland and Northern Ireland.

Those who are members of the governing body of the charity, the directors in the case of a company limited by guarantee or the members of the committee in the case of an incorporated charity, are often, but not always, called trustees. We will use the term to describe those who are responsible for the running of charities.

The Charity Commissioners deal with all aspects of the lives of charities and, in the case of accounts, they specify the rules underlying the preparation of the accounts and

act as the Companies House for the charities world in that all but the smallest charities must file (or submit) their accounts to the Charity Commissioners in much the same way as limited companies have to file their accounts with the Registrar of Companies.

The financial accounting rules are set out in a Statement of Recommended Practice (SORP). The SORP *Accounting and Reporting by Charities* was published in 2000. SORPs are specialised Financial Reporting Standards that are published for specialised businesses such as higher education and banking. The SORPs are issued with the authority of the Accounting Standards Board (ASB) but are usually largely produced by some specialised body connected with the particular industry for example the British Banking Association. In the case of charities, the specialised body is the Charities Commission.

### The special features of charity accounts

Charity accounts are produced on the same basis as the accounts for other sorts of entities, for example expenses are accrued and assets depreciated. The bookkeeping leading up to the final production of the accounts is very much the same whether the entity be Marks and Spencer or the RNIB. There is, however, a major difference in the audiences to which the accounts are primarily addressed. In the case of limited companies the accounts are primarily aimed at existing and potential shareholders and creditors who might be assumed to possess some basic understanding of financial matters or at least know where to obtain help. In contrast, the accounts of charities need to be understood by those who are concerned with the work of the charity whether as benefactors, beneficiaries or workers, and it cannot be assumed that these will be as well informed about financial matters as shareholders and creditors. So it is particularly important that the accounts of charities be clear and straightforward and as free from jargon as possible. The SORP on charity accounts seeks to achieve this aim.

People who give money to charities are often worried about whether their money will be used directly to support the aims of the charity or 'be wasted' on administration. This might be a naive view in that no charity can survive without some administrative underpinning but it is also true that many charities do spend excessive amounts on administration. In order to allow the users of the accounts to judge whether the amounts spent are reasonable, the SORP specifies that the accounts distinguish among the amounts spent on raising funds, on administration and on its charitable activities.

Beneficiaries might give money for a charity to use for a specified purpose but for no other. For example, a charity might be given money to help children with visual impairments to learn to play golf. The money could then be used only to pay for expenditure that is directly related to the activity such as travel costs or activities related to adults; no part of the money can be used to help fund the general administrative costs of the charity. Such funds are known as restricted funds. Any income, such as bank interest, that arises from the holding of restricted funds is also restricted in that it can, unless the beneficiaries state otherwise, only be used for the stated purpose. Endowment funds are another special sort of fund in that they must be invested as a capital fund and only the income arising from the fund can be spent. While it might often be sensible to separate the assets relating to each class of fund by, for example, opening separate bank accounts, this is not strictly necessary, but it is necessary to ensure that the accounting records distinguish clearly between each class.

Trustees can also establish ‘designated funds’ which indicates their intention to use the funds for a particular purpose, but the trustees can change their minds and, unlike restricted funds, designated funds can be transferred to the general fund.

As we will see, the SORP requires charities to distinguish clearly among general, restricted and endowments, showing in total for each class of fund

- opening balance;
- transfers between funds (if, for example, the beneficiary ‘frees’ a previously restricted fund);
- income;
- expenditure;
- closing balance.

### ? Checkpoint questions

**14.4** Suggest two reasons why the Charity Commissioners take a special interest in the financial statements of charities.

**14.5** What are the differences between restricted, unrestricted and designated funds?

## The structure of accounts

The structure of the accounts is basically the same as for a limited company, the main difference being of terminology in that the profit and loss account is known as the statement of financial activities. As indicated above, if the charity has more than one class of fund, separate figures must be shown for each of the classes. In such instances the statement will appear as a table, with the columns showing the different types of fund and the rows the various income and expenditure headings set out in the SORP.

## Statement of financial activities

The statement might have up to five sections:

1. Incoming resources. These should distinguish among:
  - donations, legacies and similar items;
  - incoming resources from the operating activities of the charity, distinguishing between
    - activities in furtherance of the charity’s objectives, and
    - activities for generating funds;
  - investment income;
  - other income, for example gains on disposal of fixed assets.
2. Resources expended. These should distinguish between:
  - costs of raising funds;
  - charitable expenditure, showing separately:
    - grants payable in pursuit of the charity’s objectives;
    - costs payable in pursuit of the charity’s objectives;
    - support costs in respect of both the above;
    - resources used in managing and administering the charity.

3. Transfers between funds.
4. Gains and losses on the revaluation of fixed assets. Gains on actual sales are included in section 1.
5. Gains and losses on the revaluations and disposals of investment assets. In the case of larger charities the statement of financial activities would show only the total of the movements on the restricted funds; further details would need to be given in the notes.

**Example 14.2**

1. Jake, a retired rock star, decided to set up a charity, Playright, to help young people learn to play musical instruments. He started the charity on 1 January 20X1 with a donation of £150,000, of which £100,000 was an endowment fund, the balance was to help pay the running expenses of the charity. The interest from the endowment fund can also be used to pay for the general expenditure of the charity.
2. On 1 April 20X1, Jake's old partner Chas gave the charity £40,000 with the restriction that the money should only be used to pay for music lessons for children aged 12 or under.
3. The parents of the children receiving lessons pay a nominal fee but the main source of funding was concerts organised by Jake and Chas.
4. Playright rented rooms in a local sports centre and paid fees to the music teachers. It also started a programme of purchasing second hand instruments that could be used by children whose parents could not afford to buy them.

The following is a summary of Playright's cash book for the year ended 31 December 20X1.

	Quarter 1	Quarter 2	Quarter 3	Quarter 4	Totals
<b>Cash received</b>					
Jake's donation	150,000				150,000
Chas's donation		40,000			40,000
<b>Proceeds from</b>					
concerts		10,000	6,000	15,000	31,000
Fees for lessons	2,000	2,500	3,000	5,000	12,500
Bank interest	<u>1,800</u>	<u>2,200</u>	<u>1,800</u>	<u>1,600</u>	<u>7,400</u>
Totals	<u>153,800</u>	<u>54,700</u>	<u>10,800</u>	<u>21,600</u>	<u>240,900</u>
<b>Cash payments</b>					
<b>Rental of rooms</b>					
for lessons	1,200	1,200	1,800	1,800	6,000
Fees to teachers	4,000	5,000	8,000	10,000	27,000
Expenses of concerts	2,000	3,000	3,500	1,500	10,000
<b>Sundry administrative</b>					
expenses	1,500	1,800	3,000	4,000	10,300
<b>Purchase of</b>					
musical					
instruments	<u>8,000</u>	<u>—</u>	<u>3,000</u>	<u>4,000</u>	<u>15,000</u>
Totals	<u>£16,700</u>	<u>£11,000</u>	<u>£19,300</u>	<u>£21,300</u>	<u>£68,300</u>
Balance					£172,600

5. Separate classes were not held for students aged 12 and under but it is estimated that in the period following Chas's donation 25 per cent of the students were of that age and hence 25 per cent of the rental charges and teachers' fees, after deducting the fees received for the lessons, can be paid for from the restricted fund.



6. Proceeds from the last charity concert of the year amounting to £8,000 were outstanding at the year end, while expenses relating to the concert of £2,400 need to be accrued. There are no other debtors, prepayments or accruals.
7. A separate bank account was not set up for the restricted fund. It is estimated that of the total interest received of £7,400, £1,700 relate to the designated fund.
8. The charity has decided to charge depreciation on the basis of 25 per cent of cost and will make a full year charge irrespective of when the instruments were purchased.
9. The trustees have agreed to set up a designated fund that would help the charity set funds aside to help it buy a building. A transfer of £30,000 was made from the general fund on 31 December 20X1.

**Playright**  
**Statement of financial activities for the year ended 31 December 20X1**

	Notes	Unrestricted funds		Restricted funds		Total £
		General funds £	Designated funds £	Endowment £	Children's lessons £	
<i>Incoming resources</i>						
Donations		50,000		100,000	40,000	190,000
Fees for lessons		12,500				12,500
Proceeds from concerts	C	39,000				39,000
Bank interest		<u>5,700</u>			<u>1,700</u>	<u>7,400</u>
Total incoming resources		<u>107,200</u>	<u>—</u>	<u>100,000</u>	<u>41,700</u>	<u>248,900</u>
<i>Outgoing resources</i>						
<i>Costs of raising funds</i>						
Concert expenses	D	12,400				12,400
<i>Charitable expenditure</i>						
Charitable activities	E	32,425			4,325	36,750
Management and administration		<u>10,300</u>				<u>10,300</u>
Total outgoing resources		<u>55,125</u>	<u>—</u>	<u>—</u>	<u>4,325</u>	<u>59,450</u>
Net incoming resources before transfers						
		52,075	—	100,000	37,375	189,450
Transfers between funds						
		<u>−30,000</u>	<u>30,000</u>			
Net movements on funds						
		22,075	30,000	100,000	37,375	189,455
Funds at 1 January 20X1						
		<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>
Funds at 31 December 20X1						
		<u>22,075</u>	<u>30,000</u>	<u>100,000</u>	<u>37,375</u>	<u>189,450</u>

**Balance sheet as at 31 December 20X1**

	£	£
Tangible fixed assets		
Cost	15,000	
Less: Accumulated depreciation	<u>3,750</u>	11,250
Current assets		
Debtors	8,000	
Balance at bank	<u>172,600</u>	
c/f	180,600	<u>11,250</u>

b/f	180,600	11,250
Less: Current liabilities		
Accrued expenses	<u>2,400</u>	<u>178,200</u>
Total assets less liabilities		<u>189,450</u>
Unrestricted funds		
General fund	22,075	
Restricted fund	<u>30,000</u>	52,075
Restricted funds		
Endowment	100,000	
Children's lessons	<u>37,375</u>	<u>137,375</u>
Total funds		<u>189,450</u>

*Notes:*

- A. Normally comparative figures for the previous year would be required but this is not possible in this case since the charity only started operations in 20X1.
- B. The SORP requires a number of notes that we have not included in our example.
- C. Proceeds of concerts:

	£
Cash received	31,000
Debtors	<u>8,000</u>
Total	<u>39,000</u>

## D. Concert expenses

	£
Cash paid	10,000
Amount due	<u>2,400</u>
Total	<u>12,400</u>

## E. We need to calculate the expenditure that can be charged to the restricted fund.

Expenditure that can be charged against the restricted fund available only to provide lessons for children, noting that the donation was made at the beginning of the second quarter.

Quarters 2–4	£
Room rental	4,800
Fees to teachers	<u>23,000</u>
	27,800
Less: Fees received	<u>10,500</u>
Net cost	<u>17,300</u>
25% of net cost	4,325

Since the only fixed assets are musical instruments, the whole of the depreciation charge is included in the charge for charitable activities.

Room rental	6,000
Teachers' fees	<u>27,000</u>
	33,000
Less: Amount charged to Children's fund	<u>4,325</u>
	28,675
Add: Depreciation 25% of £15,000	<u>3,750</u>
Total	<u>32,425</u>

## Summary

We discussed the particular needs of clubs, societies and charities for financial statements, together with the associated problems. We then showed how to prepare such statements so as to meet the needs of the members of clubs and societies and of those concerned with charities.

## Review questions

- 14.1** 'It really does not matter whether the accounts of a club are correct or not, because clubs are not incorporated under the Companies Acts.' Discuss.
- 14.2** 'The objectives of a golf club are very different from those of a grocer, yet the only differences between their financial accounts are terminological.' Discuss.
- 14.3** Comment on the main principles underlying the financial statements of charities and comment on the extent to which you feel the form of the statement serves the interest of the different groups who have a legitimate interest in them.

## Exercises

**Solutions to exercises whose number is in colour can be found at the end of the book.**

- 14.1** Bewley Rugby and Field Sports Club. The following receipts and payments account for the year ended 31 December 20X6 has been prepared.

<i>Receipts</i>		<i>Payments</i>	
	£		£
Opening balance	2,400	Rent of rugby fields	8,300
Entrance fees	2,000	Bar purchases	18,660
Subscriptions	12,000	Printing & stationery	3,520
Bar sales	27,600	Hire fees	5,600
Donations	4,500	Extension to clubhouse	5,000
		Sundry expenses	2,580
		Closing balance	<u>4,840</u>
	<u>£48,500</u>		<u>£48,500</u>

An analysis of subscriptions reveals the following:

	<i>Rugby</i>	<i>Field sports</i>	<i>Total</i>
	£	£	£
Received in 20X5 for 20X6	<u>240</u>	<u>120</u>	<u>360</u>
Received in 20X6 for 20X5	160	2,400	
Received in 20X6 for 20X6	6,960	2,000	
Received in 20X6 for 20X7	<u>440</u>	<u>40</u>	
	<u>£7,560</u>	<u>£4,440</u>	<u>£12,000</u>

- Entrance fees are to be credited direct to the accumulated fund.
- The donation of £4,500 was to be used for the coaching of schoolchildren in rugby.
- The club owns its own clubhouse and sports field which cost £28,000.
- Sundry assets and liabilities at the beginning and end of the year were as follows:

	1.1.X6	31.12.X6
	£	£
Bar stocks	1,500	1,350
Creditors – bar purchases	1,200	1,300
– hire fees	–	150
Prepaid rents	1,000	1,250
Sundry expenses outstanding	1,200	1,300

Prepare the income and expenditure statement and a balance sheet as at that date.

- 14.2** The treasurer of the Crown Bowling Club disappeared on 31 March 20X3, taking with him the majority of the books and records of the club. The club's year end is 31 March. At the request of the club's committee you are asked to examine the financial implications of the treasurer's disappearance. From discussions with the committee you learn that certain information relating to receipts and payments is recorded in the club's minute-book. In addition you obtain duplicate bank statements, returned cheques and paying-in slips. Having examined these together with the accounts for the year ended 31 March 20X2, you assemble the following information:

- The balance sheet as on 31 March 20X2 showed the following:

	£	£
Fixed assets		4,000
Stock		2,004
Debtors – overdue subscriptions (6 members at £60)	360	
Balance at bank	494	
Cash in hand	<u>230</u>	
	3,088	
Creditors	<u>1,100</u>	<u>1,988</u>
		<u>£5,988</u>
Accumulated fund		1,988
Brewery loan		<u>4,000</u>
		<u>£5,988</u>
Creditors comprise:		
Amount due to brewery for supplies		852
Greenkeeper } amounts due for quarter		152
Steward } to 31 March 20X2		<u>96</u>
		<u>£1,100</u>

- The following summaries of the minute book provided by the secretary appear relevant:
  - 11 June 20X2. The accounts for the year ended 31 March 20X2 were presented and approved. It was reported that one of the overdue subscriptions had been paid. The membership of the other five overdue members was deemed to lapse from 1 April 20X2. Payments to the greenkeeper and the steward totalling £248, which had been provided in the accounts, were approved. The subscription for the year ended 31 March 20X3 was fixed at £64 per member. There were 100 members (following ►



the lapses referred to above). Bar sales totalled £5,800 in April and May and showed a gross profit of 32 per cent of sales.

- (b) 11 September 20X2. There had been 94 entries for the annual competition. The entry fee was £4 per entrant. The prizes, two dozen bottles of sherry, were taken from the bar stock. The cost to the bar was £6 per bottle. The greenkeeper's and steward's quarterly payments totalling £248 had been paid for the quarter to 30 June. Sixty-five subscriptions had been received to date. Bar sales totalled £5,880 in June, July and August and showed a gross profit of 28 per cent of sales.
- (c) 12 December 20X2. Bar sales totalled £6,200 in September, October and November and showed a gross profit of 33 per cent of sales. The greenkeeper had resigned on 1 October and had been paid up to date. The steward had been paid, in cash, £96 for the quarter ended 30 September 19X2.
- (d) 11 March 20X3. Bar sales totalled £6,800 in December, January and February and showed a gross profit of 31 per cent of sales. Two members had resigned without their subscriptions being received. All other subscriptions had been received.
3. Summarised copy bank statements for the year ended 31 March 20X3 show the following:

	£	£
Opening balance	494	
Receipts – cash and cheques	24,672	
Payments		18,808
Closing balance	<u>          </u>	<u>6,358</u>
	<u>£25,166</u>	<u>£25,166</u>

The cheque payments comprise:

Greenkeeper and steward (quarter ended 31 March 20X2)	248
Part repayment of brewery loan (including interest of £400)	2,400
Brewery for supplies	11,444
Lawnmower	488
Improvements to green and pavilion	2,428
Repairs	<u>1,800</u>
	<u>£18,808</u>

4. The secretary informs you that certain payments for wines and spirits from a local supermarket had been made from cash takings.
5. Four new members had joined in March 20X3 and had paid their subscriptions of £64 each for the year ended 31 March 20X4 direct to the secretary. Following the disappearance of the treasurer, the secretary had paid the steward's two outstanding quarterly fees from this cash and had banked the balance in April 20X3.
6. As on 31 March 20X3 all fixed assets are to be revalued at £8,000. Depreciation is to be ignored.
7. The records for bar takings in March could not be located. In view of a rise in bar prices on 1 March 20X3 you estimate the gross profit would have been 34 per cent on sales. The supermarket confirmed that there were no purchases by the club during March 20X3. As on 28 February 20X3, £900 was due to the brewery for supplies. Stock at cost as on 28 February 20X3 was £1,840 and as on 31 March 20X3 £1,750. The brewery confirmed that supplies of £1,456 were delivered to the club in March 20X3. The balance due to the brewery for supplies of £2,356 as on 31 March 20X3 was paid in April.

You are required to prepare an income and expenditure account for the year ended 31 March 20X3, identifying the amount of the treasurer's defalcations, and a balance sheet as on that date.

# 15

## Branch accounts

### Introduction

Firstly, we describe and explain the purposes and main methods of accounting for branches.

We go on to describe branch accounting where (a) the branch maintains full accounting records at the branch and (b) the records are maintained at head office, explaining the advantages and disadvantages of each. We then demonstrate how branch accounting is dealt with under each of these methods, including the problem of items in transit at the accounting date.

Finally, we add notes on methods of checking stock and cash, and foreign branch accounts, which are not covered in this book, indicating where you can find this material if you need it.

### Learning objectives

At the end of this chapter, after completing the checkpoint questions and exercises, you should be able to:

- list the main purposes of branch accounting;
- explain the two main methods of branch accounting;
- prepare branch accounts under each method;
- prepare (i) the branch profit and loss account under each method and (ii) the branch balance sheet where the branch maintains full accounting records;
- prepare a combined balance sheet, including items in transit, where the branch maintains full accounting records.

### Key term

■ In a business context a **branch** is a subordinate part of a firm which is not set up as a limited company; such a company would be a subsidiary company.

## 15.1 Purposes and methods of accounting for branches

The purposes of keeping branch accounts are primarily

- to show changes in the branch balance sheet; and
- to report on the branch profit or loss.

There are two main approaches to recording the branch transactions:

1. maintaining full accounting records at the branch;
2. recording all the transactions in the head office books.

Method 1 is used only where the branch is large enough to have its own accounts department. The advantages of this approach include better control by local management, the information being immediately available. This also has an advantage in management development, as it allows for more delegation of authority. However, with the use of electronic transfer of information, this advantage is now less important, as compared with method 2.

Under method 2 the accounting system is straightforward, involving only appropriate ledger accounts in the head office books, e.g. branch sales, branch stock etc. This approach is necessary where there is a large number of small branches which cannot afford to have local accounts departments.



### Checkpoint question

15.1 What are the main advantages of each of the main methods of branch accounting?

## 15.2 Branch accounting where the branch maintains full accounting records

The branch accountant will open a full set of double entry records for the operations of the branch. In addition to the usual sales, stock, cost of goods sold and other asset, liability and expenses accounts, there will also be a head office current account. The resources needed for the operation of the branch are supplied by the owner(s) of the firm indirectly through head office. In practice the head office current account in the branch books and the branch current account in the head office books are treated as debtors/creditors, so that if the branch is a debtor in head office books the head office will be a creditor in the branch books and vice versa. As we shall see later, in some respects the head office current account has the characteristics of a sole trader's capital account, being credited with profits and debited with losses.

We shall now illustrate the operation of this method through a worked example.

### Example 15.1

A firm, Scotco, which has its head office in Edinburgh, opened a branch in Leeds on 1 October 20X3. During the first month of trading the following transactions took place:

- (i) Head office opened a branch bank account in Leeds by transferring £200,000 from its Edinburgh bank account.
- (ii) Head office obtained premises for the branch in Leeds, paying rent in advance for six months of £6,000.
- (iii) Edinburgh transferred goods for resale from its own stock to Leeds, invoicing Leeds branch at cost £80,000.
- (iv) Leeds branch bought furniture and fittings for £24,000, paying by means of a cheque drawn on its own bank account.

- (v) Leeds purchased goods for resale on credit from Rooks for £10,000.
- (vi) Leeds returned unsuitable goods for resale, cost £5,000, to Edinburgh.
- (vii) Leeds made cash sales amounting to £50,000, of goods transferred from Edinburgh (cost £40,000). The proceeds were immediately banked in the Leeds account.
- (viii) At head office's request, Leeds paid £25,000 to head office, by cheque.
- (ix) Leeds paid salaries for the month amounting to £2,500.

The ledger accounts in the books of Edinburgh and Leeds are then as follows.

**Head office records (in Edinburgh)**

*Leeds branch current account*

		£			£
(i)	Bank	200,000	(vi)	Stock	5,000
(ii)	Bank: rent	6,000	(viii)	Bank	25,000
(iii)	Stock	<u>80,000</u>			
		286,000			<u>30,000</u>
	(Balance £256,000)				

*Bank (extract)*

		£			£
(viii)	Leeds branch	25,000	(i)	Leeds branch	200,000
		<u>25,000</u>	(ii)	Leeds branch: rent	<u>6,000</u>
					206,000

*Stock account (extract)*

		£			£
(vi)	Leeds branch	5,000	(iii)	Leeds branch	80,000

**Branch records (in Leeds)**

*Head office current account*

		£			£
(vi)	Stock	5,000	(i)	Bank	200,000
(viii)	Bank	25,000	(ii)	Rent	6,000
		<u>30,000</u>	(iii)	Stock	<u>80,000</u>
					286,000
				(Balance £256,000)	

*Bank*

		£			£
(i)	Head office	200,000	(iv)	Furniture & fittings	24,000
(vii)	Sales	50,000	(viii)	Head office	25,000
		<u>250,000</u>	(ix)	Salaries	<u>2,500</u>
					51,500
	(Balance £198,500)				

*Rooks (creditor)*

		£			£
			(v)	Stock account	10,000

<i>Stock account</i>			
	£		£
(iii) HO current account	80,000	(vi) HO current account	5,000
(v) Rooks	<u>10,000</u>	(vii) Cost of goods sold	<u>40,000</u>
	90,000		45,000
(Balance £45,000)			
<i>Furniture &amp; fittings</i>			
	£		£
(iv) Bank	24,000		
<i>Rent</i>			
	£		£
(ii) HO current account	6,000		
<i>Sales</i>			
	£		£
		(vii) Bank	50,000
<i>Cost of goods sold</i>			
	£		£
(vii) Stock	40,000		
<i>Salaries</i>			
	£		£
(ix) Bank	2,500		

You will notice that some transactions affect head office directly and therefore need entries in both sets of books. Other transactions do not affect head office directly and need entries only in the branch books.

We can then extract a trial balance for Leeds branch.

<i>Trial balance</i>		
	<i>Dr</i>	<i>Cr</i>
Head office current account		256,000
Bank	198,500	
Rooks (creditor)		10,000
Stock	45,000	
Furniture & fittings	24,000	
Rent	6,000	
Sales		50,000
Cost of goods sold	40,000	
Salaries	<u>2,500</u>	
	<u>£316,000</u>	<u>£316,000</u>

After making adjustments in respect of the prepaid rent and the accrued expenses listed below, we can draw up the branch profit and loss account for the month and the balance sheet as at 31 October 20X3. (Scotco deals with depreciation only at year end.)

Branch accounting where the branch maintains full accounting records

Expenses accrued as at 31.10.X3 were:

Heating and lighting	£200
Telephone	£100

**Leeds branch**

**Profit and loss account for the month of October 20X3**

	£	£
Sales		50,000
Cost of goods sold		<u>40,000</u>
Gross profit		10,000
Less: Expenses		
Rent (prepaid £5,000)	1,000	
Salaries	2,500	
Heating & lighting (accrued)	200	
Telephone (accrued)	<u>100</u>	<u>3,800</u>
Net profit		<u><u>£6,200</u></u>

**Balance sheet as at 31 October 20X3**

	£	£	£
Fixed assets			
Furniture and fittings			24,000
Current assets			
Stock		45,000	
Prepaid expenses		5,000	
Bank		<u>198,500</u>	
		248,500	
Less: Current liabilities			
Creditor	10,000		
Accrued expenses	<u>300</u>	<u>10,300</u>	<u>238,200</u>
			<u><u>£262,200</u></u>
Head office current account			256,000
Add profit for the period			<u>6,200</u>
			<u><u>£262,200</u></u>

## The combined balance sheet

Once the necessary entries have been made and trial balances prepared, we need to combine the branch and head office figures so as to prepare a combined balance sheet for the whole firm.

One of the problems in producing the combined balance sheet may be that at the accounting date there are some items in transit. Cheques sent to or from the branch may not have arrived; this is even more likely where stock sent or returned is concerned. Both offices will have entered the items in their books as at the date of remittance/dispatch or receipt. As some items will still be on their way it follows that the balances on the two current accounts will not be equal to each other. However, we need to have identical balances when preparing the combined balance sheet, as the two balances should cancel out. Therefore a reconciliation is needed. This could be carried out by either the branch or head office. Usually, the reconciliation is done by head

office because, firstly, there is usually a number of branches to be dealt with and, secondly, the more senior and experienced accountants will be based at head office.

We now go on to demonstrate the way to deal with these differences if they arise.

### Example 15.2

Taking the figures given in Example 15.1, suppose that (vi) goods returned had not arrived in Edinburgh and (viii) the cheque was still in the post.

In the head office records the Leeds branch current account would appear as follows, before adjustment for items in transit:

<i>Leeds branch current account</i>				
		£		£
(i)	Bank	200,000		
(ii)	Bank: rent	6,000		
(iii)	Stock	80,000		
	Net profit	<u>5,200</u>		
		291,200		

The entries in respect of the items in transit need to be taken into the period in which they arrive, i.e. the following month. We do this by carrying them down as balances into the next month.

After adjustment, closing the account for the period and carrying down the balances:

<i>Leeds branch current account</i>					
		£		£	
(i)	Bank	200,000	Goods in transit c/d	5,000	
(ii)	Bank: rent	6,000	Cheque in transit c/d	25,000	
(iii)	Stock	80,000	Balance c/d	261,200	
	Net profit	<u>5,200</u>			
		<u>£291,200</u>			<u>£291,200</u>
	Balance b/d	261,200			
	Goods in transit b/d	5,000			
	Cheque in transit b/d	25,000			

<i>Bank (extract)</i>			
		£	£
(i)	Leeds branch	200,000	
(ii)	Leeds branch: rent	<u>6,000</u>	
		<u>206,000</u>	

<i>Stock account (extract)</i>			
		£	£
(ii)	Leeds	80,000	

Notice that the two transit items remain the same as before but appear in a different ledger account. It follows that when the combined balance sheet is prepared the result will be exactly the same as before. The stock in transit will be added to combined stocks and the cheque in transit to the combined bank balance. By way of illustration, the complete trial balance of the head office is now given below, together with that of the Leeds branch.

## ? Checkpoint question

15.2 Briefly explain the problem of items in transit at the accounting date.

### Example 15.3

#### Trial balances as at 31 October 20X3 (after preparation of profit and loss accounts)

	Edinburgh HO		Leeds branch	
	Dr	Cr	Dr	Cr
HO current account (£256,000 + profit £6,200)				262,200
Bank	100,000		198,500	
Creditors		20,000		10,000
Stock	200,000		45,000	
Furniture and fittings	80,000		24,000	
Premises	140,000			
Prepaid expenses			5,000	
Accrued expenses				300
Capital account as at 1.10.X3		746,000		
Net profit for the month (HO £10,000 + branch £6,200)		16,200		
Branch current account (£256,000 + profit £6,200)				
	<u>261,200</u>		<u>£272,500</u>	<u>£272,500</u>
	<u>£782,200</u>	<u>£782,200</u>		

When we combine the two trial balances we can draw up the combined balance sheet. The combined balance sheet is then as follows.

#### Balance sheet as at 31 October 20X3

	£	£	£
Fixed assets			
Premises			140,000
Furniture and fittings			<u>104,000</u>
			244,000
Current assets			
Stock		245,000	
Prepaid expenses		5,000	
Bank		<u>298,500</u>	
		548,500	
Less: Current liabilities			
Creditors	30,000		
Accrued expenses	<u>300</u>	<u>30,300</u>	
Net current assets			<u>518,200</u>
			<u>762,200</u>
Capital account			
Balance as at 1 October 20X3			746,000
Add: Net profit			
Edinburgh		10,000	
Leeds		<u>6,200</u>	<u>16,200</u>
			<u>762,200</u>



## A note on foreign branch accounts

Accounting for foreign branches follows the same procedures as accounting for branches in the home country. The only difference is that transactions will be in a foreign currency. In order to include these transactions in the home firm's accounts, the overseas figures will have to be translated into the home currency. To deal with the rules and procedures for translation is beyond the scope of this book. Students wishing or needing to understand foreign currency translation are referred to the further reading for this chapter.

### 15.3 Branch accounting where all transactions are recorded in the head office books

As no accounting records are kept at the branch, head office and branch current accounts do not exist.

#### Example 15.4

##### Head office records in Edinburgh

<i>Rent: Leeds branch</i>			
	£		£
Bank	6,000		
<i>Bank</i>			
	£		£
Sales	50,000		
<i>Rooks (creditor)</i>			
	£		£
		Stock	10,000
<i>Cash sales: Leeds</i>			
	£		£
		Bank	50,000
<i>Stock</i>			
	£		£
Rooks	10,000	Cost of goods sold	40,000
<i>Cost of goods sold: Leeds</i>			
	£		£
Stock	40,000		
<i>Salaries: Leeds</i>			
	£		£
Bank	2,500		

The above shows only the entries which are essential for preparing the accounts of the whole firm. In practice, separate accounts would be maintained within the head office books for branch assets and liabilities, in this case stock, creditors and furniture and fittings, as follows.

<i>Rooks: Leeds creditor</i>			
	£		£
		(v) HO stock account	10,000
<i>Stock account</i>			
	£		£
(iii) HO stock account	80,000	(vi) HO stock account	5,000
(v) Rooks	<u>10,000</u>	(vii) Cost of goods sold	<u>40,000</u>
	90,000		45,000
(Balance £45,000)			
<i>Furniture &amp; fittings</i>			
	£		£
(iv) Bank	24,000		

The above are essentially for management purposes. When the profit and loss account and balance sheet are prepared for the whole firm they would simply be added back into the head office figures.

## A note on control systems

Where the branch accounts are maintained at head office, they may be used as the basis of memorandum accounts which help in controlling stock and cash at the branch. This method is beyond the scope of this text, being a management accounting technique. Students interested in, or needing to study, this technique are referred to the further reading for this chapter.

### Summary

**In this chapter we have discussed the purposes and the two main methods of preparing branch accounts. We have also demonstrated how to prepare the accounts, using these methods. In the case where full accounting records are maintained at the branch, we have shown how to reconcile the accounts at head office and the branch, and how to draw up a combined balance sheet. Under both methods, we have shown how to determine the branch profit. We have indicated, where the records are kept only at head office, how the branch assets and liabilities would be recorded in practice.**

## Review questions

- 15.1** If you were asked to advise on which main method of branch accounting to use, explain under what circumstances you would recommend each method.
- 15.2** Explain why items in transit at the accounting date cause a problem, and how the problem should be dealt with.



## Exercises

**Solutions to exercises whose number is in colour can be found at the end of the book.**

- 15.1(a)**
- (i) City Co., which has its head office in London, opened a branch in York by transferring £500,000 from its London bank account to a new York bank account, on 1 January.
  - (ii) Head office purchased premises for York branch for £600,000, paying by cheque drawn on its London bank account on 1 January.
  - (iii) York branch paid, by cheque drawn on its bank account on 1 January, insurance for the year to 31 December of £12,000.
  - (iv) On 4 January York branch purchased warehouse equipment for £170,000 on credit from Prentice.
  - (v) On 5 January York branch purchased goods for resale from Parrott for £100,000 cash, paying by a cheque drawn on its York bank account.
  - (vi) On 7 January head office transferred goods for resale to York, at cost £35,000.
  - (vii) On 20 January York sold half the goods purchased from Parrott, on credit to Bloggs for £65,000.
  - (viii) On 31 January York paid salaries for the month of January of £6,000.
  - (ix) On 31 January York returned goods for resale to head office, at cost £3,000.
  - (x) On 31 January York repaid London head office £100,000 by cheque.

York branch keeps full accounting records at the branch.

Prepare the ledger accounts in the books of London (extracts) and York for the month of January.

- 15.1(b)** Referring to the information in 15.1 (a) above, show how the ledger accounts would appear if the records were maintained at head office. Distinguish those accounts which are:
- (i) essential for preparing the financial statements of the firm;
  - (ii) needed in order to identify the branch assets and liabilities.

- 15.1(c)** Based on the information provided in exercise 15.1 (a), draw up the trial balance of York branch. Taking the following information into account, prepare the York profit and loss account for the month ended 31 January.

Amounts accrued as at 31 January:

	£
Sundry expenses	1,000
Heating and lighting	700
Travel expenses	200

- 15.2** The following information relates to the current accounts of Branching Co. head office and its Dover branch for the month of May.

		£
Head office records		
Opening balance b/d	debit	18,700
Goods supplied to Dover branch		22,500
Cheques received from Dover branch		19,700
Returns received from Dover branch		460
Branch records (in Dover)		
Opening balance b/d	credit	18,700
Goods received from head office		21,000
Cheques sent to head office		20,300
Returns sent to head office		520

The net profit for the month as shown by Dover branch profit and loss account is £7,800.

It is confirmed that all the differences between head office records and Dover branch records represent goods or cheques in transit at the end of the month.

Prepare a revised Dover branch current account, in head office books, for the month.

# 16

## Computerised accounting: an introduction

### Introduction

Students have frequently asked us about having to learn basic accounting before using the computer. As one student asked, 'Why do we have to learn all this stuff when nearly all accounting is now done on computers?' By 'all this stuff' he was referring to the basic accounting chapters in Part I, but, of course, the chapters in Parts II and III are equally affected. The answer is that because you cannot take a look inside a computer to see what is happening, you need to understand the basic principles and procedures of accounting first, so that you can understand what the machine is doing. Thus we have included this brief chapter in Part III.

This chapter is not intended to be a 'how to do it' text. Computers are run by software systems. These may be held in various forms including purchased 'packages' or 'bespoke' systems (that is, specially designed systems written for a particular organisation). 'How to do it' is included in the manuals supplied with the packages, or by the designers of the bespoke system.

One of our aims is to show you how computerised systems compare with the manual systems dealt with in earlier chapters. As we said in Chapter 4, the underlying principles of computerised and manual systems are the same. We are therefore outlining the benefits and risks caused by the use of computers.

### Key terms

■ **Software** consists of the programs and other operating information used by a computer, as opposed to **hardware**, which is the term for the mechanical and electronic components of the computer system.

### Learning objectives

At the end of this chapter, after completing the review questions, you should be able to:

- explain why it is necessary to understand the principles of accounting before going on to use computers;
- describe and explain the main benefits and risks in the use of computerised accounting;
- understand the real dangers of using fully computerised accounting systems and some of the approaches to guarding against those risks.

## 16.1 Computers for accounting

Even small firms can now afford to use computer systems. The accounting records for a small firm can be kept on a single microcomputer or personal computer (PC). For somewhat larger firms it is fairly straightforward to set up a network which links together several PCs, enabling several users to share access to the accounting programs and also to equipment such as printers. Of course, accounting systems can be, and originally were, operated through a larger mainframe computer. One drawback of such a system is the need for a substantial investment in hardware, software and staff to install and operate the system.

The systems are run by software. It is important to realise that the software is invisible; it is impossible to refer to it directly. We can only observe the results of its operations. The most important problem at this stage is that the system may not match the needs of the enterprise. This is the case with bespoke software if it is not well designed for the purpose. Also, an unsuitable package could be chosen, especially if the purchaser is insufficiently knowledgeable in either accounting or computing, or both.

Most of the data are normally entered through the keyboard. However, some types of firms may use other forms of input, for example a shop may use bar codes, which are entered by scanning at the checkout, and a bank will automatically record withdrawals from a cashpoint machine. To enter a transaction into the system, the transaction must be correctly 'coded' to ensure that it arrives in the right locations in the 'books of account' within the computer system. The transaction is given code numbers/letters to guide the operator in entering the details of the transaction into the books of account. Each account, therefore, has to be given a unique code. This will typically contain numbers/letters which indicate which type of account it is: nominal, personal etc. The first number/letter of the nominal code could indicate, for the balance sheet, equity, fixed asset, current asset, current liability, long-term liability and so on. The second could indicate, under equity, called-up share capital, share premium account, revaluation reserve, or profit and loss account. Further code numbers/letters for the profit and loss account could indicate revenue, operating expense, directors' remuneration, auditors' remuneration, interest, taxation or dividend. Personal account codes could indicate, for example, trade debtors, other debtors, trade creditors, sundry creditors and so on. Further codes would be necessary to allow for analyses needed for various reports which are required by management, for instance aged trade debtors. (See Chapter 7: Bad and doubtful debts and control accounts.)

## 16.2 Benefits and risks

*'Anything that can go wrong, will'* (Murphy's Law)

Even though the use of computers can improve the firm's internal control in some ways, new risks which are specific to computerised systems are created, and can lead to substantial losses if not dealt with. Not being able to retrieve essential information because of system failure, or the use of unreliable information because of processing errors, can seriously damage or even paralyse the organisation. One important, and likely, effect may be the production of seriously misleading financial statements.

The validity of the codes is checked automatically. Invalid codes are rejected auto-

matically. By 'valid' is meant 'in force' in the system. In other words, it is acceptable to the system; it is a type of code which is currently used in the system. For example, if all codes used in Blogg's accounting system have two letters and four numbers, only codes containing this configuration will be accepted; a code containing, for example, three letters, or five numbers would be rejected automatically as invalid. One problem is that transactions which are correctly coded will be processed even if they are incorrectly entered, for example if the wrong figures or names are copied when using the keyboard.

Arithmetic accuracy of double entry is automatically 'correct': each entry includes codes for both debit and credit. It follows that the debit and credit must be equal (unless there is a fault in the system). It does not automatically follow that the accounting is correct. For instance, the amount owing resulting from a purchase of office furniture should be, and is, credited to 'Sundry creditors'. However, it is incorrectly coded to debit 'Petty cash'. This would be an error of principle – a fixed asset is treated as a current asset – but would still be arithmetically 'correct'. Further, if the wrong figure were entered in the first place, the entry would remain arithmetically correct, but would produce an incorrect result. Again, the arithmetic accuracy does not ensure that the entries are correctly entered, or that the transactions are properly treated. The types of error mentioned above are errors of commission, that is something was done but it was done incorrectly. It is also possible to make errors of omission, where something should be done but no action is taken. An instance would be if an invoice had been received, but it was mislaid before it had been entered.

Mechanical accuracy is improved to some extent by the use of the computer. The computer helps to avoid incorrect copying, posting, and so on, which may happen when the task is carried out by hand. Automatic copying, posting, etc. helps to avoid this type of error. The program can carry out a certain amount of checking during data entry, for instance checking that an amount received is equal to the amount due. Not having to extract information directly from conventional ledger entries reduces errors of transcription. The program can also reduce the need to enter data time and again, for example names and addresses can be entered during the initial setting up. Also, other pre-set data may be provided where it is predictable, for instance rate of discount or number of day's credit.

As the firm replaces manual procedures with computer-based procedures, the risk of random errors decreases. However, because of the uniformity of computer processing, the risk of systematic errors increases. In other words, once accounting procedures are programmed into the system, the computer processes information about transactions consistently until the procedures are changed. Flaws in programming and changes in the software affect the reliability of the computer processing. This may result in significant errors in the financial statements. The risks are greater if the audit trail is inadequate or the system is not programmed to recognise unusual transactions.

**Key term** ■ An **audit trail** consists of the records and documents used to trace items through the system.

Extra detail is readily available, as the amount of information about transactions which can be held is not limited, as it would be in a conventional ledger. For example, with regard to sales/debtors, customer category, salesperson's details, sales area, type

of product and date payment due can be held, and easily and quickly extracted for use in reports to management.

Access to data is easy, allowing for multiple and simultaneous access by employees, customers, suppliers and so on. Computer-based systems often allow online access to data stored in electronic form. Because access can occur from remote points, and even on the Internet, the possibility of unauthorised access is increased. This can result in improper changes to programs and master files. It is, of course, essential to restrict access, especially to sensitive information. This is done by the use of access codes, passwords and personal IDs.

Major advantages for management in using computerised accounting are the speed, accuracy and cost effectiveness of processing and particularly of producing analyses. Reports may be generated quickly and accurately (assuming the coding is correct and there are no program faults), including:

- trial balances and perhaps first draft accounts. However, draft accounts produced automatically are meaningless without the application of judgement (accruals, prepayments, provisions, choice of the basis of depreciation, valuation and so on);
- bank accounts for reconciliation;
- other reports, for example aged debtors (see Chapter 7);
- cash flow statements, including frequent statements, for instance weekly or monthly;
- stock records, for example outflows reducing stock volumes and adding to sales figures can be produced automatically if linked to bar codes.

In addition:

- there is no need for debtors and creditors control accounts (although there may be some loss of checking ability);
- costing information can be supplied through using further codes;
- interlinking with subsidiary systems is available, including, for instance, spreadsheet programs allowing offline calculations to be carried out.

There should be staff savings on making routine entries. Against this, there is often reduced human involvement. For instance, it is quite likely that the staff who deal with initiating the processing of transactions never see the results. Even where they do see the results, those results are highly summarised and so they are unlikely to recognise errors by inspection. In manual systems, errors were often recognised, especially by the more experienced staff, by inspection of the transactions.

As the organisation converts to computer from manual processing, the resulting centralisation reduces the segregation of duties. Unless key responsibilities are properly segregated within the organisation, staff with access to the system may have the opportunity for fraudulent appropriation of assets.

## 16.3 Important practical issues

### Opportunities for fraudulent activity

Where the accounting system is operated through a large mainframe machine it is relatively easy to control, as access to the system is limited. In particular, access from a dis-



tance is through remote terminals, not through another computer, as is the case in using a network. Even so, there are greater possibilities for deliberate, fraudulent manipulation of files than there are when using a manual system. This is particularly true where the system consists of linked PCs.

- The system is likely to be geared to the software package, rather than vice versa.
- Packages are written by software specialists, not accountants.
- In larger, decentralised firms, each department may have its own PC; the resultant complexity increases costs and, more importantly, security risks.
- Processing and reporting tend to be more informal and staff have easy access to machines and records.
- There is often insufficient control over staff working with hardware, file storage, etc. which may result in distortion or loss of data, corruption or loss of files.

### System breakdown

Systems can and do break down, perhaps leaving the organisation unable to operate. The reasons for breakdowns vary: program faults, hardware faults, user faults, and the not infrequent 'unknown' faults. Software errors are hard to diagnose and correct. Some errors in computer logic can run undetected for some time, until a particular set of circumstances arises.

### GIGO – garbage in, garbage out

If the input to the system is garbage, it is inevitable that the output will also be garbage (rubbish). It is therefore essential that there are effective input controls. To be effective, the input should be controlled by the users: the originating department. The computer system cannot provide a substitute for clerical controls over the accuracy and completeness of the data input. Of course, GIGO applies to all systems, but it is easier and more likely to be spotted in physically written systems, where all the transactions can be seen and subjected to conventional controls (see Chapter 7).

Adequate physical protection against such hazards as fire and water, and also against sabotage, is essential. There have been a number of cases where a disgruntled employee has planted a 'time bomb' in the system, which is activated by a particular event, for example when the employee leaves the firm's employment. There is therefore a need for back-up.

#### Key terms

■ **Backing up** is the procedure for making security copies of data from the computer system. The **back-up** is the copy produced.

### Back-up

Because of all the things that can go wrong, and as an everyday precaution, it is essential that security copies are made regularly to avoid the danger of loss of information. This involves the electronic copying of the data from the computer system onto a separate disk or high-speed tape which is kept in a different, physically secure location. This is referred to as 'backing up' and the copy as 'back-up'. Backing up should be

carried out frequently and regularly. Exactly how and when depends to some extent on circumstances. In a PC-based system, staff may be required, for example, to back up after completion of every procedure, and at least twice a day. In larger systems it is usual, as standard procedure, to back up immediately following every major update of the files. Also, because of the danger of accidental or deliberate damage to the records, copies of the back-ups should be kept elsewhere and in a physically secure environment.

Despite the many problems in controlling, entering and processing transactions there remains a tendency to trust computer-produced numbers. This tends to lead to a complacent attitude, so that insufficient care is taken by staff in dealing with the system.

(For brief comments on the audit effects of the matters dealt with in sections 16.2 and 16.3, see Chapter 17.)

## 16.4 The disappearing audit trail

In small systems, it is feasible to follow the audit trail through the system, from input to output, by printing out the data. In larger systems it is no longer feasible or economical because the printer is the slowest link in the system. Thus, 'printing out' loses one of the main advantages of using computers: speed. It is also costly in stationery and needs large amounts of space for storing printouts. However, it is no longer possible in the larger systems to see the audit trail: it has 'disappeared' from sight. This, together with the speed and mechanical reliability of systems, has led to reliance on exception reporting such as aged debtors, credit limits exceeded, expenditures over budget or over authorised limits. There is a need for input documents to be retained. However, we should be aware that some inputs are made automatically by the computer system itself, for example interest on loan accounts may be calculated using a predetermined formula and processed automatically through the system.

### Summary

**In this chapter we have explained, firstly, why you need to understand the basics of accounting before going on to use computers. We then covered, briefly, the use of computers in accounting. The main part of the text is devoted to the benefits of the introduction of computers and the associated risks which arise. We also outlined some of the main advantages, for management, of the introduction of computerised accounting. We then dealt with some further problems arising from computerisation, concluding with 'the disappearing audit trail'.**

## Review questions

- 16.1** Identify and discuss the risks involved in accounting systems that are reliant on computers.
- 16.2** Define 'audit trail' and explain how it can be affected by the introduction of computerised accounting.

# 17

## Auditing: an introduction

### Introduction

In this chapter we start by explaining what is meant by auditing, distinguishing between private and statutory audits and setting out the main advantages of having an audit. We then outline the contents of a sample audit report, make some comments on it, and discuss qualified audit reports. We also deal with the importance of the independence of auditors. We also give an outline of audit procedures. Finally we provide some notes on other audit roles.

### Learning objectives

At the end of this chapter, after completing the checkpoint questions, you should be able to:

- explain what is meant by an audit, distinguish between private and statutory audits and list the advantages of having an audit;
- outline the contents of an audit report;
- define a qualified audit and explain the main reasons for qualification;
- discuss the importance of the independence of auditors;
- outline audit procedures;
- outline the special considerations when auditing computerised accounting systems;
- explain the advantages, for the purposes of the external audit, of having an internal audit.

### 17.1 What is auditing? Private and statutory audits

The word ‘audit’ is derived from the Latin ‘audire’, to hear. This arose because, in earlier times, the steward was called to account for his management of an estate by the owner or his agents. The steward’s report and explanations were then literally ‘heard’ (see Chapter 1, section 1.6). In essence, this remains the underlying purpose of an audit. In its modern sense, audits are carried out by suitably qualified auditors who are employed to scrutinise the accounts of business entities including limited companies, charities, trusts and professional firms. The auditors carry out a number of checks on

the figures in order to establish whether, in their opinion, the financial statements show a ‘true and fair view’ of the firm’s results for the period and its financial position at the end of the period. Unfortunately, there is no generally accepted or legal definition of ‘true and fair’ (see Chapter 19, section 19.1 and further reading for this chapter). The auditors’ opinion is then given, in an audit report, to those who commissioned the audit, or to whom the auditors have a statutory responsibility. (An outline of an auditors’ report for a public limited company is given below in section 17.2.)

### Key terms

- An **audit** is a scrutiny of the accounts by a qualified auditor who carries out checks on the figures so as to establish whether the accounts show a true and fair view of the results and the financial position of the entity.
- An **auditor** is a person who is qualified to carry out audits and to report on his or her findings.



### Checkpoint question

17.1 Briefly explain the problem of ‘true and fair’.

## Private and statutory audits

A private audit is one commissioned by an interested party (e.g. a sole trader or a partner in a firm), although there is no legal obligation for an audit to be carried out. A statutory audit is required by statute (in the case of limited companies, the Companies Acts). All such companies, with the exception of certain small companies, are required by law to have their accounts audited annually by a professionally qualified auditor.

## Advantages of having an audit

Even where an audit is not required under statute, there may be advantages in commissioning an audit. These include the following:

- Dealings with banks and other outside financial institutions may be improved, especially where the raising of finance is involved.
- Audited accounts carry greater weight with the tax authorities than unaudited accounts.
- Disputes between partners/managers may be largely avoided, or more easily resolved. This is especially useful where profit-sharing or bonus arrangements are involved.
- Changes in partnerships: these involve, for example, revaluing goodwill (see Chapter 10). It is helpful, perhaps essential, to have the accounts after the changes audited independently, giving the partners greater security.

## 17.2 Audit reports

The following notes outline the contents of an audit report for a large public limited company (plc).

It will be addressed to the members of the company and will contain statements that

- the accounts referred to have been audited;
- they have been prepared under the historical cost convention (subject to any modification) and the accounting policies stated;
- the company's directors are responsible for the preparation of the accounts;
- the auditors' responsibility is to form an independent opinion of the accounts, based on the audit, and to report their opinion to the members (more detail on responsibilities may be included);
- the audit was conducted in accordance with Auditing Standards issued by the Auditing Practices Board;
- an audit includes examination, on a test basis, of evidence;
- an audit also includes an assessment of the significant estimates and judgements made by the directors, and of whether the accounting policies are appropriate;
- the audit was performed so as to obtain all the information and explanations needed to provide sufficient evidence to give reasonable assurance that the accounts are free from material misstatement, whether caused by fraud or other irregularity or error;
- in the auditors' opinion the accounts give a true and fair view of the state of affairs of the company and of the group as at (date) and of the profit and cash flows of the group for the year then ended, and have been properly prepared in accordance with the Companies Act 1985.

You may be surprised by the phrase 'reasonable assurance that the accounts are free from material misstatement'. The auditors are not expected to be entirely certain in their opinion. They are, however, expected to report on any error or fraud which is 'material'. In practice, the meaning of 'material' has been difficult to define with any exactitude, and it tends to be left to the auditor's judgement. We can say that an item is material if it would cause the reader of the financial statements to take a different decision or view regarding the business. When we take this and the difficulty of defining 'true and fair' into account you can see that a great deal of judgement is needed in auditing.

### Qualified audit reports

It may be that the auditor, for a number of reasons, may be unable to state without qualification that the financial statements show a true and fair view. If the auditor has such reservations he or she should say so in the audit report. Such a report is called a qualified audit report.

In broad terms, a qualified audit report may be needed in two types of circumstance:

- the auditors have come to the view that the financial statements do not show a true and fair view;
- the auditors may be uncertain about the truth and fairness of the statements.

Uncertainties which may lead to a qualified report are very common. Many figures in financial statements are based on estimates and assumptions made by management. The valuation of assets is subject to future uncertainty (see Chapters 5 to 8 inclusive and especially Chapter 18). Further, the firm could be subject to litigation or be faced with business or financial problems which may be grave enough as to threaten its future survival.

The qualified report should state the basis of the auditor's opinion and the importance of the circumstances giving rise to the qualification.

## Independence

It is crucially important that the auditor is seen to be independent of the directors or other managers of the firm. The shareholders or others commissioning the audit will not be able to place any confidence in the auditor's report if they believe that it has been unduly influenced by management.

The relationship of the auditors to the firm is, in the UK, contractual between the company and the auditor. Although the appointment of an auditor for a limited company is a statutory requirement, this does not make the relationship statutory in legal terms; it is contractual in nature. It follows that the directors could well influence the auditor because the contract may involve very large fees, especially in the case of very large public companies. This problem is addressed in part by the professional bodies which impose a code of conduct on those members who practise in public. (There are also Statements of Auditing Standards issued by the Auditing Practices Board. A detailed consideration of these is beyond the scope of this text.)



### Checkpoint questions

**17.2** What is meant by a 'qualified audit report'? Outline the main reasons for qualification.

**17.3** Briefly explain the importance of the independence of the auditor.

## An outline of audit procedures

*Step 1.* After the appointment of the auditor, during the initial stages, senior members of the audit will discuss and agree upon a proposal as to the way the audit will be conducted. A timetable will then be agreed upon with the directors (or other persons commissioning the audit).

*Step 2.* The audit team will then start to collect audit evidence. This will almost certainly involve collecting evidence during the course of the year. Such scrutiny enables the auditor to observe and test the actual system in operation, including internal control systems. Further, since much of the routine checking and testing will have taken place before the year end, the audit may be completed relatively quickly afterwards.

*Step 3.* The final stages of the audit usually begin around the year end. During this period, the auditor must form an opinion as to whether the financial statements show a true and fair view. This involves the audit partner or manager carrying out a final audit review of the financial statements. He or she should also examine the overall quality of the evidence obtained to ensure that it provides an acceptable basis for the auditor's opinion.

*Step 4.* The audit report will then be issued.

### Auditing computerised systems

There are some special considerations to be taken into account when auditing computerised accounting systems. For the auditor, the differences made by computerised accounting are:

- the way that accounting data are recorded in the ‘books of account’ (in this case, within the computer system);
- how the data have to be controlled;
- the way that the inputs, processing and results have to be checked.

In the case of small systems there need be no new problems as the audit trail from input to output may be obtained by printing out the data. Checking may be therefore ‘around the machine’. This means that the computer is regarded simply as an instrument which is used to record the data. The records can then be checked much as one would check the entries in books of account produced by hand.

Where there is a larger system that approach is no longer practicable, as in larger systems it is no longer economical to print out the data (see ‘The disappearing audit trail’ in Chapter 16). This leads to testing ‘through the machine’. This may be done by the use of the auditor’s test data or generalised audit software.

While exception reporting will isolate certain data needed for verification, there are problems:

1. The auditor cannot assume that programs used
  - are accurate;
  - print out *all* exceptions;
  - are authorised (i.e. not ‘dummies’ – falsified programs created for fraud, or old programs from the library);
  - contain programmed control parameters which meet the firm’s internal control requirements.
2. Problems of control which the auditor may have to deal with. These are dealt with in Chapter 16.

To help to deal with these problems, the auditor should check, among other things, the efficacy of all internal control systems. If internal audit is in force the auditor should arrange to cooperate with the internal auditors.



#### Checkpoint question

17.4 Briefly list at least three advantages of having an audit.

## 17.3 Notes on other audit roles

### Internal audit

Unlike the external auditor, who reports primarily to the shareholders (or other interested parties), the internal auditor reports to management. The internal audit is in effect part of the internal control system. It is therefore an essential part of total quality management. As a result, the internal audit is relevant to the external audit.

The internal audit function should:

- involve the appraisal of the firm's activities;
- be independent of the activities to be appraised (as far as possible);
- be a service which offers constructive service to management.

In large complex businesses it is impossible for the directors to fulfil all their duties without systematic help from internal control systems, including internal audit. The internal controls are intended to ensure the following, among others:

- reliability of information;
- compliance with external laws and regulations;
- accordance with internal policies, plans and procedures;
- effective and efficient use of resources.

If the internal control systems, including internal audit, are sufficiently well organised and documented, the external auditor may be able to place considerable reliance on them, saving both time and money. This is especially the case where internal and external auditors can agree to cooperate and so reduce duplication of effort.



### Checkpoint question

17.5 Distinguish between external and internal audit.

## Management auditing

Management auditing introduces a new dimension to the audit function. You may find a note on the subject useful, although it is outside the scope of the main text. This type of audit was originally introduced into the audit of local and central government. Later, it started to spread into the private sector.

The management auditor is concerned with the efficiency and effectiveness of operations and reporting on ways in which costs may be reduced and/or profitability improved. (Such an audit may also be called 'operational audit' or 'systems audit'.) Here, the auditor is concerned with forming and expressing an opinion on the strengths and weaknesses of the organisation and its management. This differs significantly from financial auditing, where the auditor takes a neutral position on these matters, concentrating on ensuring that the reader of financial reports is provided with information which is, at the least, not misleading.

## Environmental audit

Again, this topic is not within the scope of the main text. A brief note for your information may, however, be of interest.

In recent years an increasing number of firms have decided that they cannot disregard the outside environment, or exploit natural resources without considering the consequences. There is more and more pressure on companies, by the public and legislators, to improve their corporate environmental performance.

Environmental audit is similar to conventional financial audit in that it involves systematic examination of the facts. In this case it focuses on the way an organisation



interacts with its environment. This includes, among other things, emissions to water, land and air. It also focuses on effects on neighbouring ecology and community.

The benefit to the company of environmental audit is likely to lie mainly in the public's perception of the organisation. This seems likely, in the long run at least, to benefit the company economically. At least it should help to prevent the perception of the firm and its products becoming more negative over time.

## Summary

**Firstly, we explained what is meant by auditing. We then went on to distinguish between private and statutory audits and listed some advantages of having an audit even if it is not required by law. We went on to outline an audit report and discussed some issues arising from it, including qualified reports and the main reasons for them. A brief outline of audit procedure followed.**

**Finally, we outlined other audit functions: internal audit, management audit and environmental audit.**

## Review questions

- 17.1** Explain the difference between private and statutory audits. Why is it advantageous to have an audit even if it is not required by law?
- 17.2** The auditors need 'reasonable assurance that the accounts are free from material misstatement'. Discuss.
- 17.3** Explain what is meant by a 'qualified report'. What are the main reasons which make such a report necessary?

# Part IV



## Analysing and understanding financial statements

<b>18</b>	<b>Limitations of the conventional accounting model</b>	<b>289</b>
<b>19</b>	<b>Financial reporting in countries other than the UK</b>	<b>315</b>
<b>20</b>	<b>Cash flow statements</b>	<b>326</b>
<b>21</b>	<b>Analysis of financial statements 1</b>	<b>346</b>
<b>22</b>	<b>Analysis of financial statements 2</b>	<b>358</b>



# 18

## Limitations of the conventional accounting model

### Introduction

We first explain the objectives which are, or should be, served by accounting. We review the suitability of conventional accounting methods in the light of these objectives, introducing the problems of income measurement and valuation. We show how these problems may accidentally give rise to misleading results being reported because of the inadequacies of the conventional model of accounting.

We go on to introduce some of the ways in which the figures may be deliberately manipulated in order to mislead the reader of financial statements, collectively known as 'creative accounting'.

Finally, we consider the use of current values in accounting. In particular we deal with the use of replacement cost in more depth, showing how the necessary calculations may be made. We also summarise the advantages and disadvantages of this approach. Given that the use of replacement cost in the preparation of financial statements is acceptable and practicable, it is perhaps unfortunate, given its advantages, that it is seldom used in practice (although it has been used, especially in the Netherlands; see Chapter 19).

### Learning objectives

At the end of this chapter, after completing the checkpoint questions and exercises, you should be able to:

- explain the main objectives of accounting;
- discuss some of the main problems of income measurement and valuation;
- explain how the application of the conventional model of accounting may distort the reported results, especially with regard to trends in activity and comparison between firms;
- explain how figures of distributable profit are likely to be misleading, especially with regard to amounts to be withdrawn from the business for consumption;
- explain some of the ways in which the figures may be deliberately distorted to show the desired results;
- make the basic calculations needed in replacement cost accounting;
- explain the advantages and disadvantages of replacement cost accounting.

## 18.1 The limitations of the model

### Objectives of accounting

We consider that the primary objective of accounting is to provide information for decision-making. For example, the financial statements should help a bank to decide whether to lend money to a company, or a shareholder to decide whether to hold, sell or buy shares in the company. It follows that, to be useful, the information must be relevant, reliable, valid and comparable to other similar figures. For our purposes, it will be useful to identify the main, specific, purposes for which financial accounting statements may be used. Before doing so it will be useful to consider the question of ownership and management.

Sole traders and partners usually manage their own businesses, but it sometimes happens that the owner or owners pay someone a salary to manage the business. Of course in such a case the owners will usually exercise some degree of control over the business. There will, however, be some element of division between ownership and management. In the case of a limited company there may be hundreds, even thousands, of shareholders. While the large majority of limited companies are owned and managed by one person, or a small number of people, the majority of large firms do exhibit the separation of owners and managers.

### Stewardship

A consequence of the separation of ownership and management is the need to account for stewardship. The owners give the managers control of resources to be put to use in the business. Records are needed showing how these resources were used and the results of that use. Included in the reports must be the amount taken by the managers as a reward for their work.

### Measurement of past success and its consequences for the future

Potential investors want to buy shares in companies which will be successful in the future. Existing shareholders want to be able to decide whether to hold or sell their shares and whether to buy more. The financial statements of the company should help in making these decisions.

Ideally, the financial statements would help in deciding whether or not a firm is likely to be successful in the future. Since the financial statements do not directly measure the future, the question arises as to whether the measurement of past results can be relevant to these decisions. If we assume that a firm which has been successful in the past is likely to continue to be successful in the future then the statements will be useful. This assumption is not universally valid, but is often seen to be true in practice. Nevertheless, we should be cautious when basing decisions on past results.

### Consumption

The measurement of past results will help the owners, or the managers on their behalf, to decide how much may be drawn out of the business for consumption by the owners.

## Creditworthiness

Existing and potential suppliers and lenders are interested in the financial position and creditworthiness of the business when deciding to allow credit or lend money to the firm.

## Taxation

The figures in the financial statements form, as we have seen, the basis of the charge for taxation. Unfortunately, this is the only reason the owners of many small, and even medium-sized, businesses have accounts prepared. They often do not realise how useful the figures can be in running the business.

## Comparability

As we have seen, there are a number of differences in the basis on which we record the results of business transactions. Depreciation and stock and cost of goods sold are particularly good examples, but there are many more. In general, these arise when the accountant is dealing with uncompleted transactions.

### Key term

■ **Uncompleted transactions** relate to transactions not completed, i.e. used up, turned into cash, etc., during the accounting period.

One of the problems caused by the variety of accounting bases used is that it is difficult to compare the results of different firms as they can, and do, choose different methods. Another problem is that firms may select methods that give the results that they wish to show (see Section 18.3). Accountants should state in a note to the financial statements that a firm has changed its accounting methods and the effect on the results. This still means that, by a deliberate change in the accounting methods, the profits of the next few years may be increased or decreased. However, this can only be carried out over a limited time period because eventually the transaction will be completed; the ultimate results will then be the same, whatever methods have been adopted. For example, a switch from accelerated to straight-line depreciation just before a firm engages in an extensive investment programme would increase the reported profits of the earlier years of the programme, giving the impression that it is more profitable than it would have appeared under the old method. This would reduce the comparability of the figures. On the other hand, the profit and loss account must ultimately be charged with the difference between the cost of the assets and any sale proceeds. The increased profits of the earlier years would then be offset by the reduced profits of the later years.

For all of the above purposes, the accountant's job is to report on the firm's wealth at a particular time, in the balance sheet, and the changes in wealth between particular times, in the profit and loss account. In other words, he or she is concerned with income measurement and valuation.

### ? Checkpoint questions

- 18.1** Outline the reasons for lack of comparability between the results of different firms.
- 18.2** Why is it that the effects of changes in accounting bases have no permanent effect on the figures?

## 18.2 Income measurement and valuation

### The traditional, historical cost, accounting concept

The accounting concept has evolved with the aim of showing the firm's actual achievement to date, rather than its prospects for the future.

The origins of contemporary accounting practice lie primarily in the development of companies and investment markets in the late nineteenth and earlier twentieth centuries (although some aspects, especially double entry bookkeeping, are rooted much further into the past). As companies developed, most of the finance needed to run their businesses came from owner-managers, or from creditors and lenders, including banks. External financial reports were therefore for the benefit of this latter group. They were interested in the firm's solvency and were therefore interested primarily in the balance sheet. Accountants were responsible for avoiding unrealistic pictures of company solvency; this led to the traditional accounting approach of conservatism or prudence, which remains one of the most important conventions of accounting to this day.

At that time the reporting of profit was almost non-existent, but as trade and business expanded, so did the need for finance. The bankers and other lenders could not provide all of it so investment markets rapidly developed. This meant that the manager had to account to the external investors. Profit as a significant measurement of managerial performance was gradually recognised. The importance of the balance sheet was gradually reduced, so that the profit and loss account became the most important statement. This trend was reinforced by the increasingly onerous tax system, as tax liabilities are based on income figures. As a result of this change, the balance sheet ceased to be the primary reporting statement, becoming instead a residual statement resulting from the measurement of periodic income.

**Key term** ■ An **investment market** is one where securities may be traded, thus providing the possibility of buying and selling shares, for instance. This increases the incentive to subscribe for shares in a company as there is the opportunity to sell them later.

### ? Checkpoint questions

- 18.3** Outline the historical reasons for the importance of the prudence convention.
- 18.4** Why did it become important to report profit?

### Transactions basis

Traditional accounting income is measured on the basis of analysing transactions which the firm enters into with outside parties. In the main, these transactions are

related to revenues from the sale of goods or services and the costs incurred in earning those revenues. Eventually all these transactions should result in the receipt or payment of cash. There would therefore be few problems in accounting if we had only to measure income for the whole life of the firm. However, users of accounts need more frequent reports to help them make decisions, and it is inevitable that at the end of the accounting period some transactions will be incomplete. This incompleteness is allowed for by, for example, accounting for debtors for sales on credit and for creditors for purchases on credit, where the revenues or costs have been recognised but cash has not yet passed. The revenues and costs which are regarded as having arisen in the period are then linked or matched. It is the process of matching which gives rise to most of the problems of accounting because of the need for judgement in *allocating* revenues and costs to a particular period. Particular problems which have already been introduced include the following:

- Depreciation, where different methods of depreciation and different estimates as to life and residual value will give widely differing results.
- Stock and cost of goods sold, where different methods of valuation such as FIFO or AVCO give different results.

#### Key term

■ To **allocate** revenues and costs is to apportion them to particular periods, requiring judgement by the person making the allocations.

In those and other problems of allocation, judgement is required, giving rise to an important element of subjectivity in the financial statements. Thus, although accounting income seems to have the advantage of a factual and objective basis in the analysis of transactions, the validity of the reported figure of income is dependent on the soundness and consistency of the judgements which have to be made.

### Prudence, or conservatism

These difficulties have almost certainly reinforced the accountant's habit of prudence. This policy of exercising caution in the measurement and reporting of income is generally accepted and practised.

Normally historical cost ignores contemporary values and changes in value, unless they are realised, and the realisation principle recognises only those gains that are realised. Presumably the basis of this convention is reasoned caution resulting from the convention of conservatism, or prudence. However, the historical cost convention results in overstated profits when prices are rising, which is hardly prudent.

### Realisation

The test of realisation plays a major role in accounting. Under this rule, new assets are recorded at cost and upward changes in value are ignored until confirmed by realisation. Thus fixed assets, such as land, would be kept indefinitely at their original, historical cost, despite obvious increases in value. However, the concept is asymmetrical, that is, it does not write up but it does write down. Thus, current assets are valued at realisable value if this is less than cost, and fixed assets with limited lives are written down to allow for depreciation, regardless of any rise in market value.



There are other ways in which the test of realisation is not strictly applied. Some firms, such as farms and producers of precious metals, value their stocks at net realisable value (that is, sale price less any expected costs). Others, engaged in long-term contracts, such as construction of large buildings or bridges, write up unfinished assets to take into account part of the expected profit so as to smooth out recognition of profit over the years taken over the construction.

Further, many firms revalue assets such as land and buildings upward when their historic cost becomes substantially out of date, although the increase is classed as a revaluation reserve, not as income. This treatment is allowed, for instance, by the EU's Fourth Directive and by the UK Companies Act 1985.

Even where the test is strictly applied, there are a number of doubts about its interpretation.



### Checkpoint question

**18.5** The realisation concept is said to be 'asymmetrical'. Explain.

## Areas of uncertainty

### Doubts on realisation date

'Realisation' may mean physical usage, for example stock or depreciating plant may be said to be realised when they are consumed as input. More often, 'realisation' implies an external transaction such as a sale, that provides objective evidence of value growth. Even where the latter is the case, the choice of date is a matter merely of convention. For sale of goods, the date is normally deemed to be that at which the goods are sent to the customer. However, in some cases, for example contractors, the date may be taken to be that at which a claim for payment arises. In other cases, where many bad debts are experienced, for example mail order, accountants may decide to take the date of payment as realisation date. But even cash receipts can be reduced by refunds, for example for poor quality. There are even more difficult circumstances, for example foreign exchange; does an appreciation in value of cash at a foreign branch through exchange rate fluctuations take place immediately or on remittance to head office?

### Key term

■ Many firms are affected by carrying out some of their activities in foreign currencies. This gives rise to the need to translate the foreign currencies into the home currency in order to include the transactions in the accounts. As exchange rates between currencies fluctuate, this gives rise to differences on **foreign exchange** which have to be reported.

### Doubts whether an asset exists

Should a historical cost be 'expensed' (that is, written off to the profit and loss account) or carried forward in the balance sheet, for example research and development costs or advertising costs which will benefit future years?

### Doubts on the magnitude of historical cost

- Should a manufacturer charge overheads to finished goods and work in progress? If so, how much?

- Various methods of depreciation provide very different answers.
- Some costs, for example stock, hinge on the sequence assumed. Different assumptions will give different answers, as in the choice of FIFO or AVCO.

**Key term**

■ **Overheads** (more strictly ‘overhead costs’) are costs which are not directly incurred in the manufacture of the goods, such as the cost of supervision, rent of the factory and so on. They may be allocated to the goods on various bases, again involving judgement.

**Checkpoint question**

**18.6** Outline the ‘areas of uncertainty’ in accounting.

**Price change**

A number of faults appear in traditional, historical cost, accounting when prices change. In conventional accounting it is assumed that money is a stable measuring unit, that is that pounds of different periods can be added in the same way as last year’s metres can be added to this year’s metres. Australians, Americans and Fiji Islanders, among others, all call their money units dollars, but no sane accountant would consider adding them together. They are essentially unlike, and will each buy different quantities of goods and services. In the same way, the £ of 1983 is unlike the £ of 2003. Unfortunately, accountants have added these unlike units together, and continue to do so.

Adding together or subtracting these unlike units gives rise to various kinds of misinformation. Two of the most important and obvious are:

- Lack of comparability: to show figures of different dates side by side invites false impressions.
- Adding and subtracting unlike figures within a year’s accounts, for example finding profit by deducting an old cost from a current revenue, will produce figures that are significantly incorrect even at the accounting date.

Other problems created by the assumption that money is a stable unit and the refusal to recognise changes in the relative prices of goods and services are described below.

**Physical trends**

Trends in a firm’s physical activity will be misrepresented by the accounting figures when prices change, for example:

Year	1	2	3
	£	£	£
Sales	<u>1,000</u>	<u>1,100</u>	<u>1,200</u>
Specific price index for these goods	<u>100</u>	<u>120</u>	<u>140</u>
Adjusting factor	100/100	100/120	100/140
Adjusted sales figures	<u>1,000</u>	<u>917</u>	<u>857</u>

The original figures seem to indicate an increase in activity. When they are adjusted for the change in price, by using a specific index, we see that in fact activity has declined.

The term 'specific price index' may be applied either to an index used to measure changes in the cost of a particular good (or service) or to an index which is specific to a particular business entity, which measures changes in the average costs of all the goods and services used by the entity. In this simple example the index is specific only to the goods under consideration.

## General price change and trends

Where physical quantities are not important, for example, in measuring cash outlays, a general index of price change may be more helpful, for example:

Year	1	2	3
	£	£	£
Cash outlays	<u>1,000</u>	<u>1,100</u>	<u>1,200</u>
General index (average for year)	<u>100</u>	<u>110</u>	<u>120</u>
Adjusting factor	100/100	100/110	100/120
Adjusted outlay figures	<u>1,000</u>	<u>1,000</u>	<u>1,000</u>

The original figures seem to indicate an increase in outlays, whereas, in terms of the goods and services which may be purchased, they have remained steady.

## Owner's equity and mixed figures

Suppose the owners had ploughed back profits as follows:

Year	1	2	3	Total
	£	£	£	£
Retained profits	<u>1,000</u>	<u>1,100</u>	<u>1,200</u>	<u>3,300</u>
General index	<u>100</u>	<u>115</u>	<u>130</u>	
Adjusting factor	100/100	100/115	100/130	
Adjusted figures	<u>1,000</u>	<u>957</u>	<u>923</u>	<u>2,880</u>

In real terms the amounts retained have been declining. In the accounts the figure of retained profits would be £3,300, but this comes from adding together different kinds of £s and means little. The adjusted figure is a great improvement as it is expressed entirely in year 1 £s.

It may be more understandable, intuitively, if expressed in the most recent, that is year 3, £s.

Year	1	2	3	Total
	£	£	£	£
Retained profits	<u>1,000</u>	<u>1,100</u>	<u>1,200</u>	<u>3,300</u>
Adjusting factor	130/100	130/115	130/130	
Adjusted figures	<u>1,300</u>	<u>1,243</u>	<u>1,200</u>	<u>3,743</u>



### Checkpoint question

**18.7** Explain how physical trends in a business may be distorted when prices are changing. Illustrate your answer with some simple figures of your own.

## Comparison between firms

Price change may also distort figures used in comparing two firms. Suppose, for instance, firms A and B both show freehold land in their year 10 balance sheets, at historical cost of £100,000 in each case. Firm A bought its land in year 1; firm B bought its land in year 8. Land will have increased in value during these nine years, but the land will be shown as:

	A	B
Land at cost	<u>£100,000</u>	<u>£100,000</u>

which is misleading because A's land is more valuable. Suppose the value of these particular pieces of land increased at the same rate, as follows:

	A	B
Year 1	£100,000	
Year 8	£160,000	£100,000
Year 10	£200,000	£125,000

Restating the figures accordingly reveals the greater value of A's land.

## Distributable profit and physical capacity

When prices change, the amount available for distribution, by way of drawings or dividends, will be distorted. This is particularly important where prices are rising. A simple example will demonstrate this effect.

Suppose a trader buys one unit at the start of the year for £10,000 cash and sells it at the end of the year for £15,000 cash. If he has no other expenses his profit and loss account will appear as follows:

	£000
Sales	15
Cost of goods sold	<u>10</u>
Profit	<u>5</u>

He is entitled to assume that he may draw the £5,000 and, subject to any tax he may have to pay, spend it in any way he wishes. The effect will be as follows:

	£000
Cash from sale of goods	15
Drawings	<u>5</u>
Cash balance	<u>10</u>

But suppose that the purchase price of a unit has risen, meanwhile, to £12,000. If he wishes to continue trading, the trader will have to borrow £2,000 if he can, or go out of business. It would be more helpful to divide up the profit as follows:

	£
Sales	15,000
<i>Less: Replacement cost of goods sold</i>	<u>12,000</u>
Distributable profit	<u>3,000</u>
Replacement cost	12,000
Historical cost	<u>10,000</u>
Gain from holding goods (carried to Reserve)	<u>2,000</u>

The distributable profit is overstated by the historical cost accounts, as the holding gain has to be retained for replacement of stock. This is hardly 'prudent' and, worse, is grossly misleading.

### 18.3 Creative accounting

We have seen that there are a large number of choices to be made in operating the conventional model of accounting. Choices about the bases of depreciation and stock and cost of goods sold can alone make very significant differences to the profit and loss account and balance sheet figures. Taken together with other choices which have to be made, for instance the different ways of treating goodwill in accounting for the acquisition of one company by another, this leads to enormous scope for arriving at different income and value measurements from any set of transactions. The very wide range of results which may, in many cases, be arrived at quite properly, nevertheless presents opportunities for managers or organisations to manipulate the figures for their own benefit. This may be done quite legally, if perhaps improperly. For example, managers may seek to improve their own position through manipulation of the figures. They may benefit in several ways:

- They may receive higher remuneration, if it is linked to profit, for example through payment of bonuses, by adopting accounting treatments which increase reported profits.
- They may try to increase their own value in the labour market by being seen to be running (apparently) profitable companies. Again, this would be done by adopting treatments which increase reported profits.
- They may receive share options (that is the right to buy shares in the company in the future at current prices, or less). They may then adopt methods which tend to increase future share price, for instance by seeking to increase future cash flows. For example, they could seek to reduce taxable profit.

We shall now explain some of the ways in which the figures can be manipulated, limiting ourselves to those that can be understood from the material in earlier chapters. There are many other methods of manipulating the results which are outside the scope of an introductory text.



#### Checkpoint question

**18.8** How may a manager gain by manipulating the firm's results?

### Capitalisation of costs

There are a number of opportunities to treat costs as assets rather than expenses, thus increasing the profit and the total assets.

As we have seen, judgement is needed in deciding whether expenditure on existing assets constitutes repairs, maintaining an asset in its existing state or an improvement to the asset. Management may decide to treat a greater proportion of the cost as improvements, perhaps without much justification. It may be difficult or impossible for the auditors to challenge such a judgement.

Under some circumstances it is possible to capitalise interest, usually in connection with property development. (Construction of ships and aircraft and stocks of goods which take a long time to mature such as whisky would be other instances.) It may be argued that the cost of interest is just as much a cost of the development as, say, bricks. It may also be argued that capitalisation gives better matching between income and expense as the interest cost starts to affect the profit and loss account (through depreciation) once the project is completed and earning income. Against this is the view that interest is a cost of financing, not a cost of construction. Also, the charge to profit and loss account may be manipulated by the decision about the expected life of the asset. Assuming a longer life will decrease the charge for depreciation in each year. Further, the interest may be incurred in financing non-depreciable assets (i.e. land), thus avoiding any charge to the profit and loss account.

## Depreciation

There are a number of ways in which the reported results may be manipulated through the provision of depreciation. As we have seen, a firm may choose to use accelerated methods if it wishes to charge more to the earlier years, or straight-line depreciation if it does not. Again, the longer the expected life chosen, the smaller the charge to each year. Further, it is a simple matter to change the basis of depreciation or review the expected life of the asset if it is wished to change the reported figures. It may be difficult to see such a change in the published accounts.

## Doubtful debts

This is a simple and obvious way to manipulate the figures. This figure affects the assets in the balance sheet and also the profit figure. The biggest advantage for the creative accountant is that it can so easily be changed from year to year. If the debtors carried seem to be too high, the provision can be increased; if too low, it can be decreased. Also, this provision may be used to smooth out the profit figures from year to year so as to improve efficiency ratios. So, if the company is expecting an exceptionally high reported profit it can increase the level of provision; this can gradually be reduced in future years.



### Checkpoint question

**18.9** There are a number of ways in which figures may be manipulated with regard to assets. List and briefly explain three of them.

## Cost of goods sold

As we have seen, the choice of basis of valuing stock and cost of goods sold can make a substantial difference to the reported profit and the asset figure in the balance sheet. So, for instance, if a firm wishes to show a higher profit in times of rising prices it may choose to use FIFO, thus charging older, lower costs to the profit and loss account. Once again, it is a simple matter to change the basis if wished, and very difficult to detect from the published accounts. Another possible source of opportunities is the

operation of the COMA rule. Because judgement is needed in deciding whether or not stocks should be written down below cost, decisions may be taken which produce results which are wanted rather than those which are the most realistic. Further, as we have seen, the simple choice between writing down on a global basis or item by item may make a significant difference.

## Ratios

The current and quick ratios are particularly susceptible to manipulation so as to show 'better' ratios. This is known as 'window dressing'. For example, a company may borrow long term, just before the accounting date, to buy current assets, or simply to increase the cash balance, so 'improving' the current ratio, as the new assets will increase the numerator but the liability, being included in long-term liabilities, will not increase the denominator. In particular, the company may borrow from a subsidiary, a fellow subsidiary or parent company to increase its current assets while showing the loan as non-current. For example, suppose that a firm's current assets total £750,000 and its current liabilities amount to £500,000; then its current ratio is 1.5. If £250,000 is borrowed long term and used to buy current assets, then the current asset total will be £1,000,000, improving the ratio to 2. (See Chapter 21.)

## Intangible assets

There is a great deal of controversy among accountants as to the treatment of expenditure on such items as research and development, which could be treated as an asset or written off as an expense when incurred. The preference in the UK is to write off such expenditure as incurred, but there is scope for adopting a different treatment. For example, the plant and machinery used could be treated as assets and depreciated in the usual way. Goodwill is a particularly difficult case of an intangible asset. As we have seen in the chapter on the accounts of groups of companies, the treatment adopted may make a remarkable difference to the figures shown in the financial statements. In particular, writing goodwill off immediately against reserves reduces the size of the equity section in the balance sheet and therefore affects the gearing and return on equity ratios. Also, it obviates the need to amortise goodwill in the accounts of future years.

## Provisions

Since the prudence convention requires the firm to take such liabilities into account, there is considerable scope for the firm to over- or under-provide if it wishes, since the amount is not known (by definition).

It is interesting to note that some of the above figures may be manipulated in even the most strictly regulated accounting systems. For example, in Germany, firms have very wide scope for discretion in the treatment of doubtful debts, depreciation and provisions. This leads to the creation of 'hidden reserves' (see Chapter 19).



### Checkpoint question

**18.10** Explain what is meant by 'window dressing' and give an example.

## 18.4 Current value accounting

Many of the above problems would be avoided if we were to use current values in the preparation of financial statements. We have already seen, in Chapter 8, the effect of using a current value, replacement cost, in the calculation of cost of goods sold.

It will be useful at this point to review the process by which we arrive at the net income, or profit, figure. The firm is considered as carrying on a series of operations. In a complex case, such as a manufacturing company, an operation will involve the acquisition and transformation of resources and the ultimate sale. In a non-manufacturing company the operations may simply involve the buying, holding and selling of goods.

When the sale stage of the operation is reached, revenue is recognised and at the same time those expenses (product expenses) which can be associated with that particular operation are recognised. So the net income for a period is:

Revenue recognised during the period

*Less:*

Expenses associated with operations that have reached the selling stage (product expenses)

Expenses which are not identified with particular operations but which are considered to be associated with the passing of time (period expenses)

At first sight it may appear that income measurement has nothing to do with valuation of assets and liabilities, but an expense can be defined as the difference between the opening 'value' of an asset and its closing 'value'. The asset will have a historical cost, i.e. the amount that is paid or will be paid in order to acquire it, but until it is used the ownership of an asset does not give rise to an expense. An expense for a period may be defined as the amount of the asset that has been used up in the revenue-earning process. (Of course, an expense may also give rise to a liability.)

For example, a trader purchases goods for resale for £5,000 at the start of the year, and sells half of them during the year:

$$\begin{array}{r r r r} \text{Asset at start} & - & \text{Expense for the year} & = & \text{Asset at end} \\ \pounds 5,000 & & \pounds 2,500 & & \pounds 2,500 \\ & & \text{(i.e. cost of goods sold)} & & \end{array}$$

Further, the recognition of revenue means that we 'value' the resulting debtors or cash at a different, usually higher, amount than we 'valued' the goods that were sold.

In fact, the net income or profit of a period may also be found by carrying out either of the following (if it is assumed that no capital is introduced or withdrawn during the period):

$$\text{Owner's equity at end} - \text{Owner's equity at start} = \text{Net income (profit)}$$

*or*

$$\left( \begin{array}{c} \text{Assets} - \text{Liabilities} \\ \text{at end} \end{array} \right) - \left( \begin{array}{c} \text{Assets} - \text{Liabilities} \\ \text{at start} \end{array} \right) = \text{Net income (profit)}$$

Net income is the same in each case because

$$\text{Owner's equity} = \text{Assets} - \text{Liabilities}$$

It is therefore clear that the profit and loss account depends on the balance sheet and vice versa.



## Bases of valuation

In addition to the historical cost basis it would be possible to use net realisable value or replacement cost.

<b>Key terms</b>	<ul style="list-style-type: none"> <li>■ <b>Net realisable value</b> is the net (after costs of sale) amount which would be received if the asset were sold.</li> <li>■ <b>Replacement cost</b> is the cost which would be incurred in replacing the asset if it were lost.</li> </ul>
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## 18.5 Replacement cost accounting

So long as the asset would be replaced if it were lost then replacement cost is a suitable measure. The reason is that a rational management would only replace the asset if its worth to the firm is greater than the replacement cost of the asset and so this measure is a reasonable proxy for the value of the asset.

The following simple example demonstrates the use of replacement cost, compared to conventional, historical cost, methods.

### Example 18.1

For the purposes of the example it will be assumed that there are no changes in the general price level.

Let us suppose that a firm starts from scratch on 1 January with capital of £100. It immediately purchases 20 units at £5 each.

It holds the units for six months and then sells 12 of them for £15 each; at that time the replacement cost of the units is £7 each. No more sales are made and at 31 December the replacement cost of units is £10 each.

During the year ended 31 December the firm pays expenses of £70.

In order to help you to follow the example more easily the replacement cost of the units at the appropriate times and a summary of the firm's cash book for the year ended 31 December are given below:

<i>Date</i>	<i>Replacement cost per unit</i>
1 January	£5
30 June	£7
31 December	£10

<i>Cash book</i>			
Capital introduced	100	Purchases	100
Sales	180	Expenses	70
		Closing balance	110
	<u>£280</u>		<u>£280</u>

Then, using the replacement cost basis, we have:

<b>Balance sheet at 31 December</b>		
	£	£
Stock of units, 8 @ £10	80	
Cash	<u>110</u>	
	<u>£190</u>	
Capital	<u>100</u>	
Retained earnings	<u>90</u>	
	<u>£190</u>	190

<b>Balance sheet at 1 January</b>		
Cash	<u>£100</u>	
Capital	<u>£100</u>	<u>100</u>
Net profit		<u>£90</u>

But we can do better than this for we can also prepare a profit and loss account based on the use of replacement cost as follows:

<b>Profit and loss account for year ended 31 December</b>		
Income from operations		
Sales	180	
<i>Less: Replacement cost of units as at the date of sale</i>	<u>84</u>	96
<i>Less: Expenses</i>		<u>70</u>
Current operating profit		26
Holding gains		
Realised holding gains (i.e. the holding gains on the units sold, 12 × (7 – 5))	24	
Unrealised holding gains (i.e. the holding gains on the units still in stock, 8 × (10 – 5))	<u>40</u>	<u>64</u>
Net profit		<u>£90</u>

For comparison the financial statements based on the use of historical cost are shown below:

<b>Profit and loss account for year ended 31 December</b>	
Sale	180
<i>Less: Cost of sales (12 × 5)</i>	<u>60</u>
Gross profit	120
<i>Less: Expenses</i>	<u>70</u>
Net profit	<u>£50</u>

<b>Balance sheet at 31 December</b>	
Stock of units (8 × 5)	40
Cash	<u>110</u>
	<u>£150</u>
Capital	<u>100</u>
Retained earnings	<u>50</u>
	<u>£150</u>

Note: The historical cost profit of £50 is equal to the income from operations (£26) and the realised holding gain (£24) figures from the replacement cost profit and loss account. ▶

We may also segregate the holding gains in the balance sheet:

<b>Balance sheet at 31 December</b>		£
Stock of units, 8 @ £10		80
Cash		<u>110</u>
		<u>£190</u>
Capital		100
Current cost reserve (i.e. holding gain)		64
Retained profit available for distribution		<u>26</u>
		<u>£190</u>

## Comparison with historical cost profit

As was shown in the example:

$$\begin{aligned} \text{Net profit (using historical cost)} \\ &= \text{Current operating profit} + \text{Realised holding gains (using replacement costs)} \end{aligned}$$

Now there is nothing to prevent us restating the conventional income figure in the way suggested above and showing the current operating income and realised holding gains separately. However, this is rarely done; this is unfortunate because the merging of the two elements may well obscure a significant point. For example, a firm may well have made a profit only because it was wise, or lucky enough, to purchase its assets just before they increased in cost and this wise buying may well mask a loss on its operating activities.

Example 18.2 further illustrates the use of replacement cost, and the weakness of historical cost, in measuring profit available for distribution. (We have already used this example in Chapter 8; it is reproduced here for convenience.)

### ? Checkpoint question

**18.11** What is the mathematical relationship between net profit (using historical cost), current operating profit and realised holding gains?

### Example 18.2

Mustapha sets up a new trading firm by paying £10,000 in cash into the new firm's bank account. The following are the firm's transactions in its first trading period:

1st purchase	260 units at £12.50 each
2nd purchase	100 units at £15.00 each
3rd purchase	140 units at £37.50 each

The firm then sold 300 units at £40.00 each immediately after the 3rd purchase. All transactions were in cash.

As we have seen, the amount of profit reported differs according to the method adopted. The following are the profit figures under FIFO:

Sales: 300 at £40.00			£
			12,000
Cost of goods sold	260 @ £12.50	3,250	
	40 @ £15.00	<u>600</u>	<u>3,850</u>
Profit			<u>8,150</u>

*On an average cost basis:*

Sales		12,000
Average cost =	$\frac{260 \times 12.50 + 100 \times 15.00 + 140 \times 37.50}{500}$	= 20.00
Cost of goods sold	300 × £20.00 =	<u>6,000</u>
Profit		<u>£6,000</u>

*On the basis of replacement cost:*

Sales		12,000
Cost of goods sold	300 @ £37.50 =	<u>11,250</u>
Profit		<u>£750</u>

There is only one answer under replacement cost accounting, for a given set of figures. Also, when costs are rising, which is most often the case, the profit figure reported is more prudent. Another advantage is that the profit figure represents the amount which can be drawn out of the business so as to maintain the firm at its original size, in physical terms. We can see this clearly if we work out the cash situation.

Receipts:		
Equity	10,000	
Sales	<u>12,000</u>	
		22,000
Payments:		
Purchases	10,000	
Drawings (= profit)	<u>750</u>	<u>10,750</u>
Balance		<u>11,250</u>

If the units sold were replaced immediately (assuming no further price change) 300 @ £37.50 = £11,250. So we can see that the drawings have not reduced the physical capital of the firm.

Under FIFO, if Mustapha drew out an amount equal to the profit there would not be sufficient cash left in the business to replace the stock sold. The physical capital would be reduced. If Mustapha wished to continue as before he would have to introduce more capital or obtain a loan.

Receipts:		
Equity		10,000
Sales		<u>12,000</u>
		22,000
Payments:		
Purchases	10,000	
Drawings (= profit)	<u>8,150</u>	<u>18,150</u>
Balance		<u>3,850</u>

which is insufficient to replace the stock sold.

Under AVCO:

Receipts:		
Capital		10,000
Sales		<u>12,000</u>
		22,000
Payments:		
Purchases	10,000	
Drawings (= profit)	<u>6,000</u>	<u>16,000</u>
		<u>6,000</u>

Again, there is insufficient cash to replace the stock.

As we have seen, replacement cost provides a profit figure which is useful when making the decision as to how much cash to withdraw, whereas the conventional methods are misleading. It may appear that the misleading answers provided arise from the use of FIFO or average cost because they rely on assumptions about the order in which goods are sold. While this is part of the reason, even the use of actual historical cost will produce a misleading answer when prices are changing, as the following simple example demonstrates.

### Example 18.3

Joe deals in second-hand cars. As each car has a unique registration number Joe is able to determine the actual cost of each car sold. In the month of March he buys for cash:

one Ford for	£6,000
one Renault for	£3,000
one Rover for	<u>£7,000</u>
	<u>£16,000</u>

On 31 March he sells all three, for cash:

the Ford for	£9,000
the Renault for	£4,000
the Rover for	<u>£9,600</u>
	<u>£22,600</u>
Gross profit on historical cost basis	<u>£6,600</u>

(Joe had £16,000 in the bank at 1 March.)

If, for simplicity, we assume that Joe has no expenses other than cost of goods sold, he would feel entitled to withdraw £6,600 and spend it. His cash position would then be:

Cash received from sales	£22,600
Less: Withdrawn	<u>£6,600</u>
	<u>£16,000</u>

But suppose that at 31 March the replacement cost of similar cars is:

Ford	£6,400
Renault	£3,200
Rover	<u>£7,600</u>
	<u>£17,200</u>

then he is £1,200 short of cash and will have to borrow, or reduce the size of his business.

The use of replacement cost would have shown:

Sales	£22,600
Cost of goods sold	<u>£17,200</u>
	<u>£5,400</u>

After withdrawing cash of £5,400, Joe would have:

Cash from sales	£22,600
Less: Withdrawn	<u>£5,400</u>
	<u>£17,200</u>

which is enough to replace the cars.

## Gains and replacement cost

Conventional accounting income measurement mixes gains made in the current period with those made in previous periods. It includes: realised operating gain or ‘current operating profit’ (COP), i.e. revenue minus replacement cost (RC), and realised holding gains (RHG), i.e. increase in replacement cost during which the asset is held, including RHG accruing and realised in the current period plus RHG accruing in past periods and realised in the current period.

### Example 18.4

If Fred bought 10 units on 1 March for £100, and sold them on 30 April for £150, his accounting profit (AP) would be nil in March, as no sales had been made, and £50 in April. However, suppose the replacement cost of one unit was

at 31 March	£12
at 30 April	£13

We may analyse the result as follows:

	£
COP = Revenue /less Replacement cost	
= £150 – £130	= 20
RHG for April = RC at 30 April /less RC at 31 March	
= £130 – £120	= 10
RHG for March = RC at 31 March /less HC (historical cost)	
= £120 – £100	= <u>20</u>
	<u>£50</u>

As we can see, some relevant information is lost in

$$AP = £50$$

‘Business income’ or ‘Money income’, based on RC, takes into account all gains, including unrealised holding gains (UHG), and segregates them by time periods.

$$\text{Business income} = \text{COP} + \text{RHG} + \text{UHG}$$

So Fred’s business income

	£
in March is COP =	Nil
RHG =	Nil
UHG = RC at 31 March /less HC	
= £120 – £100 =	<u>20</u>
	<u>£20</u>
in April is COP = Revenue /less RC at 30 April	
= £150 – £130	20
RHG = RC at 30 April /less RC at 31 March	
= £130 – £120 =	10
UHG =	<u>Nil</u>
	<u>£30</u>

Notice that the historical transactions base need not be lost.

In replacement cost accounting, the product costs are computed on the basis of the replacement costs of the inputs as at the time which they were used. Presenting the information in this way enables the reader to see whether the firm was operating profitably in the sense that its revenue exceeds the current values of the inputs.

The following example illustrates the replacement cost method of analysing gains.

### Example 18.5

On 1 January 20X0 Ivor Pryce started a business selling hi-fi stereos. His starting capital was £200,000.

His purchases and sales during 20X0 were as follows:

<i>Purchases</i>			
2 January	100 units @ £1,000 each		
10 July	150 units @ £1,200 each		
<i>Sales</i>			<i>Replacement cost</i>
30 January	20 units @ £1,400 each		£1,000
28 February	20 units @ £1,200 each		£1,100
30 March	30 units @ £1,300 each		£1,200
30 June	10 units @ £1,400 each		£1,500
10 August	40 units @ £1,600 each		£1,200
20 September	50 units @ £1,800 each		£1,400

(The figures in the 'replacement cost' column represent the replacement cost per unit at the date of sale.)

The replacement cost at 31 December 20X0 was £1,750 per unit.

The following is a statement of Pryce's total gains for 20X0, analysed into current operating profit and holding gains.

(a) No.	Date	(a) Sale price £	(b) Cost (FIFO) £	(c) Accg. profit £	(d) RC £	(e) COP £	(f) RHG £	(g) UHG £
20	30 Jan.	28,000	20,000	8,000	20,000	8,000	–	
20	28 Feb.	24,000	20,000	4,000	22,000	2,000	2,000	
30	30 Mar.	39,000	30,000	9,000	36,000	3,000	6,000	
10	30 June	14,000	10,000	4,000	15,000	(1,000)	5,000	
20	10 Aug.	32,000	20,000	12,000	24,000	8,000	4,000	
	10 Aug.	32,000	24,000	8,000	24,000	8,000	–	
50	20 Sept.	90,000	60,000	30,000	70,000	20,000	10,000	
<u>170</u>		<u>259,000</u>	<u>184,000</u>	<u>75,000</u>	<u>211,000</u>	<u>48,000</u>	<u>27,000</u>	
				(a – b)		(a – d)	(c – e)	
							or (d – b)	

80 in stock at 31 December		<u>96,000</u>		<u>140,000</u>				<u>44,000</u> (d – b)
Current operating profit (COP)								48,000
Realised holding gain (RHG)								<u>27,000</u>
Accounting profit (FIFO)								75,000
Unrealised holding gain								<u>44,000</u>
Total gain								<u>£119,000</u>

*Notes:*

1. Current operating profit is the amount from which drawings may be made, or in the case of a limited company, dividends may be declared without reducing the physical operating capacity of the firm.
2. Also current operating profit is more effective in measuring efficiency than is accounting profit; see particularly the transaction on 30 June, where a current operating loss was incurred by selling at a price lower than replacement cost.
3. Operating gains are distinguished from gains made by holding stock over time. However, it should be noted that holding gains may be due to a mixture of factors including changes in demand and supply, and inflation. The gains may be the result of good buying or factors outside management's control, or both.

It should be borne in mind that the making of operating gains and the making of holding gains are interdependent in practice. Nevertheless the additional information is useful, operating gains reflecting on the effectiveness of, for example, marketing management and holding gains on the effectiveness of, for example, buying management.

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## Arguments in favour of and against replacement cost accounting

Arguments in favour may be summarised as follows:

- The model describes income, value and capital in contemporary terms (this is also true of other current value bases).
- It facilitates the evaluation of past decisions and therefore helps in making future decisions; it is therefore most relevant to entity management.
- It facilitates the measurement of management performance in both aggregate and separable terms, as operating gains are distinguished from holding gains.
- Until an asset leaves the entity, i.e. is sold, entry value (replacement cost) is the relevant value (but notice that this may not be the case as the opportunity cost may be the value in use or the net realisable value, where the asset will not be replaced).
- Income of each period is segregated, avoiding mixing up gains of the current and prior years.
- It is feasible; it has been shown that time and cost are not significant constraints in using the method.

Against this it may be argued that:

- It is relevant to managers of the entity, but not to external users of accounting statements.
- It assumes the continuity of the business in its present form, with an indefinite life.
- It does not reflect alternatives or choice; it does not tell the decision-maker about economic sacrifices.
- It does not draw attention to alternative uses of the firm's capital.
- Entry values, i.e. replacement costs, lack comparability as they are valid for only one entity.
- It is limited to transactions which may be accounted for through the historical cost system.



- Different replacement costs for the same asset will produce different business income figures; differing values may arise because of:
  - (a) differing replacement policies;
  - (b) obsolescence;
  - (c) technological change;
  - (d) the difficulty of finding appropriate values for highly specialised or custom-built assets.

In other words, a particular asset may not be replaced by an identical asset but by an equivalent one, and the different assumptions about this produce different figures. Further, there is the problem of whether to use the cost of a new asset, adjusted for depreciation, or the cost of a used asset in similar condition.

## Summary

We first reviewed the objectives of accounting and discussed the weaknesses of the conventional accounting model in meeting those objectives. We also discussed some of the problems of income measurement and valuation and explained how the use of the conventional, historical cost, model may distort the reported results. In particular, we considered the problems which arise when prices are changing, as they almost certainly are during any accounting period.

We then explained what is meant by creative accounting and showed some of the reasons why it may be used. We explained some of the ways in which financial statements can be distorted by using creative accounting methods, limiting ourselves to those methods which may be fully understood within the context of material covered in the earlier chapters of this book.

Finally, we considered the use of current values rather than historical cost in the preparation of financial statements. In particular, we dealt with the use of replacement cost in some depth, showing how the calculations may be made to produce results which are more useful for decision-making purposes, especially the consumption decision. We ended by summarising the advantages and disadvantages of the use of replacement costs in accounting.

## Review questions

- 18.1 Potential investors are interested in companies which will be successful in the future. However, financial accounting reports only on the past. Does it matter, therefore, if the results are distorted, either accidentally or deliberately?
- 18.2 'Perhaps the most important decision, from the point of view of the owners of a business, is the consumption decision. Unfortunately, the reported profit figure may be distorted when prices are changing.' Discuss, including some simple figures to illustrate the problem.
- 18.3 Rachel Cohen is the managing director and main shareholder of a small limited company. She tells you that she bases her financial decisions on the company's financial statements. 'After all,' she says, 'they show me the true profit and the value of the company.' Reply to her.

- 18.4** Explain some of the ways in which results may be deliberately manipulated. What is it about the conventional accounting system that allows this to happen?
- 18.5** The treatment of goodwill is a particularly difficult problem. Explain how this may be manipulated to show the desired results.
- 18.6** Investment Trust plc has recently stated in an advertisement that an investment in its Fund A of £10,000 made ten years ago would now have a cash value of £25,000. Assuming that the statement is factually correct, explain why it may be misleading.
- 18.7** ‘The use of historical costs in accounting produces results which are, at best, useless and, at worst, grossly misleading.’ Discuss this statement.
- 18.8** The use of replacement costs in accounting will produce figures which will be more useful in making the consumption decision than will the use of historical costs. Discuss.

## Exercises

**Solutions to exercises whose number is in colour can be found at the end of the book.**

- 18.1** Trevor Jones started business by investing £200,000 in a new trading firm. He then buys 1,000 units of stock for resale at £200 each. Just before the end of his first trading period he sold all the units for cash, at £350 each. At the time of the sale, the replacement cost of one unit was £250.
- (a) Assuming that Trevor has no expenses other than cost of goods sold, calculate his profit for the period, using historical cost.
- (b) Assuming that Trevor draws out the maximum amount (i.e. an amount equal to his profit for the period), calculate the firm’s cash position as at the end of the year.
- (c) If he wishes to go on trading at the same level, what would Trevor have to do, given the cash position in (b)?
- (d) Show how the distributable profit could be more usefully calculated.
- 18.2** Polly and Mona have each been given £100,000 by their aunt, Miss Nab. Polly and Mona have used the money to set up separate trading businesses.

During the first year of trading Polly made the following purchases (for cash) of Product X:

600 units at £60 each	£36,000
300 units at £80 each	24,000
400 units at £100 each	<u>40,000</u>
	<u>£100,000</u>

She then sold 900 units at £160 each, for cash.

During her first year of trading Mona made the following purchases (for cash) of Product Y:

300 units at £110 each	£33,000
500 units at £90 each	45,000
275 units at £80 each	<u>22,000</u>
	<u>£100,000</u>

She then sold 900 units at £150 each, for cash.

- (a) If they had no expenses other than cost of goods sold, what would Polly and Mona's profits be, respectively, on a FIFO basis?
- (b) If they each withdraw all their profits in cash, to what extent could they each replenish their stocks, calculating profits on a FIFO basis?
- (c) What assumptions do you need to make in answering (b) above?
- (d) How much would you advise Polly to withdraw and why? How would you advise her to value her stock for accounting purposes? Give your reasons and show the result of her taking your advice, in figures.

**18.3** Life, Universe and Everything Co. Ltd trades in one product, 'galaxies'. The company's stock as at 1 January 20X2 consisted of 20,000 galaxies, costed as follows:

<i>Basis</i>	<i>Units</i>	<i>Price per unit £</i>	<i>Total £</i>
FIFO	<u>20,000</u>	40	<u>800,000</u>

During the year ended 31 December 20X2, the company made the following sales and purchases:

	<i>Sales</i>		<i>Purchases</i>	
	<i>Units</i>	<i>Price per unit £</i>	<i>Units</i>	<i>Price per unit £</i>
January			6,000	40
February	9,000	54		
April			24,000	55
June	6,000	70		
October	6,000	70		
December			3,000	60

The replacement cost of one galaxy was

February	£45
June	£57
October	£58
December	£60

The company, due to its extraordinary nature, had no expenses, other than cost of goods sold, in 20X2.

The Managing Director, Mr Beeblebrox, has asked your advice as to whether replacement cost is a more efficient basis for determining dividends.

*Required:*

Your reasoned advice to Mr Beeblebrox, including detailed calculations of profit on the bases of (a) FIFO and (b) replacement cost.

**18.4** The retained profits of Ondex Ltd were as follows:

	<i>Year 1</i>	<i>Year 2</i>	<i>Year 3</i>
	£	£	£
For the year	200,000	210,000	250,000
Carried forward	200,000	410,000	660,000

The chairman, in his report, says that retained profits attributable to shareholders have increased each year.

Comment on the chairman's statement and restate the figures in a way which is more meaningful to individual shareholders. A suitable general index moved as follows:

Year 1	190
Year 2	230
Year 3	250

- 18.5** On 1 January 20X1, N.N. Tree, a retired accountancy lecturer, started a business selling caravans. His starting capital was £100,000. His purchases and sales during 20X1 were as follows:

<i>Purchases</i>		
2 January	10 caravans at £5,000 each	
10 July	15 caravans at £6,000 each	
<i>Sales</i>		<i>Replacement cost</i>
30 January	2 caravans at £7,000 each	£5,000
28 February	2 caravans at £6,000 each	£5,500
30 March	3 caravans at £6,500 each	£6,000
30 June	1 caravan at £7,000	£7,500
10 August	4 caravans at £8,000 each	£6,000
20 September	5 caravans at £9,000 each	£7,000

(The figures in the 'replacement cost' column represent the replacement cost per caravan at the date of sale.)

The replacement cost of one caravan at 31 December 20X1 was £9,000.

*Required:*

- A statement of Tree's total gain for 20X1, analysed into current operating profit and holding gains.
  - Say which elements of the total gain might be regarded as Tree's profit for the year, outlining the arguments for and against the various alternatives.
- 18.6** Sue Poly is a trader in 'Modules'. She set up business with a capital of £10,000 which was left to her in the will of her aunt.

During the first year of trading, she made the following purchases of 'Modules' (for cash):

600 at £6 each	£3,600
300 at £8 each	2,400
400 at £10 each	<u>4,000</u>
	<u>£10,000</u>

She then sold 900 'Modules' at £16 each, for cash.

- If Sue had no other expenses, what is her profit for the year on a FIFO basis?
- If Sue withdraws all her profit, to what extent can she replenish her stock on a FIFO basis?
- What assumption do you need to make in (b) above?
- How much would you advise Sue to withdraw and why? Support your advice with appropriate calculations.

**18.7** (i) Show how the following figures misrepresent Groco's physical activity:

<i>Year</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>
	£000	£000	£000	£000
Sales per accounts	200	220	240	260
A suitable specific price index for these goods	100	110	115	120

(ii) Kashko Ltd has the following cash outlays:

<i>Year</i>	<i>1</i>	<i>2</i>	<i>3</i>
	£000	£000	£000
Cash outlays	300	350	400
General price index (average for year)	100	105	112

Show how the figures of outlays are misleading.

(iii) In their balance sheets as at the end of year 7 are shown:

	X Co. Ltd	Y Co. Ltd
Land at cost	£200,000	£200,000

X Co. Ltd purchased its land in year 1; Y Co. Ltd purchased its land in year 6. The price of land of this type in year 7 is twice the price in year 1, and 10 per cent greater than in year 6.

Show why the figures in the balance sheets distort comparison between the two balance sheets.

# 19

## Financial reporting in countries other than the UK

### Introduction

In this chapter we introduce the financial reporting systems of a number of other countries. We concentrate on explaining the differences between these and UK statements, to help you to understand overseas financial statements. We also consider the causes of the differences. We focus on principles which have already been explained in the text. We provide examples from Europe, the United States and Japan. Finally, we consider the issue of harmonisation of international financial reporting.

### Learning objectives

At the end of this chapter, after completing the checkpoint questions, you should be able to:

- discuss the main differences in international financial reporting and their causes;
- explain the problems of making comparisons of financial statements from different countries;
- discuss the main issues and problems in the harmonisation of financial reporting.

## 19.1 Major differences and their causes

### The concept of fairness

The idea that financial statements should show a ‘fair’ view, rather than a ‘correct’ or legal view of a company’s affairs, is important in some countries but not in others. In the countries in which this ‘fair’ view of accounting is prevalent there are, generally, a large number of shareholders providing finance, who are thought to need reports which are meaningful and relevant to their needs. Also, the law, particularly taxation law, does not affect the content and form of financial reports to the extent it does elsewhere. The concept of fairness has been especially important in the UK, the Republic of Ireland and the Netherlands, which were until recently the only countries in the European Union (EU; previously the European Community, EC) where the law required faithfulness or fairness from the audited statements. This is the so-called true and fair view. In Europe, the EU’s Fourth Directive requires that ‘true and fair’ should override the detailed accounting rules in member states. Fairness is now an overriding concept in the EU.

**Key term**

■ A **European Union Directive** is a statement issued under the authority of the EU which must be incorporated into the law of the member state.

**Checkpoint question**

**19.1** How did the ‘true and fair’ view develop? What was the effect of the EU Fourth Directive in this regard?

In the United States, accountants have formed the view that they should try to account for the economic substance of events rather than for the legal situation: substance takes precedence over form. This view, intended to ‘present fairly’, is closely related to the ‘true and fair view’ approach. The requirement is to ‘present fairly in conformity with Generally Accepted Accounting Principles’ (US GAAP), which is slightly different from the ‘true and fair’ view concept in that the intention to present fairly may be limited by the requirement to conform to US GAAP. For example, under US GAAP only historical cost may be used. We have already seen how this is unlikely to result in fair reporting.

**Key term**

■ **Generally Accepted Accounting Principles (US GAAP)** consist of all financial accounting standards, rules and regulations which must be observed in the preparation of financial reports which are acceptable to the Securities and Exchange Commission (SEC). The SEC prescribes disclosure standards for larger companies in the United States.

**Checkpoint question**

**19.2** In what way is the US requirement to ‘present fairly’ more limited than the EU requirement to show a ‘true and fair view’?

The fairness approach to accounting requires judgement rather than simple adherence to a set of rules. This allows for financial statements which are, in the best examples, more informative and ‘realistic’ about the state of the company’s affairs than purely ‘legal’ statements. On the other hand the figures are less objective and therefore less reliable but are likely to be more relevant. The terms ‘fair’ and ‘true and fair’ cannot be precisely defined. Indeed, although required by law, they have not been legally defined. In the worst case, because of the degree of flexibility this implies, this may lead to the abuse of this flexibility by directors who wish to present a particular view of the company’s affairs.

In addition, the imposition of ‘true and fair’ as an overriding concept, together with specified formats, may lead to financial statements from different countries in the EU which appear uniform but are based on widely different approaches to accounting. This may lead to the readers of accounting statements being misled by superficial similarities, when the underlying figures have actually been produced on different bases.

**Checkpoint question**

**19.3** Is the ‘legal’ approach to accounting more likely to produce figures which are relevant to the needs of the users of financial statements than those from the ‘fair’ approach? Give your reasons.

A particular problem relates to the use of ratio analysis (see chapter 21). Where the whole underlying concept of accounting differs, comparisons between firms become extremely problematic. For example, in Germany, the requirement for accounts to be ‘fair’ has been met by firms making extra disclosures of information, not by any change in the underlying figures (see section 19.2). Because of the widely differing bases adopted, trying to compare ratios derived from such financial statements with UK accounts is bound to lead to useless or, worse, misleading results.

## The law

There are essentially two main types of law in the countries which concern us: the ‘common law’ system based on early English law; and the ‘codified’ system based on Roman law. Under the common law system there is, typically, a limited amount of statute law (i.e. laid down by government) which is then interpreted in the courts, thus building up a large body of case law which then supplements and modifies statute law. This type of law is found in England and Wales and in countries influenced by English law such as Australia and New Zealand, India, the Republic of Ireland and the United States. Common law is in essence pragmatic and intended to provide solutions for particular cases rather than formulate general rules. It tends to follow that in common law countries financial reporting is less dependent on law. (In the UK itself, this tradition is changing under the influence of EU law.)

‘Codified’ law is based on Roman law and was developed in the continental European universities. Rules have been developed which are based on ideas of justice and morality which become doctrine. This type of law leads to a very different approach where accounting is concerned. There is a need for company and commercial law to establish and codify detailed rules governing the accounting systems and the financial reporting. Again using Germany as an example, company accounting is mostly a branch of company law; there is little room for the exercise of judgement.

It is worth noting that some countries’ laws embody elements of both systems, especially where the countries concerned form part of a larger political body: Scotland (UK), Quebec (Canada) and Louisiana (United States). In the case of Scotland, there are important differences in some aspects of law, for instance family law and law relating to property, but company law relates to the whole of the UK.



### Checkpoint question

19.4 Briefly summarise the differences between Roman law and ‘old English’ law.

## Taxation

In some countries, for example France and Germany, the accounting rules *are* to a large extent the tax rules. Again using Germany as an example, the tax accounts and the commercial accounts should be the same. There is even an untranslatable word for this principle: *Maßgeblichkeitsprinzip* (see section 19.2). In other countries, e.g. the UK and United States, this principle does not apply and there may be, and often are, substantial differences between the accounting profit and the taxable profit. The most



obvious example is depreciation. In the UK, as we have seen earlier, the amount of depreciation charged in the accounts is determined according to custom and judgement, for instance as to the expected scrap value and the length of the asset's useful life. It is intended to match expenses to revenue earned in a meaningful way, charging a fair proportion of the cost to each accounting period benefiting from the use of the asset. (Notice the use of 'fair' here.) In the UK, for example, the amount allowed to be charged against the taxable profit is determined by capital allowances imposed under the tax laws.



### Checkpoint question

**19.5** Give an example of the difference between German and UK tax law, which affects financial reporting.

## Ownership and financing of companies

The main difference between countries, under this heading, is whether or not there is significant ownership by 'outside' shareholders who do not take part in the management of the company. As they do not have access to inside information about the company's affairs, there is a need for disclosure of relevant information in the financial statements. This information should be fairly presented and audited by qualified persons from outside the company (in the UK by firms of accountants or individual accountants qualified to carry out audits) to try to ensure lack of bias. The shareholders need to know about the company's state of affairs and the progress it has made from year to year. In the UK and United States it is increasingly the case that shares are held by institutional investors, such as pension funds and insurance companies, who hold larger blocks of shares than individual shareholders. This perhaps increases the pressure for disclosure.

### Key term

■ **Institutional investors** are large financial institutions, such as insurance companies, pension funds and banks, which have very large funds to invest which are, in effect, derived from the public or other companies.

Providing accounts which can be compared from year to year involves the use of the accruals concept, as we explained earlier. Preparing financial statements involves the use of judgement, as we have seen earlier. This has led to accountants in, for example, the UK and United States developing their own 'rules': concepts and conventions, as we explained in Chapter 1. Because of the perceived expertise of the accounting bodies, governments in these countries have tended to accept this situation and not intervene by imposing detailed legal requirements.

In other countries, for instance France, there are very many small businesses which are owned and run by families. It is also the case that in some countries significant amounts of capital are provided by the state or by banks. For example, in Germany the banks are important owners of companies as well as providing debt finance. In many public companies a majority of shares is owned or controlled (through proxies) by the banks. So, in these cases, the banks, families and governments have direct access to

internal information. There is therefore less need for external reporting of the type needed by shareholders. In most countries in continental Europe, and in Japan, external financial reporting has developed largely for the benefit of government, as tax collectors and controllers of the economy. This has led to financial statements that are legally and taxation based, with little room for ‘fairness’ and the exercise of judgement.

### ? Checkpoint question

**19.6** Briefly summarise the effects of different patterns of ownership on a country’s approach to financial reporting.

## Accounting theory

Theory has been of little importance in the development of accounting practice in most countries. In continental Europe and Japan accounting has largely been a servant of the state, and in ‘Anglo-Saxon’ countries, such as the UK, the United States, and other English-speaking countries, the pragmatic approach to accounting has traditionally meant that accounting theory has largely been ignored.

The country where theory has had perhaps the most important influence has been the Netherlands, where microeconomics has had a significant influence in the past. Perhaps the most important result was the suggestion that the use of replacement cost accounting would produce a more meaningful result than historical cost accounting. Unfortunately, in our view, outside pressures have resulted in this basis being increasingly abandoned.

## History

Accounting practice has frequently been affected by accidents of history. For example, a number of developing countries which had previously been part of the British empire adopted versions of British Companies Acts despite the fact that there are few public companies of the type that gave rise to the Acts in the first place. Another example is France, which adopted what is now called the *plan comptable* after absorbing the influence of German practice during the occupation in the early 1940s. Spain later adopted the *plan comptable* from France, extending the influence of the German system.

## 19.2 Country studies

In order to illustrate the above general issues, we include a number of country studies. We have chosen to concentrate on the major developed economies of Europe, the United States and Japan as the most important examples of differences in accounting practice.

### Europe

As part of the movement towards a closer European Union, major efforts have been made to harmonise financial reporting. However, it still remains the case that, although accounting and reporting practices have changed in countries within the EU, they still vary a great deal within countries and between countries. Prior to the implementation

of the EU's Fourth and Seventh Directives, there were very wide variations in financial reporting in the EC. However, much of the apparent harmonisation is in the *format* of financial statements, not necessarily of the bases of valuation and measurement. It is therefore not possible to refer to 'European' accounting (particularly if the former communist states of eastern Europe are included in 'Europe').

We shall concentrate on the examples of Germany and France, partly because the financial reporting of both these countries shows some of the most distinctive features of accounting in continental Europe and partly because other European countries, including Spain and Portugal, have been influenced by these two countries. Significantly, with regard to future developments in Europe, Hungary and Bulgaria have also been influenced by German and French accounting.

### Germany

German accounting is dominated by company law and closely linked with the tax system. German accountants are highly trained, but their role is to comply with the law and interpret it rather than to develop accounting practices and standards, in which the accounting bodies are heavily involved in the UK and United States. An important feature of German accounting law is known as the *Maßgeblichkeitsprinzip* which requires that the commercial accounts be prepared on the same basis as the tax accounts. This ensures that the company will benefit from the appropriate tax reliefs. This requirement tends to result in companies reporting low profit figures in order to avoid high payments of tax. Also, banks are important providers of finance in Germany and it is in the interest of the banks to report low profits. Reporting of low profits will tend to reduce not only the payments in respect of tax but also dividends to shareholders. This will tend to protect the funds needed for payment of interest on and repayment of loans.

Germany implemented the EU's Fourth Directive in 1985 and as a result introduced the requirement for accounts to show a 'true and fair view'. However, the general 'true and fair' requirement cannot, under German law, override specific regulations. If there is a departure from the 'true and fair view' this is dealt with by disclosure of additional information in the notes to the accounts. This does not result in statements which provide a true and fair view in UK (and therefore, presumably, in EU) terms.

The impact of extreme prudence (known as 'conservatism' outside the UK) in the preparation of financial statements in Germany can best be demonstrated by a simple example. You have already seen the effect on profit of the method of stock valuation.



### Checkpoint question

**19.7** How did Germany implement the true and fair requirement? What was unusual about this?

### Example 19.1

Let us assume that the draft accounts of a company for the previous year include stock valued at €400,000. When preparing the financial statements for publication the directors decide to adopt a more prudent valuation of €200,000, reducing the profit figure accordingly. It follows that a lower figure will be added to reserves in the balance sheet (the balance on profit and loss account being part of the reserves).

	<i>Draft</i>	<i>Published</i>
	€000	€000
Fixed assets	900	900
Stock	400	200
Debtors & cash	<u>300</u>	<u>300</u>
	1,600	1,400
Less: Liabilities	<u>250</u>	<u>250</u>
Net assets	<u>1,350</u>	<u>1,150</u>
Share capital	1,000	1,000
Reserves:		
Profit and loss account	<u>350</u>	<u>150</u>
	<u>1,350</u>	<u>1,150</u>

By using a lower valuation of assets, the published accounts show a lower figure for share capital and reserves in the balance sheet. This results in what is often referred to as a 'hidden reserve'. Because the profit and loss account balance is artificially reduced by the low valuation of stock, part of this reserve (€350,000 – €150,000 = €200,000) is not shown in the balance sheet. It is therefore 'hidden'. Other hidden reserves may be created by taking an extremely conservative view when making provisions. For instance, increasing the provision for doubtful debts will reduce debtors and the balance on profit and loss account. Making very high provisions for depreciation is perhaps the most common practice which, in large companies, may make a very significant difference. The existence of hidden reserves is a feature frequently found in accounting in Germany and in other countries influenced by German accounting.

### Key term

■ A **hidden reserve** arises when the balance sheet value of an asset is deliberately reduced, also reducing the profit and loss account balance (profit and loss account being a reserve in the balance sheet). This may be done, for instance, by over-depreciating fixed assets, providing too high a figure for doubtful debts, or overstating provisions for expenses or losses.

### France

One of the main features of French accounting is its regulation by legislation, both commercial and fiscal. Accounting legislation is made by the Conseil National de la Comptabilité (CNC) which was formed in 1957. The CNC draws up accounting regulations and charts of accounts, the most important of these being the *plan comptable* which is compulsory for all companies in France. The *plan comptable* was originally introduced by the Germans during the occupation of France in the Second World War. Later, the French government saw the *plan* as being a useful way of collecting information regarding the economy during the period of reconstruction of industry following the war. The *plan* includes specification of the coding of accounts, terminology and rules of valuation.

### Key terms

■ Transactions are given **code numbers/letters** to guide the bookkeeper/computer operator in entering the details of the transaction into the books of account. In the UK, for instance, this **coding** is carried out at the discretion of the company itself. In the *plan*, the codes are imposed centrally, so that all firms use the same codes.

France complies with the EU's Fourth Directive which requires the accounts to show a 'true and fair view'. If the application of the *plan* does not give a true and fair view, then this should override the *plan*.

Consolidated accounts were not normally produced in France prior to the implementation of the EU's Seventh Directive in 1985. Individual company accounts were prepared and these complied with the rules for tax purposes. Consolidated accounts are now prepared but as they are not used for tax purposes they do not have to comply with the tax laws. This means that consolidated accounts may be prepared on a different basis from those of the individual companies.



### Checkpoint question

**19.8** What happens in French accounting if the use of the *plan* produces results which conflict with showing a true and fair view?

## The United States

There are traditional links between the United States and the UK partly because of the use of a 'common' language and partly through the acceptance of 'common law' on the English model. However, US practice has been greatly affected by the stock market crash of 1929, after which the Securities and Exchange Commission (SEC) was set up (in 1934) to regulate the publication of information for investors in US companies. If a company wishes there to be a market in its securities it must register with the SEC. A registered company must publish accounts, file reports, have its accounts audited, comply with the Regulations and comply with the GAAP. The GAAP are mostly to be found in the Statements of Financial Accounting Standards (SFASs) issued by the Financial Accounting Standards Board (FASB).

One important fact to note is that these regulations apply only to companies registered with the SEC (only about 12,000 companies). It follows that the vast majority of companies in the United States do not come into this category. Such companies have no compulsory audit or published financial reporting requirements, but many companies are required by shareholders or lenders to publish audited accounts.

One of the main features of accounting in the United States is the strict adherence to historical cost accounting. This does not, for instance, permit any revaluation of properties, as allowed in the UK.



### Checkpoint question

**19.9** Give examples of some differences between UK and US financial reporting.

## Japan

During the late nineteenth century the Japanese adopted the German commercial code and, until the Second World War, their accounting was similar to German accounting. In Japanese accounting practice the protection of the creditors is seen as being at least as important as the interests of the shareholders.

There is an accounting profession in Japan but its influence on accounting standards has been weak. There is an advisory body reporting to the Ministry of Finance which

issues accounting standards. The other major influence on Japanese accounting has been the United States. Until the Second World War, Japanese business was controlled by the *Zaibatsu*. These were large groups of businesses usually having a bank as a member of the group. After the war the United States tried to break up the *Zaibatsu*. However, there are still similar, but informal, groups, which include banks, called the *Keiretsu*. One area of accounting in Japan which is affected by the existence of the *Keiretsu* is consolidation. Consolidated accounts have only been required by the Securities and Exchange Law since 1992. The principles of consolidation are similar to those in the UK. However, because the *Keiretsu* are informal, not legally constituted, groups, the reality of the economic group is not reflected in the consolidated accounts. The effect of this is that the consolidated accounts published by Japanese groups are not very meaningful.

### ? Checkpoint question

19.10 What circumstance tends to make consolidated accounts in Japan relatively meaningless?

## 19.3 Harmonisation

In essence, there are two approaches to the reduction in national differences in accounting: standardisation and harmonisation. Standardisation involves the making of rules for accounting for similar items in all countries. Harmonisation allows for some differences in approach in different countries but seeks to provide a common framework, so that major issues would be dealt with in similar ways. Because of the differing national attitudes and traditions with regard to financial reporting it seems more likely that some degree of harmonisation is achievable, rather than standardisation.

### Desirability

We have highlighted some major differences in accounting in the small number of countries we have reviewed, which include some of the most important industrial economies in the world. A study of accounting practices in other countries betrays further differences. (However, there are broad similarities between the various ‘Anglo-Saxon’ countries and the countries influenced by them. Similarly, there are common features in the accounts of the ‘continental European’ countries and countries influenced by them.) It is clear, therefore, that these differences are a major obstacle to the comparison of financial statements prepared by companies in different countries. With increasing multinational investment, investors need to be sure that they can understand the financial statements of companies in other countries. Many enterprises are now multinational.

#### Key term

■ Broadly, a **multinational company** (or more usually a group of companies) is one which raises capital where it is cheapest, transfers technology worldwide, often produces where costs are cheapest, and develops markets worldwide.

These enterprises have to prepare consolidated accounts for their domestic shareholders and this job would be much easier if the financial statements of their overseas subsidiaries were prepared in the same way and on the same bases. The auditors of these multinational enterprises would also benefit for the same reasons. Further, harmonisation could be expected to improve trade and the flow of capital.

## Difficulties

The major difficulty is to agree on which accounting principles are the ‘best’ to adopt as a model for standardised or harmonised accounting systems. Which is the best accounting in the world: the US GAAP or German accounting? Or UK, or Netherlands, or somewhere else? There seems to be no conclusive answer to the question; each has its own strengths and weaknesses and there is a noticeable tendency for each country to believe, probably sincerely, that its own system is superior to all others.

## Attempts at harmonisation

In addition to the efforts of the EU, other bodies have addressed the issue of harmonisation. For instance the United Nations and the Organisation for Economic Cooperation and Development (OECD) have set up a number of research and discussion groups, so far without any positive, practical results.

In terms of future developments, perhaps the most significant development concerns the International Accounting Standards (IASs) issued by the International Accounting Standards Board (IASB), formerly the International Accounting Standards Committee (IASC). The IASC was set up in 1973 by the professional accounting bodies of Australia, Canada, France, Germany, Ireland, Japan, Mexico, the Netherlands, the UK and the United States. Many more countries have since become involved. The IASB’s objectives are to issue accounting standards, promote their acceptance worldwide, and work towards the improvement and harmonisation of financial statements.

The IASs may be adopted as they stand or may be modified to suit local needs. It is not necessary to adopt them all; countries may choose to adopt those they find most appropriate. This is useful for developing countries where resources are limited. On the other hand, the standards may not be very well suited to local needs, especially as the US influence has predominated, so far, in the IASB. However, the IASs may be adapted for local purposes. Again, standards may be developed independently, but in such a way as to conform with IASs. (This is the approach taken in the UK.)

It has become clear that the very broad nature of the IASs, giving a wide range of options, has been an obstacle to enhancing their status. However, since the EU has now endorsed the International Accounting Standards, all listed companies within the EU must prepare their consolidated accounts in accordance with IASs from 2005 onwards. This will undoubtedly strengthen the influence of the IASB. The International Organisation of Securities Commissions (IOSCO), which is a committee of governmental regulatory bodies, has suggested that its members might accept the IASs if they were tightened up, reducing the number of options. If this can be achieved, it could have the effect of harmonising the financial reporting of large companies worldwide. The powerful influence of the SEC, one of the members of IOSCO, is likely to be a strong influence in the acceptance of IASs if they are modified. If harmonisation

follows the adoption of the IASs by IOSCO, this would be beneficial to the shareholders in large public companies, who would have comparable financial statements available to them when making their investment decisions.

## Summary

In this chapter we have discussed the major differences between the financial reporting of various countries and their causes. We have considered in more detail accounting in Europe, concentrating on Germany and France, the United States and Japan, to illustrate some of these differences. Finally we discussed the desirability and difficulties involved in attempts to harmonise accounting practice across countries.

In writing this chapter we have drawn largely upon *Comparative International Accounting*, 6th edn, by Nobes and Parker (Financial Times Prentice Hall, 2000).

## Review questions

- 19.1** Explain how the following have affected accounting in different countries:
- (a) the concept of fairness;
  - (b) the law;
  - (c) taxation;
  - (d) ownership and financing of companies;
  - (e) accounting theory;
  - (f) history.
- 19.2** Explain the meaning of 'hidden reserves' and how they may be created, illustrating your answer with simple figures.
- 19.3** Discuss the problems a financial analyst may face in comparing the results of a German company with those of a UK company.
- 19.4** Discuss the desirability of harmonisation of financial reporting, the attempts made so far and the prospects for the future.



# 20

## Cash flow statements

### Introduction

In this chapter we discuss the importance of cash flows and the reasons for differences between profit and changes in cash balances. We go on to explain the nature of the cash flows arising from operating activities. We then deal with cash flows arising for various other reasons: returns on investment and servicing of finance; taxation; investing activities; and financing activities. Then we explain and demonstrate the preparation of cash flow statements including all of the above. Finally, we discuss the uses and limitations of cash flow statements and some of the ways in which they could be improved.

### Learning objectives

At the end of this chapter, after completing the checkpoint questions and exercises, you should be able to:

- understand the reasons why there will normally be a difference between the profit and loss for the period and the change in the cash balance;
- understand the format of the cash flow statements which will be included in published financial statements;
- describe the way in which the information provided in a cash flow statement might help in the assessment of the current financial position of a company and of its future prospects;
- derive a cash flow statement for an entity from its detailed profit and loss account and balance sheets.

### 20.1 The importance of cash

In the long run, a profit will result in an increase in the company's cash balance but, as Maynard Keynes observed, 'in the long run, we are all dead'. In our context, the quotation could be amended to read 'in the long run, unless the management is careful, the company may be liquidated'. In the short run, the making of a profit will not necessarily result in an increased cash balance.

This observation leads us to two points. The first relates to the importance of the distinction between cash and profit. The second is concerned with the usefulness of the information provided by the balance sheet and profit and loss account in dealing with the problem of deciding whether the company has, or will be able to generate, sufficient cash to finance its operations.

The first point is easily answered: the distinction is vital. Cash is the very lifeblood of a company for, although the company can make losses and survive, its demise would be instantaneous should it run out of cash.

The balance sheet does give some information about the cash position of the company, for it discloses its cash balance as well as those assets which will be converted to cash in the near future (current assets) and those liabilities which are due for payment either immediately or in the near future (current liabilities). However, the balance sheet only provides a static picture showing the position at a point in time and does not show how the company has financed its activities during the period under review. The profit and loss account is a dynamic statement in that it explains the reasons for changes, but the change explained is in the retained profit of the company and the account gives no information about changes in the company's liquidity.

The importance of the distinction between cash and profit has been recognised by those responsible for the setting of financial reporting standards in a number of countries including the UK and the United States. Thus in the UK the ASB requires all but the smallest entities to include a cash flow statement as part of their published financial statements.

The cash flow statement shows, for an accounting period, the sources and applications of cash, thus reconciling, or explaining the difference between, the opening and closing cash balances, and does so using a specified format. The statement helps users of financial statements compare more easily the current position of the reporting entity with its own history as well as with the results currently reported by similar organisations. In this chapter we describe the sorts of question that will be in the minds of those analysing cash flow statements.

## 20.2 Reasons for the difference between profit and changes in cash balances

While it might at first sight seem obvious, the question of how 'cash' should be most helpfully defined for the purpose of reporting is not clear-cut. Should cash refer only to cash in hand and in the bank on current account or should it include cash on deposit or easily realisable investments? We discuss this issue later in the chapter.

It is useful to draw a distinction between the cash generated, or dissipated if such is the case, by the company's manufacturing or trading activities (or its 'operations'), and other sources and applications of cash. The most important reason for doing this is to help the user of the cash flow statement see how the different aspects of the company's activities impact on the flow of cash.

For the purpose of this section the operation of a company describes the acquisition or manufacture of the goods and services supplied by the business and the cost of sales, marketing and administration. It may be easier to see what is meant by the cash obtained from (or lost in) operations if we indicated that the other activities which

might be a source or application of cash include the following:

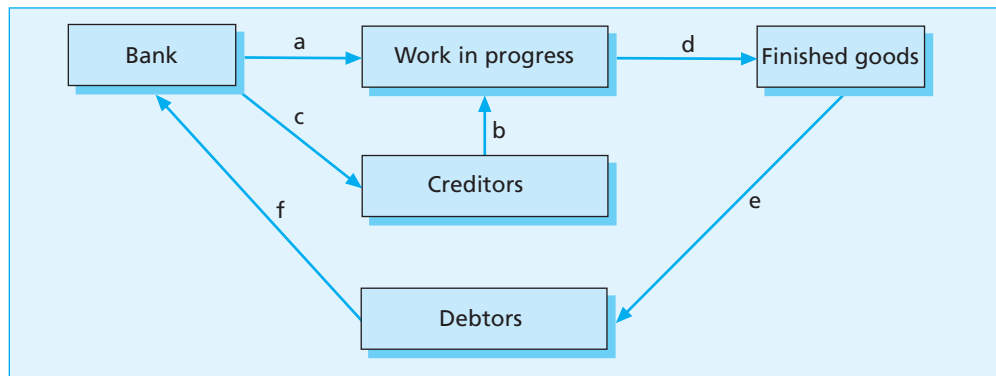
- taxation;
- dividends paid;
- purchase and sale of fixed assets;
- financing activities;
- investing activities.

We shall return to these later.

## Cash from operating activities

Figure 20.1 illustrates what is called the working capital cycle. The assets constituting work in progress are either purchased for cash (flow a) or on credit (flow b). Creditors have to be paid (flow c). Work in progress is converted to finished goods (flow d) which, when sold, give rise to debtors (flow e). Finally, the debtors pay and we return to cash (flow f).

**Key term** ■ **Working capital** is the difference between current assets and current liabilities.

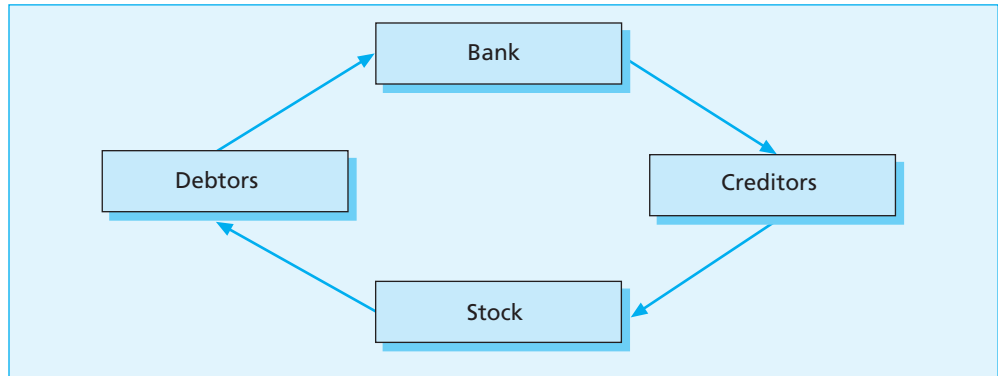


**Figure 20.1** The working capital cycle

A simplified version of the above will be sufficient for the purposes of our explanation and this is illustrated in Figure 20.2. The flows making up the cycle are:

- Bank to creditors, cash paid to creditors.
- Creditors to stock, goods purchased on credit.
- Stock to debtors, goods sold on credit.
- Debtors to bank, cash paid by debtors.

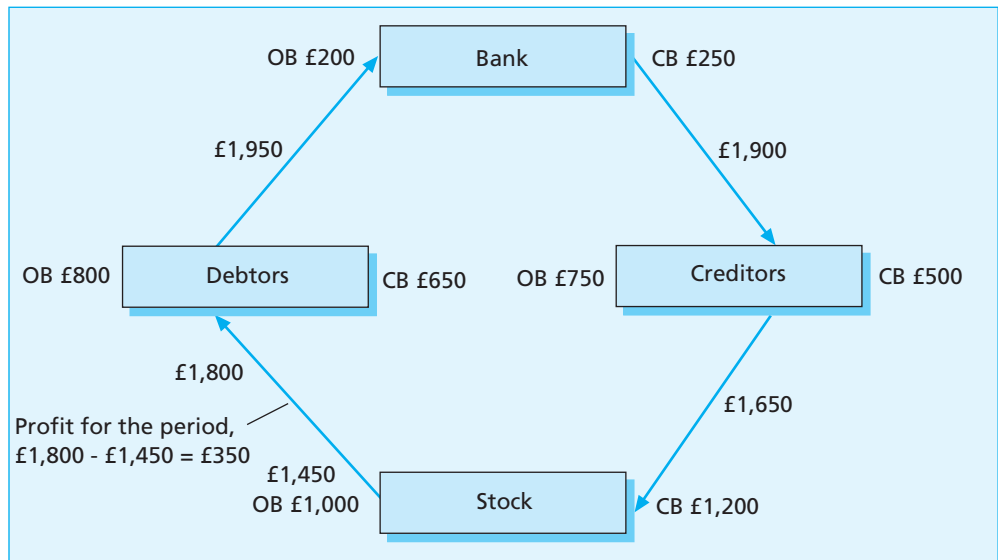
The difference between the short and long run for a given company depends on the speed of the cycle. At one extreme, in the case of, say, a street trader who buys and sells for cash, the cycle may be completed in a day, and profit and cash movement will be in step. The other extreme may be illustrated by a whisky distillery whose cycle would last for some years because of the length of the stockholding stage, caused by the need to mature the product. There will then be a considerable difference between cash flows and profit.



**Figure 20.2** Simplified working capital cycle

Remember that this is a simplified version which assumes all goods and services are purchased on credit and that the cost of stock includes all administrative, selling and marketing expenses. In other words, it is not the stock figure one will find in the conventional accounts but an all-encompassing valuation which recognises all costs, other than financing costs and depreciation, needed to bring the goods or services to the point at which they can be sold.

We have added some numbers in Figure 20.3. The figure of £1,900 represents the cash paid to creditors for the period and so on. The opening balances (OB) and closing balances (CB) for each of the elements in the working capital cycle are also shown. If we ignore depreciation and finance costs and any other items which will appear in other sections of the cash flow statement, the profit for the period is £350 but the bank balance has only increased by £50 from £200 to £250.



**Figure 20.3** Simplified working cycle, with figures

We can see, very easily, the elements of the net cash inflow from operations:

	£
Cash received from debtors	1,950
Cash paid to suppliers, employees, etc.	<u>1,900</u>
Net inflow from operations	<u>50</u>

Anyone in possession of the company's cash book could easily have produced the above statement, so why bother with the working capital cycle? There are two reasons, one of interpretation and one technical.

As to the first, the approach helps explain that the profit from operations will generally not be the same as the cash generated from operations because of changes in the other elements of working capital. Take debtors as an example. If, in the period, the cash received from debtors is less than the credit sales then the debtors figure will go up and the cash generated by operations will be less than the operating profit. Suppose, for example, the credit sales for the period amount to £170,000 but that only £140,000 is received from debtors. Trade debtors will thus increase by £30,000 and, all other things being equal, the profit for the period will be £30,000 more than the cash generated by operations.

Similarly if the creditors figure at the end of the period is greater than at the beginning, then less cash has been paid to suppliers than the goods or services acquired and hence, all other things being equal, cash generated by operations will be greater than the profit. Conversely, if creditors fall then the cash generated will be less than the profit. If the opening balance of trade creditors is £90,000 and the closing balance £80,000 then the goods and services acquired during the period exceed the cash paid to creditors by £10,000 and, all other things being equal, the cash generated by operations will exceed the profit by £10,000.

The other reason for providing the detailed example is to show how the cash from operations can be reconciled with the profit, or, to say much the same thing, how to derive the cash from operations from the information provided by a detailed profit and loss account and balance sheets. This can be done as follows:

	£	£
Operating profit		350
Decrease in debtors		<u>150</u>
		500
<i>Less:</i>		
Decrease in creditors	250	
Increase in stock	<u>200</u>	450
Cash derived from operations		<u>£50</u>

The above statement indicates that:

- sales exceeded the cash received from debtors by £150;
- creditors were paid £250 more than the cost of goods and services during the period;
- an additional £200 was invested in stock rather than being used to pay creditors or to increase the cash balance.

This method of deriving the cash generated by operations is known as the indirect method. The alternative when the net cash flow is found by direct analysis of the cash book and subtracting the cash paid from the cash received is called the direct method.

We ignored depreciation in our example and so need to point out that if the operating profit had been stated after charging depreciation, the expense would need to be added back because depreciation does not represent a cash flow. Suppose that the firm illustrated in Figure 20.3 makes a depreciation charge of £70 for the period. The operating profit would fall by £70 but there would be no change in the cash derived from operations. The cash flow relating to fixed assets occurs when assets are acquired and when they are sold, not when they are depreciated. The cash flows associated with the purchase and disposal of fixed assets appear in a separate section of the cash flow statement.

### ? Checkpoint questions

20.1 Complete the following table.

	(A)	(B)	(C)
	£	£	£
Change in stock	+20	-50	+70
Change in debtors	+30	-15	-10
Change in creditors	+5	?	-18
Depreciation charge for the period	15	20	25
Operating profit for the period after depreciation	+100	-80	+40
Cash, opening balance	+200	-160	?
Cash, closing balance	?	-100	-10

20.2 Indicate possible reasons why a company might report, for a period, a profit but a reduction in cash.

## 20.3 Sources and applications other than from operations

As we indicated earlier, the purpose of specifying a format for the statement which sets out the ways in which the cash flows should be classified is to help users understand the impact of the different aspects of the company's policies and to help comparability. Thus, while it is unfair to suggest that all such categorisations are arbitrary in that their designers did have a purpose in mind, we also need to recognise that they are not fundamental: there is no right answer. Standard-setters and legislators have to make their own 'best guess' of the degree of detail and particular format which will be most generally helpful.

We shall in this book broadly follow the format set out by the ASB in FRS1 'Cash Flow Statements'.

FRS1 requires that cash flows be classified under the following headings:

- Net cash flow from operating activities
- Returns on investment and servicing of finance
- Taxation
- Investing activities

- Equity dividends paid
- Financing activities.

We have already discussed the net cash flow from operating activities but we need to make some brief comments about some of the others.

### Returns on investment and servicing of finance

This would include preference dividend payments as well as interest paid and received. The format specified by FRS1 separates the servicing and income cash flows from the capital flows to which they relate. So, for example, only the interest paid on a new long-term loan would be included in this section, the cash generated by the loan would be included in financing activities. Equity dividends paid are shown in a separate section.

### Taxation

The only cash flows included here would be receipts and payments relating to the company's profits. Payments relating to other taxes, VAT, PAYE, council tax etc., would be included under operating activities.

### Investing activities

Here would be included payments to acquire fixed assets and investments in other companies and any cash received from the disposal of such assets.

### Financing activities

This would include cash flows, in and out, relating to changes in share capital and loans.

In addition we need to be clear about what we mean by cash.

### Cash

Cash is made up of cash in hand plus deposits repayable on demand less overdrafts. To be recognised as cash all items must be available immediately or, in the case of overdrafts, repayable on demand. A balance that would require, say, seven days' notice of withdrawal would be treated as an investment, not cash.

## 20.4 The preparation of cash flow statements

The cash flow statement is no more than an analysis of the cash book classifying receipts and payments in a particular way. Hence, given possession of the necessary records, the preparation of the statement is a straightforward exercise using the direct method.

There are, however, occasions when either as a matter of convenience or of necessity, if the cash book is not available, the cash flow statement will have to be derived from the information contained in the profit and loss account for the period, together with the opening and closing balance sheets: the indirect method.

We will now provide an example of how this is done. The key point to remember is that the cash flow statement itself consists only of cash flows. In order to identify the relevant cash flows we will need to remove the effect of accruals and other opening and closing balances. It might be useful to think in terms of T accounts as illustrated in the following example using debtors:

<i>Debtors</i>			
	£000		£000
Opening balance	20	Cash, balancing figure	X
Sales	<u>230</u>	Closing balance	<u>30</u>
	<u>250</u>		<u>250</u>

In other words, the business was owed £20,000 at the start of the period, made sales of £230,000 and was owed £30,000 at the end of the period. Hence, it can be seen that, on the assumption that there were no other adjustments such as bad debts, the cash received from debtors was £220,000, the balancing figure in the T account.

One systematic way of deriving a cash flow statement is as follows:

1. Prepare a statement showing the differences between the opening and closing balances.
2. Derive the source of cash from operations by using the information from the profit and loss account and the changes in the balance sheet for trade debtors, trade creditors and stock.
3. Analyse the remaining differences to identify the actual cash flows and the category to which they relate.

We illustrate the above approach in Example 20.1.

### Example 20.1

The following are summaries of the balance sheet of Prince Limited at 1 January 20X2 and 31 December 20X2. The left-hand columns show the changes in the balance sheet figures; + represents increases in debit balances and – increases in credit balances.

	31 Dec. X2	1 Jan. X2	Change	
	£000	£000	+	–
			£000	£000
Fixed assets, net book value				
Freehold land	18,200	15,200	3,000	
Plant & machinery	108,400	103,100	5,300	
Motor vehicles	<u>5,300</u>	<u>4,800</u>	500	
	<u>131,900</u>	<u>123,100</u>		
Current assets				
Stock	28,200	26,500	1,700	
Debtors and prepayments	17,200	19,400		2,200
Cash and short-term deposits	<u>–</u>	<u>1,720</u>		1,720
	<u>45,400</u>	<u>47,620</u>		
Current liabilities				
Creditors and accrued expenses	19,100	22,800	3,700	
Taxation currently payable	11,200	9,800		1,400
Proposed dividend	1,200	1,000		200
Overdraft	<u>800</u>	<u>–</u>		800
	<u>32,300</u>	<u>33,600</u>		



	31 Dec. X2	1 Jan. X2	Change	
			+	-
Net current assets	13,100	14,020		
Net assets	<u>145,000</u>	<u>137,120</u>		
Ordinary share capital	50,000	43,000		7,000
Share premium account	24,000	20,000		4,000
Retained earnings	<u>46,500</u>	<u>43,120</u>		3,380
	120,500	106,120		
Debentures	<u>24,500</u>	<u>31,000</u>	6,500	
	<u>£145,000</u>	<u>£137,120</u>	<u>£20,700</u>	<u>£20,700</u>

*Profit and loss account for the year ended 31 December 20X2*

	£000	£000
Operating profit before taxation		10,450
<i>Add:</i> Interest on short-term deposits		<u>90</u>
		10,540
<i>Less:</i> Interest on debentures	2,100	
Interest on overdraft	<u>60</u>	2,160
		8,380
<i>Less:</i> Corporation tax based on the profits for the year		<u>3,000</u>
Profit after taxation		5,380
<i>Less:</i> Dividends – paid	800	
– proposed	<u>1,200</u>	2,000
Increase in retained earnings		<u>3,380</u>

*Note:* Operating profit before taxation is stated after charging the following.

	£000
Depreciation: plant and machinery	12,420
motor vehicles	1,220
Loss on sale of plant and machinery and after crediting	240
Profit on sale of motor vehicles	50

Plant and machinery sold during the year had cost £2,800,000 and had a net book value of £600,000 at the date of sale. Similar details for the vehicles sold were cost, £600,000 and net book value £120,000.

We will first show the workings.

*Net cash flows from operating activities*

We will first remove items relating to other sections of the statement. In this case those are the depreciation charges and the write-back of excess depreciation (the 'profit on sale'). We will then make the working capital adjustments to arrive at the cash figure:

	£000	£000
Operating profit before tax		10,450
<i>Add:</i> Depreciation	13,880	
<i>Less:</i> Excess depreciation	<u>50</u>	13,830
Funds from operations		24,280
Increase in stock	1,700	
Decrease in debtors		<u>2,200</u>
Decrease in creditors	3,700	26,480
		<u>5,400</u>
Net cash inflow from operating activities		<u>£21,080</u>

*Returns on investments and servicing of finance*

The relevant cash flows are:

	£000	£000
Cash flows out		
Debenture interest		2,100
Overdraft interest		60
Cash flows in		
Interest on short-term deposits		90

*Note:* We have assumed that there were no accruals or prepayments in respect of the interest payable on the debentures and overdraft or on the interest receivable on the short-term deposits. Had there been, the amounts would have been adjusted to arrive at the cash flows.

*Taxation*

The corporation tax paid in the year is given by:

	£000
Corporation tax charge for the year (from the profit and loss account)	3,000
Less: Increase in liability (from balance sheet changes schedule)	<u>1,400</u>
	1,600

*Investing activities*

The only investing activities in which Prince engaged during the year related to the purchase and sale of fixed assets. We need to derive the relevant cash flows:

1. *Freehold land.* It does not appear that there have been any sales during the year and since the asset is not depreciated, the cash outflow is £3,000,000.
2. *Plant and machinery.* The opening and closing net book values are connected by the following relationship:

	Opening net book value
<i>Add:</i>	Cost of assets acquired during the period
<i>Less:</i>	Net book value of assets sold during the period
<i>Less:</i>	Depreciation charge for the period
<i>Equals:</i>	Closing net book value

There is only one unknown in the above, so if we call the cost of new assets  $x$ , we can find  $x$  by substitution in the above equation:

$$\begin{aligned} \text{£103,100K} + x - \text{£600K} - \text{£12,420K} &= \text{£108,400K} \\ x &= \text{£18,320K} \end{aligned}$$

Since we know the net book value of the plant and machinery sold and the 'loss on sale' we can calculate the proceeds of sale:

	£000
Net book value	600
Less: Loss on sale	<u>240</u>
	360

3. *Motor vehicles.* From the above:

$$\begin{aligned} \text{Cost of new assets} &= \text{Closing net book value} + \text{Net book value of assets sold} + \\ &\quad \text{Depreciation charge for year} - \text{Opening net book value} \\ &= \text{£5,300K} + \text{£120K} + \text{£1,220K} - \text{£4,800K} \\ &= \text{£1,840K} \end{aligned}$$

$$\begin{aligned}
 \text{Proceeds of sale} &= \text{Net book value of assets sold} + \text{Profit on sale} \\
 &= \text{£120K} + \text{£50K} \\
 &= \text{£170K}
 \end{aligned}$$

The total figures which will be carried to the cash flow statement are:

	£000
Payments to acquire fixed assets	
Freehold land	3,000
Plant and machinery	18,320
Motor vehicles	<u>1,840</u>
	<u>23,160</u>
Receipts from the sale of fixed assets	
Plant and machinery	360
Motor vehicles	<u>170</u>
	<u>530</u>

#### Equity dividends paid

		£000
Dividends paid	20X1 final	1,000
	20X2 interim	<u>800</u>
		<u>1,800</u>

#### *Financing activities*

During the year the company issued shares which appear to have generated cash of £11,000,000, which is the increase in the share capital and share premium accounts.

Debentures with a nominal value of £6,500,000 have been redeemed and since there has not been a loss or gain on redemption it appears that the cash of £6,500,000 has been applied for this purpose.

We are now in a position to prepare a cash flow statement based on the format specified in FRS1. Note that brackets indicate outflows.

#### Prince Limited Cash flow statement for the year ended 31 December 20X2

	£000	£000
Net cash inflow from operating activities		21,080
Returns on investment and servicing of finance		
Interest received	90	
Interest paid	<u>(2,160)</u>	(2,070)
Taxation		
Corporation tax paid		(1,600)
Investing activities		
Payments to acquire fixed assets	(23,160)	
Receipts from sale of fixed assets	<u>530</u>	<u>(22,630)</u>
Net cash inflow before financing		(5,220)
Financing activities		
Issue of shares	11,000	
Redemption of debentures	<u>(6,500)</u>	4,500
Equity dividends paid		<u>(1,800)</u>
Change in cash		<u>£(2,520)</u>

Notes to the cash flow statements:

1. Reconciliation of operating profit to net cash inflow from operating activities:

	£000
Operating profit	10,450
Depreciation	13,830
Increase in stocks	(1,700)
Decrease in debtors	2,200
Decrease in creditors	<u>(3,700)</u>
	<u>21,080</u>

2. Reconciliation of changes in cash with balance sheet:

	£000
Cash and cash equivalents on 1 January 20X2	1,720
Net cash outflow per cash flow statement	<u>(2,520)</u>
Cash and cash equivalents on 31 December 20X2	<u>(800)</u>

3. Analysis of changes in financing during year:

	<i>Share capital including premiums</i>	<i>Long-term loans</i>
	£000	£000
Financing at 1 January 20X2	63,000	31,000
Proceeds of issue of shares	11,000	
Redemption of debentures		<u>(6,500)</u>
Financing at 31 December 20X2	<u>£74,000</u>	<u>£24,500</u>

## ? Checkpoint questions

20.3 Complete the following table.

(A)	£	(B)	£
Increase in debtors	4,250	Increase in creditors	3,320
Sales for the period	?	Purchases	17,192
Bad debts written off	170		
Cash received from debtors	19,331	Cash paid to suppliers	?

20.4 A fixed asset which was purchased four years ago and depreciated over that period on a straight-line basis, with an estimated residual value of £1,268 after eight years, was sold for £7,325 with a 'loss on sale' of £653. How much did it cost?

## 20.5 The uses and limitations of cash flow statements

Now that we have presented an extended example of a cash flow statement we are in a better position to discuss the uses and limitations of such statements.

The purposes of the statements are to help the user of financial statements understand from where the company had generated its cash and how it has been applied. In Example 20.1 we can see that the main source of cash was internally generated from operations. The statement, and particularly note 1, shows that the cash generated was considerably larger than the reported profit because of the depreciation expense

deducted from profit, which is a 'non-cash' expense. A substantial sum was raised from the issue of additional shares but this was offset by the amount used to redeem the debentures.

The statement shows how the cash generated has been used. A modest proportion of the cash generated was paid in dividends and a small amount paid for tax. The largest proportion of the cash generated was used to acquire fixed assets. We have already referred to the redemption of the debentures. Cash applications exceeded the cash generated by a reasonably small margin, leading to a decrease in the balance of cash and cash equivalents.

Note 1 to the cash flow statement shows how the company has changed its working capital structure. There has been a modest increase in stock with a reduction in both debtors and creditors, which might suggest a tightening in the terms of credit prevailing in the market in which the company operates.

This sort of analysis was easily produced from the cash flow statement. A user who had been given only the profit and loss account and balance sheets could have reached the same conclusions but it would have taken him or her considerably longer and would need a sound understanding of accounting methods.

The provision of cash flow statements helps to answer a number of possible questions such as the following:

- What proportion of cash was generated internally?
- Why did the bank balance fall when the company made a healthy profit?
- How were the purchases of fixed assets financed?
- How did the company manage to pay a dividend even though it made a loss?

These are interesting questions but there is little point in asking, or answering, them unless they provide some information about future prospects. The prime function of a cash flow statement must be to help assess the future progress of the company.

Does the statement indicate, for example, that the management had to resort to short-term expedients to keep going, such as cutting back on capital expenditure? On the other hand it may be that the statement indicates that the company is able to generate substantial cash balances, in which case investors and potential investors might be particularly interested in any plans the company might have to use the surplus cash.

When it comes to assessing a company's prospects, all available evidence, as well as judgements and intuitions, needs to be employed and cash flow statements can play an important part in the assessment.

## 20.6 Improvements to cash flow statements

We have in this chapter concentrated on cash flow statements of the sort specified by the ASB in FRS1 but we do need to consider whether there are ways of improving the usefulness of these statements. Most of the debate surrounding the possible improvement of cash flow statements has tended to focus on different possible classifications of the cash flows and of the definition of cash itself, in particular the treatment of liquid assets that are capable of being converted into cash in the relatively short term.

Changes in classification and definitions will alter the way in which information is reported but not what is reported.

Are there other ways of improving cash flow statements which would enable them to disclose information that would not otherwise be available? The cash flow statement compares the opening and closing cash balances and explains how they have changed, but it does not say anything about what happened to the balance of cash in the course of the period. Many small and medium companies, and some large ones also, experience severe liquidity problems at certain times in the year because, perhaps, the seasonal nature of the trade requires the building up of stocks. Another reason might be that the company has irregular cash flows because it engages in a fairly small number of relatively large contracts and so, if it cannot arrange to be paid in advance, it will experience sharp fluctuations in its cash position.

If the company is not in an awkward cash position at its year end then its short-term difficulties would not be revealed. There is then a danger that, in the case of such companies, the cash flow statement has the features of a swan – calm in outward appearance, but with considerable activity taking place out of sight under the water.

Some indication about the extent of that activity could be provided in a number of ways:

- Companies could be required to disclose the lowest level of cash (or highest level of overdraft) which applied during the period.
- Companies could be required to disclose the balance of cash and cash equivalents at the end of each month or quarter.

Either of these devices would ensure the provision of useful information but it has not been suggested that cash flow statements should be amended to include such information and there may be a good reason for this. Companies which do from time to time find themselves struggling for cash need the confidence of others, especially their bankers and customers. Bankers and other lenders will look carefully at the detailed cash flows of the business, both historical and projected, and are able to specify the level of information they would require to decide whether to provide finance. Customers and potential customers are in a different position. They are more likely simply to seek to avoid trouble. So if they became aware that the future of a business is questionable they would be likely to take their business elsewhere and hence resolve the question in the direction of the demise of the business.

This is not the place to enter into the debate about the trade-off between the desirability of providing relevant information to the users of financial statements and the right of businesses to some degree of commercial confidentiality, so we shall conclude this chapter by repeating the warning about swans: while the cash flow statement is a useful document, think about what may be going on underneath.



### Checkpoint question

20.5 In what circumstances might a cash flow statement present a misleading picture?

### Summary

The importance of the distinction between cash and profit has been explained, as have ways of preparing cash flow statements either directly from the cash book or indirectly from the profit and loss account for the period together with the opening and closing balance sheets.

Ways in which cash flow statements can help in the analysis of the performance and future prospects of a business have been discussed, and reference has also been made to the possible limitations.

## Review questions

- 20.1** Why is it important to distinguish between cash derived from operations and cash obtained from other sources?
- 20.2** 'If the cash flow statement is so informative, why bother with the profit and loss account?' Discuss.

## Exercises

Solutions to exercises whose number is in colour can be found at the end of the book.

- 20.1** Assess the impact of the following on the profit and loss account, the balance sheet and the cash flow statement:
- The company provided for depreciation of £30,000 on fixed assets for the year.
  - The company issued shares with a nominal value of £1 per share at a price of £1.60.
  - The company sold fixed assets during the year for £5,000. They cost £30,000 and at the date of sale depreciation of £20,000 had been provided.
  - The company revalued its land from £500,000 to £700,000.
  - The company repaid a debenture of £200,000.
  - The directors decide to amortise goodwill of £200,000 over a period of ten years.
- 20.2** The balance sheets of Duncan Ltd are summarised below:

		<i>As at</i> 31.12.X5		<i>As at</i> 31.12.X6
	£000	£000	£000	£000
Fixed assets				
Land and buildings		1,980		1,540
Plant and machinery	205		230	
Less: Depreciation	<u>104</u>	<u>101</u>	<u>110</u>	<u>120</u>
		2,081		1,660
Current assets				
Debtors	1,000		1,050	
Less: Current liabilities				
Creditors	581		601	
Bank overdraft	<u>1,100</u>		<u>104</u>	
Net current assets		<u>(681)</u>		<u>345</u>
		<u>1,400</u>		<u>2,005</u>

Share capital and reserves		
Ordinary share capital	1,000	1,400
Profit and loss account	<u>400</u>	<u>605</u>
	<u>1,400</u>	<u>2,005</u>

In the year to 31 December 20X6 machines were purchased at a cost of £55,000 and some machines (with a net book value of £10,000) were sold for a profit of £5,000 above their net book value. Also, depreciation of £26,000 was provided for during the year.

*Required:*

- Prepare a cash flow statement for Duncan Ltd for the year ended 31 December 20X6.
- Comment on the major changes which have occurred.

**20.3** The following information is extracted from the financial statements of Kerr and Bush Ltd on 31 October 20X6.

**Profit and loss account for the year ended 31 October 20X6**

	£000	£000
Sales		2,000
Operating expenses	820	
Depreciation	200	
Goodwill amortised	<u>100</u>	
		<u>1,120</u>
Operating profit		880
Debenture interest		<u>40</u>
Net profit before tax		840
Taxation		<u>170</u>
Profit after tax		670
Dividends		<u>130</u>
Retained profit		<u>540</u>

**Balance sheets**

		<i>As at</i> 31.10.X5		<i>As at</i> 31.10.X6
		£000		£000
Fixed assets				
Goodwill		100		—
Tangible				
Plant and machinery	2,000		2,900	
Less: Depreciation	<u>400</u>	<u>1,600</u>	<u>600</u>	
		1,700		2,300
Current assets				
Stock	480		1,150	
Debtors	400		980	
Bank	<u>100</u>		<u>120</u>	
	980		2,250	
Current liabilities				
Taxation	150		180	
Creditors	200		500	
Dividends	<u>130</u>	<u>480</u>	<u>130</u>	<u>810</u>
Net current assets		<u>500</u>		<u>1,440</u>
c/f		2,200		3,740



b/f	2,200	3,740
8% Debentures	<u>–</u>	<u>500</u>
	<u>2,200</u>	<u>3,240</u>
Share capital and reserves		
Ordinary share capital	2,000	2,400
Share premium account	–	100
Profit and loss account	<u>200</u>	<u>740</u>
	<u>2,200</u>	<u>3,240</u>

*Required:*

- (a) Prepare a cash flow statement for Kerr and Bush Ltd for the year ended 31 October 20X6.
- (b) Comment on the purpose and usefulness of cash flow statements in the interpretation of financial statements.

**20.4** The following information has been extracted from the financial statements of Curasco Ltd at 31 December 20X7.

Balance sheets				
	31.12.X6		31.12.X7	
	£	£	£	£
Fixed assets				
Freehold property		200,000		300,000
Plant and machinery	400,000		500,000	
Less: Depreciation	<u>200,000</u>		<u>250,000</u>	
		<u>200,000</u>		<u>250,000</u>
		400,000		550,000
Current assets				
Stock	500,000		900,000	
Debtors	250,000		300,000	
Bank	<u>300,000</u>		<u>70,000</u>	
	1,050,000		1,270,000	
Less: Current liabilities				
Creditors	160,000		250,000	
Taxation	80,000		90,000	
Dividends	<u>50,000</u>		<u>60,000</u>	
	290,000		400,000	
Net current assets		<u>760,000</u>		<u>870,000</u>
Total assets <i>less</i> current liabilities		1,160,000		1,420,000
5% Debentures		<u>200,000</u>		<u>–</u>
		<u>£960,000</u>		<u>£1,420,000</u>
Ordinary share capital		700,000		1,000,000
Share premium account		–		120,000
Profit and loss account		<u>260,000</u>		<u>300,000</u>
		<u>£960,000</u>		<u>£1,420,000</u>

## Profit and loss account for the year ended 31 December 20X7

Trading profit	270,000		
Less: Depreciation	<u>70,000</u>		
	200,000		
Add: Profit on sale of fixed assets	<u>10,000</u>		
Operating profit	210,000		
Corporation tax	<u>110,000</u>		
Profit after tax	100,000		
Proposed dividend	<u>60,000</u>		
	40,000		
Unappropriated profit at 1.1.X7	<u>260,000</u>		
Unappropriated profit at 31.12.X7	<u>£300,000</u>		
Changes in fixed assets			
Cost	<i>Freehold</i>		<i>Plant &amp; machinery</i>
As at 1.1.X7	200,000		400,000
Additions	<u>100,000</u>		<u>150,000</u>
	300,000		550,000
Less: Disposals during the year	<u>–</u>		<u>50,000</u>
As at 31.12.X7	<u>£300,000</u>		<u>£500,000</u>
Depreciation			
As at 1.1.X7			200,000
Charge for the year			<u>70,000</u>
			270,000
Less: Depreciation provided on disposals made during the year			<u>20,000</u>
As at 31.12.X7			<u>£250,000</u>

*Required:*

Prepare a cash flow statement for the year ended 31 December 20X7.

- 20.5** The following are the summaries of the financial statements of Aster Ltd for the past two years.

	Balance sheets			
		31.12.X6		31.12.X7
	£000	£000	£000	£000
Fixed assets				
Land and buildings		500		508
Plant and machinery	600		650	
Less: Depreciation	<u>198</u>	<u>402</u>	<u>258</u>	<u>392</u>
		902		900
Current assets				
Stock	200		275	
Debtors	150		179	
Bank	<u>50</u>		<u>241</u>	
	400		695	

Current liabilities				
Creditors	380		400	
Proposed dividend	<u>10</u>	<u>10</u>	<u>30</u>	<u>265</u>
		912		1,165
Long-term liabilities				
Debentures	200		250	
Long-term loan	<u>50</u>	<u>250</u>	<u>—</u>	<u>250</u>
		<u>662</u>		<u>915</u>

**Profit and loss account for the year ended 31.12.X7**

	£000
Profit before interest	103
Debenture interest	<u>20</u>
Net profit	83
Proposed dividend	<u>30</u>
Retained profit	<u>53</u>

During the year, machinery costing £150,000 was purchased and disposals were made at net book value. Depreciation of £78,000 was provided during the year.

*Required:*

Prepare a cash flow statement for Aster Ltd for the year ended 31.12.X7.

- 20.6** The following information has been extracted from the financial statements of Bennett and Grange Ltd for the years ended 31.12.X6 and 31.12.X5.

**Balance sheets**

	31.12.X5		31.12.X6	
	£000	£000	£000	£000
Fixed assets				
Land and buildings		1,100		1,100
Fixtures and fittings		<u>380</u>		<u>700</u>
		1,480		1,800
Current assets				
Stock	500		520	
Debtors	300		280	
Bank	<u>—</u>		<u>205</u>	
	800		1,005	
Current liabilities				
Bank overdraft	200		—	
Creditors	100		110	
Corporation tax	180		220	
Proposed dividend	<u>100</u>		<u>125</u>	
Net current assets		<u>220</u>		<u>550</u>
		<u>1,700</u>		<u>2,350</u>
Share capital and reserves				
Ordinary share capital		1,500		2,000
Share premium account		—		100
Profit and loss account		<u>200</u>		<u>250</u>
		<u>1,700</u>		<u>2,350</u>

## Profit and loss account for the year ended 31.12.X6

	£000	£000
Trading profit		650
Depreciation		<u>300</u>
		350
Profit on sale of fixed assets		<u>25</u>
Profit before tax		375
Corporation tax		<u>150</u>
Profit after tax		225
Dividends: Paid	50	
Proposed	<u>125</u>	<u>175</u>
		<u>50</u>

## Fixed assets schedule

	<i>Land and buildings</i>	<i>Fixtures and fittings</i>
	£000	£000
Cost at 1.1.X6	1,100	1,900
Additions	<u>—</u>	<u>720</u>
	1,100	2,620
<i>Less: Disposals</i>	<u>—</u>	<u>800</u>
Cost at 31.12.X6	<u>1,100</u>	<u>1,820</u>
Depreciation at 1.1.X6		1,520
Charge for the year		<u>300</u>
		1,820
<i>Less: Depreciation provided on disposals</i>		<u>700</u>
Depreciation at 31.12.X6		<u>1,120</u>

*Required:*

Prepare a cash flow statement for Bennett and Grange Ltd for the year ended 31.12.X6.

# 21

## Analysis of financial statements 1

### Introduction

In this chapter we explain the purpose of the analysis of financial statements. We also introduce cross-sectional and time series analysis, explaining their differences and purposes. We go on to discuss the use of the ratios which are particularly useful to managers as well as to outsiders: profitability, assets turnover and short-term liquidity ratios. We also show how they are calculated. The limitations of the approach are discussed. Then, through the use of illustrative examples, we discuss the interpretation of the results.

### Learning objectives

At the end of this chapter, after completing the checkpoint questions, you should be able to:

- explain the purposes of the analysis of financial statements;
- discuss the limitations of ratio analysis;
- calculate liquidity, solvency and profitability ratios, and explain their significance;
- explain the differences between cross-sectional and time series analyses and their different purposes;
- carry out comparative ratio analyses and interpret the results.

The purpose of the analysis of financial statements is to provide data to help in decision-making. The financial statements reflect the activities of the firm and are intended to assist resource allocation decisions. One way of helping us to understand financial statements is through the use of financial ratios. In this approach to the interpretation of the profit and loss account and balance sheet, the figures are related to each other, either as simple ratios or as percentages. This is done to help us make comparisons.

### 21.1 Cross-sectional and time series analysis

The ratios for a particular firm for a particular period mean little on their own but may be helpful and revealing when compared with similar ratios on the basis of ‘cross-sectional analysis’ or ‘time series analysis’.

**Key terms**

■ The comparison of a firm's ratios with another similar firm, or with industry figures, is known as **cross-sectional analysis**. Where the comparison is with the firm's own results in the past, this is **time series analysis**.

We shall examine ratios which are commonly used by managers as well as outsiders in examining the results of the firm. Firstly, we need to know how the most commonly used ratios are calculated. We do this by reference to a simple example.

**? Checkpoint question**

21.1 What is the main purpose of ratio analysis? How does the calculation of ratios help in achieving the purpose?

**21.2 Profitability ratios**

If your accountant told you that your business had made a profit of £100,000 last year, would you be pleased? Obviously, your answer would depend on how much you had invested in the business; if you had invested £200,000 you would probably be very pleased as you would have made a return of 50 per cent; if you had invested £2,000,000 you may be disappointed, having earned a return of 5 per cent. You could probably have earned more if you had invested your money elsewhere, in a less risky investment. So we can see that the profit figure, on its own, is not a very useful measurement of success without comparing it to the amount invested (i.e. return on capital employed).

**? Checkpoint question**

21.2 Define cross-sectional and time series analysis.

**Example 21.1**

The financial statements of A Company Ltd are summarised below:

<b>A Company Ltd</b>			
<b>Profit and loss account for the year ended 31 December 20X1</b>			
	£	£	£
Sales			2,400,000
Cost of goods sold: opening stock		220,000	
purchases		<u>1,580,000</u>	
		1,800,000	
closing stock		<u>200,000</u>	<u>1,600,000</u>
Gross profit			800,000
Less: Expenses			
Selling and distribution		300,000	
Administration		160,000	
Depreciation		<u>100,000</u>	<u>560,000</u>
Net profit before tax			240,000
Corporation tax			<u>60,000</u>
			180,000
Retained profit brought forward			<u>90,000</u>
			<u><u>£270,000</u></u>

**Balance sheet at 31 December 20X1**

Capital and reserves			
Called-up share capital			700,000
Share premium account			40,000
Profit and loss account			<u>270,000</u>
			<u>£1,010,000</u>
Fixed assets			
			800,000
Current assets			
Stocks	200,000		
Debtors (trade)	100,000		
Cash at bank and in hand	<u>110,000</u>		
			410,000
Less: Current liabilities			
Creditors (trade)	140,000		
Taxation	<u>60,000</u>	<u>200,000</u>	
Net current assets			<u>210,000</u>
			<u>£1,010,000</u>

**? Checkpoint question**

**21.3** Why is the profit figure on its own not very significant? How may we increase its significance to a shareholder or owner?

Profitability may be measured in a number of different ways. Shareholders or potential shareholders are interested in the return on equity:

$$\frac{\text{Profit available to shareholders (i.e. after interest and taxation)}}{\text{Capital and reserves}} \times 100$$

In the case of A Company Ltd:

$$\frac{£180,000}{£1,010,000} \times 100 = 17.8\%$$

This would be compared with the expected return on other available investments which have a similar degree of risk for the investor.

If we are interested in the company's efficiency and effectiveness a more useful ratio is return on assets employed, which measures the effectiveness of the firm's use of its assets:

$$\frac{\text{Profit before tax and interest}}{\text{Total assets used in the business}} \times 100$$

The profit is stated before tax because the tax depends on the particular circumstances of the company for tax purposes, for example it may have tax losses brought forward to set against profits; and on tax legislation in force at the time. In comparing different periods of time, for instance, the tax rates could have been changed.

The profit is stated before interest so that we can look at the company's effectiveness in using assets without mixing it up with the way it finances the assets, for example by the issue of debentures or by a bank loan. The liabilities are not deducted from the assets for the same reason; all liabilities are, in effect, sources of funds.

A Company Ltd has incurred no interest, so

$$\frac{\text{Net profit before tax}}{\text{Fixed + current assets}} = \frac{£240,000}{£800,000 + £410,000} \times 100 = 19.8\%$$

The significance of the profit figure is increased by calculating **profitability**. This may be calculated in several ways, including return on assets employed, return on investment and return on shareholders' interest.

### Profit to sales

It is also useful in comparing the performance of two companies, or one company's performance over time, to look at the ratio of profit to sales. There are two profit ratios:

1. Gross profit ratio:

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

In the case of A Company Ltd:

$$\frac{£800,000}{£2,400,000} \times 100 = 33.3\%$$

2. Net profit ratio:

$$\frac{\text{Net profit}}{\text{Sales}} \times 100$$

In the case of A Company Ltd:

$$\frac{£240,000}{£2,400,000} \times 100 = 10\%$$



### Checkpoint questions

21.4 Give the formulae for calculating the two profit to sales ratios.

21.5 There are a number of ways of using ratios to measure profitability. What are they and what do they measure? How are they calculated?

## 21.3 Asset turnover rates

The more quickly the firm can turn over its assets, the higher will be its return on capital employed. This is most obvious where stock is concerned.

### Stock turnover

The stock turnover is calculated by comparing the stock to the cost of goods sold:

$$\frac{\text{Cost of goods sold}}{\text{Stock}} = \frac{£1,600,000}{£200,000} = 8 \text{ times}$$



It may be expressed in terms of weeks or months, the significance of which is often easier to grasp:

$$\frac{\text{Stock}}{\text{Cost of goods sold}} \times 52 = \text{number of weeks}$$

$$\frac{£200,000}{£1,600,000} \times 52 = 6.5 \text{ weeks}$$

$$\frac{£200,000}{£1,600,000} \times 12 = 1.5 \text{ months}$$

Notice that the cost of goods sold is used rather than the sales figure. This is because the sales figure includes an element of profit, while the cost of the goods sold figure is at cost, as in the stock figure, making them comparable. (In practice, the average of the opening and closing stock figures may be used. For simplicity and clarity, the closing balance sheet figures have been used here.)

Let us return to the question of the effect of changes in the rate of stock turnover. For example, if I can buy goods for resale at £1.00 each and sell them at £1.50 each I can make a (gross) profit of £0.50 per unit. If I sell ten units, I gain  $10 \times £0.50 = £5.00$ ; if I sell twelve I gain  $12 \times £0.50 = £6.00$ . If the company sells more it will make more profit (other things being equal). If it maintains the same level of stocks it follows that while the profit goes up, the assets remain the same, increasing the return on assets employed. For example, if A Company Ltd, by selling stock more quickly, increased its profit by, say, £100,000, the ratio would be

$$\frac{£340,000}{£800,000 + £410,000} \times 100 = 28.1\%$$

compared with the present 19.8%.

Alternatively, the return could be improved by selling the same amount but holding a lower level of stock. Suppose A Company Ltd were able to reduce its stock level, because it is selling the goods faster, from £200,000 to £100,000, then

$$\frac{£240,000}{£800,000 + £310,000} \times 100 = 21.6\%$$

## Total asset turnover

We may also consider the turnover rate of total assets, when making comparisons:

$$\frac{\text{Sales}}{\text{Total assets}} = \frac{£2,400,000}{£1,210,000} = 1.98$$

We may also examine the turnover of fixed assets and current assets in a similar fashion. These ratios all measure the firm's effectiveness in using its assets.



### Checkpoint question

**21.6** Other things being equal, should we prefer our stock turnover rate to be faster or slower? Why is this?

## 21.4 Liquidity and solvency ratios

These ratios are concerned with a firm's ability to generate enough cash to continue in existence. The ratios give some indication of the risks concerned with the firm's future cash flows by helping to make judgements about the probability of the firm's being able to generate inflow sufficient to cover the necessary outflows.

We shall deal first with the short-term indicators and then with longer-term measures.

**Key terms** ■ Short-term indicators are often known as measures of **liquidity**. The longer-term measures are then referred to as measures of **solvency**.

### Liquidity ratios

#### Current ratio

The current ratio is

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

For A Company Ltd:

$$\frac{£410,000}{£200,000} = 2.05$$

A commonly used 'rule of thumb' in judging the adequacy of the current ratio is that the ratio should be about 2. However, this may be influenced by a number of factors; for example if the firm is able to obtain a longer term of credit from its suppliers than it gives to its customers, a lower ratio would then be satisfactory. In any case, the application of an arbitrary rule is less useful than comparing the ratio with other companies in the same industry, or with the firm's own past record. Certainly the ratio should be 1 or more; if the current liabilities are greater than the current assets, the company is said to be 'currently insolvent'.

**Key term** ■ If a firm has a current ratio of less than 1 it is, technically, **currently insolvent**, that is it cannot pay its short-term debts without realising fixed assets. (Notice that this is technical only; there are many exceptions according to circumstances.)

#### Quick ratio

The above does not take into account that it may take some considerable time for stocks to be converted into cash; they have to be sold and, if sold on credit, the debts have to be collected. So, to assess the company's short-term financial strength we use a ratio which excludes stocks:

$$\frac{\text{Current assets} - \text{Stocks}}{\text{Current liabilities}}$$

For A Company Ltd:

$$\frac{£210,000}{£200,000} = 1.05$$

In most cases, this ratio should be at least 1. However, it may be affected by differences in length of credit terms and also by the existence of bank overdrafts. In practice, although legally repayable on demand, there is often an agreement with the bank about the date of repayment which effectively turns overdrafts into medium- or even long-term finance. Also, if the firm has not used its full overdraft facility, agreed upon by the bank, it has access to further funds which could be used to pay other creditors.

### ? Checkpoint question

21.7 What is the main difference between the current and quick ratios? Why is the difference significant?

#### Debtors' collection period

Here, the closing debtors figure is always used because the opening figure relates to the previous year's sales:

$$\frac{\text{Trade debtors}}{\text{Sales}} \times 52 = \text{number of weeks' credit}$$

For A Company Ltd:

$$\frac{£100,000}{£2,400,000} \times 52 = 2.17 \text{ weeks}$$

By multiplying by 12 or 365 we may arrive at the credit period in months or days.

#### Creditors' payment period

Again, the year-end figure is used:

$$\frac{\text{Trade creditors}}{\text{Purchases}} \times 52 = \text{number of weeks' credit}$$

For A Company Ltd:

$$\frac{£140,000}{£1,580,000} \times 52 = 4.61 \text{ weeks}$$

(The purchases figure may not be given in published accounts; therefore, unless the figure can be obtained from other sources, it would not be possible to calculate this ratio accurately.)

In considering the short-term liquidity ratios we should also take into account the stock turnover, as the faster the turnover, the lower the stockholding period and the faster stocks can be turned into debtors or cash.

## 21.5 Using the ratios

In using ratios, you should bear in mind that the financial statements do not give sufficient information to draw firm conclusions. However, the indications given are useful when taken together with other information, e.g. from the press or statements by

the chairman. Also, you should read the financial statements themselves carefully, including the notes to the accounts. A great deal may be learnt even before ratio analysis is applied.

## 21.6 Limitations

In interpreting the financial statements of companies you should always bear in mind that the analyses are based on profit and loss accounts and balance sheets which are subject to all the limitations of historical cost accounting. Inflation, specific price changes and differing bases of valuation are likely to distort comparisons, whether cross-sectional or time series. We have already seen how using different bases for depreciation and stock valuation can affect the accounting figures. These problems are dealt with in more depth in Chapter 18 'Limitations of the conventional accounting model'.

## 21.7 Worked examples

Two worked examples, including comments, are given below: 'H Co. Ltd and R Co. Ltd' which illustrates *cross-sectional analysis*, and 'Growing Company Ltd' which illustrates *time series analysis*. Both examples are limited to the use of the ratios already covered in the text.

### Example 21.2

The summarised profit and loss accounts for the year ended 31 December 20X2 and the balance sheets at that date, for H Co. Ltd and R Co. Ltd, were as follows:

<b>Profit and loss accounts</b>				
	<i>H Co. Ltd</i>		<i>R Co. Ltd</i>	
	£000	£000	£000	£000
Sales		180		180
Less: Cost of sales				
Stocks at 1 January 20X2	24		14	
Add: Purchases	<u>160</u>		<u>162</u>	
	184		176	
Less: Stocks at 31 December 20X2	<u>26</u>		<u>16</u>	
		<u>158</u>		<u>160</u>
Gross profit		22		20
Expenses		<u>8</u>		<u>9</u>
Net profit		<u>14</u>		<u>11</u>
<b>Balance sheets</b>				
Issued share capital		50		50
General reserve		40		18
Profit and loss account		<u>30</u>		<u>12</u>
		<u>120</u>		<u>80</u>

	<i>H Co. Ltd</i>		<i>R Co. Ltd</i>	
	£000	£000	£000	£000
Fixed assets		64		54
Current assets				
Stocks	26		16	
Debtors	20		12	
Cash	<u>42</u>		<u>18</u>	
	88		46	
Less: Creditors – trade	<u>32</u>		<u>20</u>	
Net current assets		<u>56</u>		<u>26</u>
		<u>120</u>		<u>80</u>

(For simplicity at this stage, the effect of taxation is ignored.)

A comparison of the results of the two companies, using the above ratios, would be as follows:

	<i>H Co. Ltd</i>	<i>R Co. Ltd</i>
Return on equity	$\frac{14}{120} \times 100 = 11.67\%$	$\frac{11}{80} \times 100 = 13.75\%$
Return on assets	$\frac{14}{152} \times 100 = 9.21\%$	$\frac{11}{100} \times 100 = 11.00\%$
Gross profit%	$\frac{22}{180} \times 100 = 12.22\%$	$\frac{20}{180} \times 100 = 11.11\%$
Net profit%	$\frac{14}{180} \times 100 = 7.78\%$	$\frac{11}{180} \times 100 = 6.11\%$
Stock turn (times)	$\frac{158}{26} = 6.08$	$\frac{160}{16} = 10.00$
Asset turnover	$\frac{180}{152} = 1.18$	$\frac{180}{100} = 1.80$
Current ratio	$\frac{88}{32} = 2.75$	$\frac{46}{20} = 2.30$
Quick ratio	$\frac{62}{32} = 1.94$	$\frac{30}{20} = 1.50$
Debtor collection period	$\frac{20}{180} \times 12 = 1.33$ months	$\frac{12}{180} \times 12 = 0.80$ months
Creditor payment period	$\frac{32}{160} \times 12 = 2.40$ months	$\frac{20}{162} \times 12 = 1.48$ months

We may observe that R Co. Ltd has higher returns on both equity and assets. It appears that this is due to better use of assets; the turnover of total assets and of stock is quicker than those of H Co. Ltd. Both the gross and net profit percentages of R Co. Ltd are lower than those of H Co. Ltd. It may well be that R Co. Ltd sells its goods faster because it adds a lower mark-up, resulting in a lower gross profit margin.

Also, both companies have rather high current and quick ratios. Given that they both collect money from debtors quicker than they pay their creditors, this may indicate that H, in particular, could reduce its current assets. Looking at H's balance sheet, it appears that the firm is holding an unnecessarily high amount of cash, which is not being used and is not earning any interest. However, the creditors' payment period could be dangerously long, perhaps endangering H's credit rating. In that case it would be better to use some of the cash to pay off the creditors. This also would have the effect of improving H's return on assets (but not on equity).



The following is an assessment of the success of the directors' expansion plan, together with an assessment of the company's efficiency and financial position, using ratios.

	Growing Co. Ltd: ratios	
	20X0	20X1
Return on assets	$\frac{22}{142} \times 100 = 15.5\%$	$\frac{29}{229} \times 100 = 12.7\%$
Gross profit%	$\frac{86}{395} \times 100 = 21.8\%$	$\frac{97}{462} \times 100 = 21.0\%$
Net profit%	$\frac{22}{395} \times 100 = 5.6\%$	$\frac{24}{462} \times 100 = 5.2\%$
Current ratio	$\frac{106}{41} = 2.6$	$\frac{183}{54} = 3.4$
Quick ratio	$\frac{66}{41} = 1.6$	$\frac{139}{54} = 2.6$
Debtor collection period	$\frac{65}{363} \times 12 = 2.15$ months	$\frac{105}{435} \times 12 = 2.90$ months
Stock turnover	$\frac{309}{40} = 7.7$ times	$\frac{365}{44} = 8.3$ times
Return on equity	$\frac{22}{101} \times 100 = 21.8\%$	$\frac{24}{125} \times 100 = 19.2\%$
Total asset turnover	$\frac{395}{142} = 2.78$ times	$\frac{462}{229} = 2.02$ times

*Notes:*

1. In the short run the expansion seems to have been unsuccessful in terms of return on equity and on assets. This appears to be because of reduced efficiency: gross and net profit percentages are reduced and total assets are turned over more slowly. On the other hand, stock turnover is increased, which may be a hopeful sign for the future.
2. Both current and quick ratios have increased although they both appeared unduly high in 20X1; this may be an indication that the expansion plan is not yet completed.
3. Sales and assets have both been increased substantially. Expenses excluding interest have not increased substantially, indicating that the directors are controlling costs well.
4. One year is a very short period over which to judge the success of an expansion scheme which is almost certainly incomplete. More information is needed about the stage of completion and the directors' further plans for the future.



### Checkpoint question

**21.8** What are the main limitations on the usefulness and reliability of ratio analysis?

## Summary

In this, the first part of a two-part treatment of the analysis of financial statements, we discussed the purposes of analysing financial statements. We also introduced cross-sectional and time series analysis, explaining the difference between them and their purposes. We went on to discuss the limitations of the approach, which arise largely from the inherent faults of the conventional, historical cost model of accounting. Through the use of an extended example, we showed how to calculate the various ratios and, through the use of further illustrative examples, how to interpret the results.

In this first chapter covering ratio analysis we have limited ourselves to the operating ratios which are useful to managers as well as to outsiders: profitability, asset turnover, and short-term liquidity ratios. In the following chapter we go on to consider further commonly used ratios.

## Review questions

- 21.1** How does the use of ratio analysis help in the decision-making process?
- 21.2** As a shareholder, which profitability ratio would be most important to you? Why is this and what decisions might it help you with?
- 21.3** The first ratio to be developed was the current ratio. Why do you think this was?
- 21.4** Discuss the limitations of ratio analysis and why they arise. Do you think that they are so serious as to undermine the validity of this approach to the analysis of financial statements?

Exercises for Chapter 21 are combined with those for Chapter 22.



# 22

## Analysis of financial statements 2

### Introduction

This is the second part of our review of the analysis of financial statements using ratio analysis. We start by dealing with medium- and long-term measures of solvency: coverage, and debt to equity ratios. We then deal with earnings per share and return on capital employed. A summary of the financial ratios covered in Chapter 21 and this chapter is then provided, followed by further consideration of the limitations of ratio analysis.

### Learning objectives

At the end of this chapter, after completing the checkpoint questions and exercises, you should be able to:

- calculate the coverage and debt to equity ratios;
- explain the significance of these ratios;
- calculate the earnings per share, and explain its significance and limitations;
- calculate return on capital employed and explain its significance;
- ensure that you know the basis of calculation of all the financial ratios we have covered.

## 22.1 Medium- and long-term measures of solvency

These measures will be explained by reference to Owl Ltd in Example 22.1 below.

### Example 22.1

Owl Limited					
Balance sheet as at 31 December 20X2					
31 December 20X1			<i>Accumulated</i>	<i>Net book</i>	
£000	£000		<i>Cost</i>	<i>depreciation</i>	<i>value</i>
			£000	£000	£000
		Fixed assets			
		Freehold land and			
	57	buildings	60	4	56
	<u>187</u>	Fixtures and fittings	<u>290</u>	<u>132</u>	<u>158</u>
	244		<u>350</u>	<u>136</u>	214

		Current assets		
	116	Stock	136	
	24	Trade debtors	28	
	1	Prepaid expenses	2	
<u>147</u>	<u>6</u>	Balance at bank	<u>41</u>	
391			207	
		Less: Current liabilities		
	88	Trade creditors	93	
	4	Accrued expenses	5	
	22	Corporation tax payable	25	
<u>119</u>	<u>5</u>	Dividend payable	<u>6</u>	<u>129</u>
<u>272</u>				<u>78</u>
				<u>292</u>
100		Share capital, £1 shares		100
<u>52</u>		Retained earnings		<u>72</u>
152				172
<u>120</u>		10 per cent debentures		<u>120</u>
<u>272</u>				<u>292</u>

A summary of Owl Limited’s profit and loss account for the year ended 31 December 20X2 is given below:

	£000	£000
Turnover		<u>1,260</u>
Profit before tax after charging the item shown in Note 1		55
Less: Taxation		
Corporation tax, at 52% based on the profits for the year		<u>25</u>
Profit after taxation		30
Less: Dividends – paid	4	
proposed	<u>6</u>	<u>10</u>
		20
Retained earnings 1 January 20X2		<u>52</u>
Retained earnings 31 December 20X2		<u>72</u>

Note 1: The profit for the year is stated after charging the following:

	£000
Directors’ emoluments	20
Debenture interest	12
Depreciation	30

## Coverage ratios

If a company has any long-term debt in its capital structure, it must ensure that the interest can be paid. A measure of a company’s capacity to pay interest is the cover provided by its profit. This measure is known as ‘times interest covered’ and is usually calculated as follows:

$$\frac{\text{Profit before tax and interest}}{\text{Interest expense}}$$

Clearly, the higher the cover the better the company’s ability to pay the interest and the safer the position of the creditors.

**Key term**

■ By cover we mean the amount by which the profit exceeds (or ‘covers’) the interest payable (or dividend as the case may be).

Owl Limited’s interest cover for 20X2 was

$$\frac{\pounds 55\text{K} + \pounds 12\text{K}}{\pounds 12\text{K}} = 5.58$$

The ratio tells us that the profits available for paying the interest are 5.58 times bigger than the interest.

In a way this is not a very sensible measure, but it is generally considered to be a reasonable estimate for the purposes of analysis. A more satisfactory method would be to use in the numerator the funds generated by operations (basically profit with depreciation (a non-cash item) added back) instead of profit, since interest is paid out of funds not out of profit.

A similar coverage ratio may be calculated measuring the ability to maintain dividends at the current level. It is not strictly a measure of solvency because the non-payment of dividends does not give the shareholders the right to force the company into liquidation. However, since it is closely related to the ‘times interest covered’ ratio we introduce it here.

$$\text{Dividend cover} = \frac{\text{Profit available to ordinary shareholders}}{\text{Dividend}}$$

The measure for Owl Limited in 20X2 was

$$\frac{\pounds 30\text{K}}{\pounds 10\text{K}} = 3.0$$

The lower the cover, the more likely it is that a reduction in profit will result in a reduction in the dividend.

If the company had preference shares in issue, a similar measure could be calculated, i.e.

$$\frac{\text{Profit available to preference shareholders}}{\text{Preference dividend}}$$



### Checkpoint question

22.1 How are ‘times interest cover’ and ‘dividend cover’ calculated? What can we learn from them?

### Debt to equity ratio

The relationship between a company’s long-term debt and its equity is known as the company’s gearing (UK) or leverage (United States). A company which has a large amount of debt compared with its equity is said to be highly geared.

There are a number of ways of expressing a company's gearing. Perhaps the most commonly used measure is

$$\frac{\text{Book value of long-term debt}}{\text{Book value of owner's equity}}$$

Owner's equity consists of the company's share capital and reserves. Owl Limited's debt to equity ratio as at 31 December 20X2 was

$$\frac{\pounds 120\text{K}}{\pounds 172\text{K}} = 0.70$$

For some purposes the market values of debt and equity are used (i.e. the market values of the company's debentures and shares). The use of the market value of equity has the advantage that it more closely represents the economic value of the entity.

The debt to equity ratio gives an indication of the risk, due to gearing, faced by both the long-term creditors (debenture holders) and shareholders. The higher the ratio, the more risky the position of both.

From the point of view of the debenture holders, the smaller the ratio, the greater the chance that they would be repaid even if the borrowing company were to be liquidated. Consider the different circumstances of A Limited and B Limited:

	<i>A Ltd</i>	<i>B Ltd</i>
	£000	£000
Sundry assets /less liabilities	<u>100</u>	<u>100</u>
Share capital and reserves	<u>10</u>	<u>90</u>
Debentures	<u>90</u>	<u>10</u>
	<u>100</u>	<u>100</u>

If both companies went into liquidation there is more chance that the sale of the assets, even if sold for less than their book values, would realise enough to repay B's debenture holders as compared to the holders of A's debentures.

Similarly, the lower the ratio, the greater the likelihood that the company will be able to generate sufficient funds each year to pay the interest. This, of course, makes it less likely that the firm will be forced into liquidation in the first instance. You will recognise that the 'times interest covered' ratio is also a gearing ratio, since it is a measure of the effect of a given quantity of long-term debt on the profit of the company.

The debt to equity ratio is also a measure of the risk faced by the shareholders. There are two aspects of this risk. Highly geared companies run a greater risk of failing to pay the interest and, hence, of being forced into liquidation.

The second aspect is that the profit attributable to the shareholders is subject to greater variability than is the attributable profit of a company with no, or a low, gearing. The reason is that the interest payments remain constant and thus the whole of the variability of the profits earned by the assets is borne by the profits accruing to shareholders. Thus, if there is, say, a 10 per cent fall in the profit before interest the shareholders in a geared company would experience a decrease of more than 10 per cent in their attributable profit – the decrease in the attributable profits of the shareholders of a company with no gearing would be 10 per cent.

For example, suppose that we have two companies C Limited and D Limited whose balance sheets are as follows:

	<i>C Ltd</i>	<i>D Ltd</i>
	£000	£000
Sundry assets <i>less</i> liabilities	<u>800</u>	<u>800</u>
	£000	£000
Owner's equity	800	400
10% Debentures	<u>—</u>	<u>400</u>
	<u>800</u>	<u>800</u>
Debt to equity ratio	0	1

Suppose that both companies generate the same earnings on their assets, i.e. that each year the profits, before interest, of C and D are equal. We assume the profits, before interest, for three years are as follows:

<i>Year 1</i>	<i>Year 2</i>	<i>Year 3</i>
£100,000	£80,000	£112,000
	Decrease of 20%	Increase of 40% over year 2 or 12% over year 1

Since C Limited has no debt, the above series also shows the profit attributable to the shareholders.

In contrast, the shareholders of D will face a greater variability in their attributable profits.

	<i>Year 1</i>	<i>Year 2</i>	<i>Year 3</i>
	£000	£000	£000
Profit before interest	100	80	112
Less: Debenture interest	<u>40</u>	<u>40</u>	<u>40</u>
Profit attributable to shareholders	<u>60</u>	<u>40</u>	<u>72</u>
		Decrease of 33.3%	Increase of 80% over year 2 and 20% over year 1

The risk faced by the shareholders of a geared company by virtue of its gearing is known as the *financial risk*. This is in contrast with the risk associated with the earnings generated by the assets which is called the *business risk*. Thus C and D seem to have the same business risk in that their profits before interest are the same, but only D's shareholders experience financial risk.

When reviewing the position of ordinary shareholders in a company which has preference shares in issue, the definition of gearing is changed. This is done to take account of the fact that the claims of the preference shareholders have priority over those of the ordinary shareholders. The debt to equity ratio used for this purpose is normally

$$\frac{\text{Book values of long-term debt} + \text{Preference share capital}}{\text{Book value of ordinary shareholders' equity}}$$

The equity of the ordinary shareholders consists of the ordinary share capital plus the reserves.

When reviewing the current and quick ratios we discussed the problem caused by bank overdrafts which, because of their legal status, have to be classified as current liabilities but which may be in effect a source of long-term funds. The same problem arises in connection with the debt to equity ratio. If the analyst believes that all, or part, of the overdraft represents a form of long-term debt, he or she might include all or part of the overdraft in the numerator of the debt to equity ratio.

### ? Checkpoint questions

22.2 What is the purpose of calculating a company's gearing and how is it calculated?

22.3 What is meant by 'financial risk' as opposed to 'business risk'? Who faces financial risk and which ratio is used in examining it?

## 22.2 Earnings per share

This is a widely used indicator of a company's performance. The numerator is the profit attributable to ordinary shareholders, i.e. profit less tax, interest and preference dividends, while the denominator is the average number of ordinary shares in issue during the year.

$$\text{Earnings per share} = \frac{\text{Profit attributable to ordinary shareholders}}{\text{Average number of ordinary shares}}$$

Thus, Owl Limited's earnings per share for 20X2 was

$$\frac{\pounds 30\text{K}}{100\text{K}} = 30 \text{ pence per share}$$

A measure of a firm's performance can be obtained by comparing the rate of change in earnings per share against other companies' earnings per share. In doing so, however, the analyst should try to account for the effect of the firm's increase in retained earnings. Most companies retain a significant proportion of the funds they generate, and hence their earnings per share may be expected to increase even if there has been no increase in the company's profitability. Suppose, for example, that Owl Limited's profitability is the same in 20X3 as in 20X2. Then it will earn 16.5 per cent on the increased assets due to the retention of £20,000 which after tax of, say, 50 per cent will increase its profits by £1,650, and its earnings per share will increase from 30 pence to 31.65 pence. Thus one drawback to the earnings per share figure is that it takes no account of the investment base. The analyst will also have to use some judgement in interpreting earnings per share statistics when there has been a large increase in the capital (the assets acquired may not produce revenue for a number of years).

Earnings per share figures are in fact a primary company performance statistic cited in the stock market and the financial press. The *Financial Times* and other leading financial newspapers quote daily price/earnings ratios for all but the smallest quoted companies. The price/earnings ratio is given by the expression

$$\frac{\text{Share price}}{\text{Earnings per share}}$$

In general, firms that the market believes have better prospects have higher price/earnings ratios.

### ? Checkpoint question

**22.4** What is meant by 'earnings per share' and what is its relationship to the price/earnings ratio?

It might be helpful if, at this point, we summarised the various ratios that we have discussed so far. The summary is given in Table 22.1 which also shows some of the main alternatives.

**Table 22.1** Financial ratios

	<i>Ratio</i>	<i>Alternatives</i>
<i>Short-run liquidity</i>		
1. Current ratio	$\frac{\text{Current assets}}{\text{Current liabilities}}$	
2. Quick ratio	$\frac{\text{Current assets less stock}}{\text{Current liabilities}}$	(i) Prepaid expenses may be deducted from the numerator (ii) Prepaid expenses and debtors may be deducted from the numerator (iii) Part, or all, of the overdraft may be excluded from the denominator
<i>Asset turnover rates and collection periods</i>		
3. Stock turnover ratio	$\frac{\text{Cost of goods sold}}{\text{Average stock held}}$	(i) Numerator may be sales for period (if we cannot estimate the cost of sales with any degree of accuracy) (ii) Denominator may be year-end stock
4. Debtors' collection period	$\frac{\text{Year-end debtors}}{\text{Average daily credit sales}}$ days	
5. Creditors' payment period	$\frac{\text{Year-end creditors}}{\text{Average daily credit purchases}}$ days	
<i>Medium- and long-term measures of solvency</i>		
6. Times interest covered	$\frac{\text{Profit before tax and interest}}{\text{Interest expense}}$	

We continue our survey of the analysis of financial statements with an extended worked example. The solution includes extensive comments as well as all the calculations needed. A careful study of this example will give you further insights into the use of ratio analysis.

### Example 22.2

Compare the financial affairs of two companies, Exe Limited and Wye Limited, calculating the necessary ratios and commenting on the results. Their balance sheets as at 31 December 20X3, their trading and profit and loss accounts for the year ending on that date, and summaries of their balance sheets as at 31 December 20X2, are presented below. The two companies are engaged in the same business.

#### Balance sheets as at 31 December 20X3

	<i>Exe Limited</i>		<i>Wye Limited</i>	
	£	£	£	£
<b>Fixed assets</b>				
Freehold property at cost		105,000		188,000
Other fixed assets, at cost	63,000		84,000	
Less: Accumulated depreciation	<u>21,000</u>	<u>42,000</u>	<u>66,000</u>	<u>18,000</u>
		147,000		206,000
<b>Current assets</b>				
Stock	70,875		79,800	
Debtors and prepayments	<u>44,075</u>		<u>42,420</u>	
	<u>114,950</u>		<u>122,220</u>	
<b>Less: Current liabilities</b>				
Creditors and accrued expenses	32,030		81,720	
Bank overdraft	1,420		42,000	
Corporation tax payable	20,000		3,500	
Proposed dividend	<u>8,500</u>		<u>16,000</u>	
	<u>61,950</u>	<u>53,000</u>	<u>143,220</u>	<u>(21,000)</u>
		<u>£200,000</u>		<u>£185,000</u>
Ordinary shares of £1 each		84,000		128,000
Retained earnings		<u>63,500</u>		<u>57,000</u>
		147,500		185,000
8% Debentures		<u>52,500</u>		<u>          </u>
		<u>£200,000</u>		<u>£185,000</u>

#### Summaries of the companies' balance sheets as at 31 December 20X2

	<i>Exe Limited</i>		<i>Wye Limited</i>	
	£	£	£	£
Fixed assets, net book value	156,000			213,500
Current assets (Stock £60,000)	<u>108,000</u>	(Stock £70,000)	<u>132,000</u>	
	264,000		345,500	
<b>Less: Current liabilities</b>	<u>67,500</u>		<u>169,500</u>	
	<u>£196,500</u>		<u>£176,000</u>	
Owner's equity	144,000			176,000
Debentures	<u>52,500</u>			<u>          </u>
	<u>£196,500</u>			<u>£176,000</u>



**Trading and profit and loss accounts for the year ended 31 December 20X3**

	<i>Exe Limited</i>		<i>Wye Limited</i>	
	£	£	£	£
Sales		420,000		315,000
Less: Cost of goods sold		<u>336,000</u>		<u>236,250</u>
Gross profit		84,000		78,750
Less: Administrative expenses	14,300		12,950	
Selling and distribution expenses	13,500		12,800	
Directors' emoluments	11,000		14,000	
Depreciation	9,000		7,500	
Interest on overdraft	500		3,000	
Debenture interest	<u>4,200</u>	<u>52,500</u>	—	<u>50,250</u>
Profit for the year before tax		31,500		28,500
Less: Corporation tax		<u>20,000</u>		<u>3,500</u>
Profit for the year after tax		11,500		25,000
Proposed dividends		<u>8,000</u>		<u>16,000</u>
		3,500		9,000
Retained earnings at 1 January 20X3		<u>60,000</u>		<u>48,000</u>
		<u>£63,500</u>		<u>£57,000</u>

*Note to Wye Limited's profit and loss account:*

The taxation charge for the year has been reduced by virtue of tax losses which existed at the start of the year.

**Short-run liquidity measures**

	<i>Exe Limited</i>	<i>Wye Limited</i>
Current ratio 20X3	$\frac{£114,950}{£61,950} = 1.86$	$\frac{£122,220}{£143,220} = 0.85$
20X2	$\frac{£108,000}{£67,500} = 1.60$	$\frac{£132,000}{£169,500} = 0.78$
Quick ratio 20X3	$\frac{£44,075}{£61,950} = 0.71$	$\frac{£42,420}{£143,220} = 0.30$
20X2	$\frac{£48,000}{£67,500} = 0.71$	$\frac{£62,000}{£169,500} = 0.37$

Exe Limited's position at 31 December 20X3 is marginal. Its quick ratio is less than 1 but a significant proportion of the current liabilities consists of corporation tax which will not be due to payment for at least nine months. If we exclude tax, the quick ratio is £44,075/£41,950 = 1.05. However, the tax will have to be paid and it appears that Exe's liquidity position very much depends on the attitude of its bankers. The current ratio has increased as compared with the previous year while the quick ratio has remained constant. This appears to be due to an increase in stock.

Wye Limited's liquidity position is very weak. Its quick ratio at the year end is only 0.30 and it appears that the company only survives by virtue of the overdraft and by delaying paying its creditors. The quick ratio discloses a deterioration from the already weak position at 31 December 20X2. The company survived through 20X3 but one must question how much longer it can rely on the goodwill of its bankers and creditors.

We will now examine how quickly the companies appear to be able to convert their current assets into cash and the credit period granted by their suppliers.

	<i>Exe Limited</i>	<i>Wye Limited</i>
<i>Stock turnover ratio</i>	$\frac{£336,000}{\frac{1}{2}(£60,000 + £70,875)} = 5.13$	$\frac{£236,250}{\frac{1}{2}(£70,000 + £79,800)} = 3.15$
<i>Debtors' collection period</i>		
Average daily credit sales	$\frac{£420,000}{360} = £1,167$	$\frac{£315,000}{360} = £875$
Collection period	$\frac{£44,075}{£1,167} = 37.8 \text{ days}$	$\frac{£42,420}{£875} = 48.5 \text{ days}$
<i>Creditors' payment period</i>		
20X3 purchases*	$£336,000 + £70,875$ $-£60,000 = £346,875$	$£236,250 + £79,800$ $-£70,000 = £246,050$
Daily average	$\frac{£346,875}{360} = £964$	$\frac{£246,050}{360} = £683$
Payment period	$\frac{£32,030}{£964} = 33.2 \text{ days}$	$\frac{£81,720}{£683} = 119.6 \text{ days}$

\* Purchases = Cost of goods sold during the year + Closing stock – Opening stock.

For the purposes of the above calculations, we have assumed that all sales and purchases were on credit and that the accrued and prepaid expenses are immaterial.

Exe has a markedly higher stock turnover ratio. This may be due to a number of reasons, but there is a strong presumption that Wye is carrying an excessive level of stock. The low stock turnover ratio adds to the problems indicated by Wye's low current ratio, since it appears that some considerable time will elapse before its stock is converted into cash.


Wye's debtors' collection period is longer than Exe's. This suggests that Wye may be less efficient in collecting its debts or it may have to allow its customers better credit terms in order to obtain orders.

The creditors' payment period confirms, and quantifies, our earlier observation that Wye is surviving because of the forbearance of its creditors.

We now present a cash flow budget for January 20X4.

	<i>Exe Limited</i>	<i>Wye Limited</i>
Cash from customers	$£44,075 \times \frac{30.0}{37.8} = \underline{£34,980}$	$£42,420 \times \frac{30.0}{48.5} = \underline{£26,239}$
Less:		
Cash paid to suppliers	$£32,030 \times \frac{30.0}{33.2} = £28,943$	$£81,720 \times \frac{30.0}{119.6} = £20,498$
Cash overheads		
20X3 total divided by 12:	$\frac{£39,300^*}{12} = \underline{£ 3,275}$ $\underline{£32,218}$	$\frac{£42,750^*}{12} = \underline{£ 3,562}$ $\underline{£24,060}$
Reduction in overdraft	$\underline{£2,762}$	$\underline{£2,179}$

\* Excluding debenture interest, and, of course, depreciation.

Thus, so long as Wye can continue to pay its suppliers in its present tardy fashion, both companies will generate positive net cash flows. However, the above ignores the payment of dividends. It appears that Exe's dividend policy is a trifle ambitious in that it will probably have to increase its overdraft in order to pay its shareholders. Wye's dividend decision appears ludicrous and it seems difficult to believe that its bankers will be prepared to indulge the company by allowing it to increase its overdraft for this purpose in the future. 

### Coverage ratio

Exe Limited's 'times interest covered' ratio is  $\text{£}35,700/\text{£}4,200 = 8.5$ , which appears reasonable. As stated earlier in the chapter, a more useful measure would be one based on funds generated from operations, less tax, i.e.  $\text{£}44,700/\text{£}4,200 = 10.64$ . This of course discloses an even better position.

### Profitability

Wye Limited's low tax charge, owing to the tax losses in existence at the start of the year, illustrates the argument, based on comparability, for using profit before taxation in the calculation of the rate of return on assets employed.

The returns\* are:

#### *Exe Limited*

$$\begin{aligned} & \frac{\text{£}31,500 + \text{£}4,200 + \text{£}500}{\frac{1}{2}(\text{£}147,000 + \text{£}114,950 + \text{£}156,000 + \text{£}108,000)} \times 100 \\ &= \frac{\text{£}36,200}{\text{£}262,975} \times 100 = 13.8\% \end{aligned}$$

#### *Wye Limited*

$$\begin{aligned} & \frac{\text{£}28,500 + \text{£}3,000}{\frac{1}{2}(\text{£}206,000 + \text{£}122,220 + \text{£}213,500 + \text{£}132,000)} \times 100 \\ &= \frac{\text{£}31,500}{\text{£}336,860} \times 100 = 9.4\% \end{aligned}$$

It appears that Exe is earning a much better return on assets employed than Wye. However, we should approach this comparison with some caution. The cost of Wye's freehold premises is substantially greater than Exe's and we should consider the reasons for this. It may be that Wye is only able to maintain its level of sales by using 'better' premises, i.e. it might have to use large premises or be located in a more expensive area. However, it may be that Wye Limited does not need more expensive premises but has acquired them through bad management. A third possible reason for the difference is that Exe might have purchased its premises some years before Wye and the difference between cost and market value is greater in the case of Exe. If the third factor is significant, a major cause of the difference is due to the distortions caused by the use of historical cost accounts.

We should also note that the ratio of accumulated depreciation to the cost of other fixed assets is higher for Wye than for Exe. This suggests that Wye's assets may be older than Exe's, a point to which we shall return later, and that if Wye replaced its assets the rate of return would fall, owing to the increase in book value of the investment base.

We shall now break down the main profitability ratio into the two components of profits to sales and sales to total assets. In order to make the measures comparable we will use profit before interest and tax.

<i>Exe Limited</i>	<i>Wye Limited</i>
<i>Profit before tax and interest over sales</i>	
$\frac{\text{£}36,200}{\text{£}420,000} \times 100 = 8.6\%$	$\frac{\text{£}31,500}{\text{£}315,000} \times 100 = 10\%$
<i>Sales over total assets</i>	
$\frac{\text{£}420,000}{\text{£}262,975} = 1.60$	$\frac{\text{£}315,000}{\text{£}336,860} = 0.94$

\* The definition used is profits before debenture interest and bank interest ÷ average total assets employed.

Thus we can see that Wye's profit to sales ratio is higher than Exe's, but that its return on assets employed is lower because of its slower rate of asset turnover. We have already discussed the latter point in some detail, and it appears that Wye turns over all its assets at a slower rate than Exe, with the possible exception of 'other fixed assets'. The rates of turnover of 'other fixed assets' based on year-end net book values are:

$$\begin{array}{l} \textit{Exe Limited} \\ \frac{\pounds 420,000}{\pounds 42,000} = 10.0 \end{array} \qquad \begin{array}{l} \textit{Wye Limited} \\ \frac{\pounds 315,000}{\pounds 18,000} = 17.5 \end{array}$$

However, this difference may be due to the effect of depreciation, for if we calculate the rates by using cost instead of net book values we obtain a different result:

$$\begin{array}{l} \textit{Exe Limited} \\ \frac{\pounds 420,000}{\pounds 63,000} = 6.7 \end{array} \qquad \begin{array}{l} \textit{Wye Limited} \\ \frac{\pounds 315,000}{\pounds 84,000} = 3.8 \end{array}$$

The main sub-measure of profitability is the gross profit percentage and we should calculate these for 20X3:


$$\begin{array}{l} \textit{Exe Limited} \\ \frac{\pounds 84,000}{\pounds 420,000} \times 100 = 20\% \end{array} \qquad \begin{array}{l} \textit{Wye Limited} \\ \frac{\pounds 78,750}{\pounds 315,000} \times 100 = 25\% \end{array}$$

Wye is earning a significantly higher rate of gross profit than Exe. There are, as we explained earlier, a number of possible reasons for the difference. However, a pattern is emerging. It may be that Wye is able to sell its goods at higher prices by giving a better service to its customers – a greater availability of goods due to its larger stock, its longer period of credit or because of its use of more desirable premises. However, although this pattern is consistent with the results that have so far been obtained we should realise that there are other possible scenarios which match our results.

It is interesting to note that, on the surface, it does appear that the cavalier fashion in which Wye treats its suppliers has not affected its gross profit, i.e. there is no evidence that it has been forced to purchase from more expensive suppliers. But, since we have not been provided with any information about the physical volumes involved, this might, in fact, have occurred and Wye's gross profit might have been higher if it had been able to obtain its goods on the same terms as Exe.

### Overheads

We can see, without the aid of a percentage profit and loss account, that Wye's overheads, expressed as a percentage of sales, are higher than Exe's. However, since we do not know the pattern of fixed to variable costs in this industry we cannot say whether the difference is due to Exe's greater sales or greater efficiency.

Wye's directors receive a higher remuneration than their counterparts in Exe. Directors' remuneration is often a difficult figure to interpret in the case of smaller companies, especially when the directors are the principal shareholders. This is because it is not obvious what proportion of the remuneration represents a reasonable charge for management services and how much, in effect, is a withdrawal of profit. It may be that a part of Wye's directors' remuneration represents a withdrawal of profits, which would mean that its profit is somewhat higher than is indicated by the accounts. However, if this were the case, it would also mean that, taken with the large dividend, a significant proportion of Wye's profits had been withdrawn. 

Wye's depreciation expense is lower than Exe's both in absolute terms and when expressed as a percentage of the cost of the fixed assets, and as we have noted, the ratio of accumulated depreciation to cost is higher for Wye than for Exe. It may be that Wye's assets are older than Exe's, and that some of the assets have been fully written off. On the other hand, it may be that Wye writes off its assets at a faster rate than Exe. It may, for example, use an accelerated method of depreciation. If the first explanation is correct, Wye will probably have to replace its fixed assets before Exe, possibly in the near future, and this will add to its severe liquidity problems. If the latter explanation holds, then it may be that the difference between the profitabilities of the two companies is greater than indicated by the accounts.

### Summary

1. Wye's short-term liquidity position is exceptionally weak. Exe's position is fair, depending on the attitude of its bankers.
2. Wye's position may be even worse in the medium term, if it will have to replace a significant proportion of its fixed assets.
3. Wye's cash flow will be less favourable in the future because it has used up its tax losses.
4. Wye is adding to its problems by distributing a high proportion of its profits by way of dividends and, possibly, directors' remuneration.
5. In general Wye appears to be attempting to sustain too high a level of activity with too low a pool of net current assets.
6. Wye achieves a significantly higher gross profit ratio than Exe, but this advantage is reduced because of the structure of overheads, and the difference between the two companies' profit to sales ratios is smaller.
7. Wye's advantage in the above respect is more than outweighed by its proportionately higher assets, i.e. its lower asset turnover ratio.

## 22.3 Return on capital employed

Finally, we introduce a further example of time series analysis. It is based on Example 21.3 Growing Company Limited in Chapter 21. If you refer back to that example you will see that, following the raising of a debenture loan and the consequent expansion of the business, the overall result seemed to be unsatisfactory. However, as we commented in note 4 to the example, one year is a very short period over which to judge the success of an expansion scheme. We therefore extend the analysis of the results for one further year. In doing this, we have added an additional ratio, return on capital employed.

### Return on capital employed (ROCE)

This ratio is calculated as follows:

$$\frac{\text{Profit before interest and tax}}{\text{Share capital and reserves plus long-term loans}} \times 100$$

ROCE measures the performance of the firm as a whole in using all sources of long-term finance. It is a measure of management efficiency in using long-term finance to generate operating profits. ROCE is therefore a most important ratio to use in helping to judge the success of an expansion scheme over an extended period of time.

## Example 22.3

**Growing Company Limited**  
Balance sheets as at 31 December

	20X1		20X2	
	£000	£000	£000	£000
Share capital and reserves				
Called-up share capital		90		90
Profit and loss account		<u>35</u>		<u>66</u>
		<u>125</u>		<u>156</u>
Fixed assets				
At cost	59		65	
Depreciation	<u>13</u>		<u>17</u>	
		46		48
Current assets				
Stocks	44		53	
Debtors	105		116	
Less: Doubtful debts			<u>6</u>	110
Cash at bank and in hand	<u>34</u>		<u>52</u>	
	183		215	
Less: Current liabilities				
Creditors	<u>54</u>		<u>57</u>	
Net current assets		<u>129</u>		<u>158</u>
		175		206
Debenture loan		<u>50</u>		<u>50</u>
		<u>125</u>		<u>156</u>

**Profit and loss accounts for the year ended 31 December**

	20X1		20X2	
	£000	£000	£000	£000
Sales: credit		435		522
cash		<u>27</u>		<u>30</u>
		462		552
Cost of goods sold		<u>365</u>		<u>436</u>
Gross profit		97		116
Expenses				
Administration	18		19	
Selling	27		30	
Warehouse, etc.	20		21	
Depreciation	3		4	
Provision for doubtful debts			6	
Debenture interest	<u>5</u>		<u>5</u>	
		<u>73</u>		<u>85</u>
Net profit		<u>24</u>		<u>31</u>

## The ratios

	Growing Co. Ltd ratios	
	20X1	20X2
Return on assets	$\frac{29}{229} \times 100 = 12.66\%$	$\frac{36}{263} \times 100 = 13.69\%$
Gross profit %	$\frac{97}{462} \times 100 = 21.00\%$	$\frac{116}{552} \times 100 = 21.01\%$
Net profit %	$\frac{24}{462} \times 100 = 5.19\%$	$\frac{31}{552} \times 100 = 5.62\%$
Current ratio	$\frac{183}{54} = 3.39$	$\frac{215}{57} = 3.77$
Quick ratio	$\frac{139}{54} = 2.57$	$\frac{162}{57} = 2.84$
Debtors' collection period	$\frac{105}{435} \times 12 = 2.90$ months	$\frac{116}{522} \times 12 = 2.67$ months
Stock turnover	$\frac{365}{44} = 8.30$ times	$\frac{436}{53} = 8.23$ times
Return on equity	$\frac{24}{125} \times 100 = 19.20\%$	$\frac{31}{156} \times 100 = 19.87\%$
Total asset turnover	$\frac{462}{229} = 2.02$ times	$\frac{552}{263} = 2.10$ times
ROCE	$\frac{29}{175} \times 100 = 16.57\%$	$\frac{36}{206} \times 100 = 17.48\%$

In order to compare the results of the three years we have also calculated the ROCE for the first year. The ROCE for the three years is as follows.

	20X0	20X1	20X2
	$\frac{22}{101} \times 100 = 21.8\%$	16.6%	17.5%

which shows that the initial fall in return is now being reversed, to some extent.

From the shareholders' point of view, the return on equity, having fallen from 21.8 per cent to 19.2 per cent, has now recovered somewhat to 19.9 per cent. Return on assets, which fell from 15.5 per cent to 12.7 per cent, has now recovered to 13.7 per cent.

Two individual figures are significant in achieving these improvements over year 20X1.

- Debtors' collection period has improved.
- Overhead expenses continue to be kept under control.

Both show that the management continues to exercise effective control.

The above figures indicate the possibility of further improvements in the future but, as before, more information is needed about the stage of completion of the plan, together with the directors' plans for the future.

## 22.4 Further comments on limitations

### Companies engaged in more than one industry

One or more of a company's assets may not be used in the main activity of the company, for example an investment in the shares of another company. In such cases, it will usually be desirable to attempt to measure the rate of return earned in the main business of the company. This can be done by removing the relevant assets from the denominator of the ratio and, correspondingly, the profit earned on the assets from the numerator.

It would be useful if this principle could be extended to the analysis of those companies that are engaged in a number of distinct main activities so that the analyst could compute the rates of return earned from each one. In order to do this he or she would need to know the profit earned from each activity and the assets employed in it. The problem here is that although some indication of the breakdown of the total profit will be provided in the published accounts, it is not often possible to apportion the company's assets between the various activities. Thus, in general, the analyst can only calculate the company's overall rate of return. This gives rise to some difficulties in both cross-sectional and time series analysis. The problem in the former is that the analyst would have to find other companies which are engaged, in similar proportions, in the same range of activities. The lessons that can be drawn from time series analysis will be less useful if the company has, over time, substantially changed the proportions of its different activities.

### Some problems with cross-sectional and time series analysis

#### Cross-sectional analysis

The ideal basis for comparison is the results of a company engaged in the same industry, but even if one believes that such a company has been found, the following factors must also be considered:

- The companies may use different accounting policies.
- Historical cost accounts will not be comparable.
- The companies may have different patterns of asset ownership, for example one company may own its buildings whereas the other company may rent its premises.
- Most large companies operate in more than one industry and the analyst may not be able to obtain an adequate quantitative breakdown of the activities.

Some of these difficulties can be partially overcome by using interfirm comparison services. The principle here is that the companies taking part (the subscribers) make their detailed financial statements available to the body making the comparison (the centre). The centre can then make certain adjustments to the accounts in order to make them more comparable. The centre might, for example, rework the depreciation charges on a consistent basis. It could also impute a rental expense for those companies that own their own premises. The centre then calculates a large number of ratios. It supplies each subscriber with its own ratios and the average for the group of



companies. However, the information is usually treated as confidential to the subscribers and is not available to an external analyst.

### Time series analysis

In using time series analysis, we need to consider the effect of price changes. It is clear that, if there have been significant price changes over a period, little meaning can be attached to the changes disclosed by a series of unadjusted money values. For example, a company chairman may proudly claim in his annual statement that ‘sales and profits have, once again, increased and are at record levels for the third year running’; such a statement is of limited value in the absence of any information about general and relative price changes. However, we should consider the effect of changing prices on a series of ratios. Would it be reasonable to say that as financial ratios express the relationship between two money values at a point in time or over a period, a series of financial ratios, even if based on historical costs, is not distorted by price changes? The answer is ‘to some extent, yes’. For example, the stock turnover ratio disclosed by historical cost accounts will often be reasonably close to the ratio that would be produced by using current value accounts. On the other hand, the same cannot be said of, say, the sales to fixed assets ratio. In a period of increasing prices, and all other things being equal, the sales figures would increase year by year but the book value of the fixed assets would not increase immediately (the net book value of the fixed assets would in fact fall because of depreciation, and this further distorts the ratio). The increase would be delayed until the fixed assets were replaced. Thus, if based on historical costs, the fixed asset turnover ratios would increase over time. This would be solely due to the price increases and would not mean that the greater physical volume of sales was being achieved with the same level of fixed assets. Thus, the distorting effect of price changes on historical cost accounts cannot be ignored when subjecting the financial ratios to time series analysis.

The ratios that are likely to be most distorted by price changes are those concerned with debt to equity, return on capital employed, total asset turnover and fixed asset turnover.

The analyst should also take care in interpreting certain ratios when there has been a large increase in the assets of the business. As an example, the investments in new oil fields will take some time to become revenue earning – in the meantime, the return on capital employed ratio will be zero or even negative. These problems are dealt with in more depth in Chapter 18 ‘Limitations of the conventional accounting model’.



### Checkpoint questions

- 22.5 Outline the problems faced in computing significant ratios for companies engaged in more than one industry.
- 22.6 List some of the problems met with in carrying out cross-sectional analysis.
- 22.7 What is the main problem in understanding time series analysis?

## Summary

In this chapter we have completed our survey of the analysis of financial statements using financial ratios. We have also introduced the widely used indicators earnings per share, price/earnings ratio and return on capital employed. We then provided a summary of the financial ratios we have dealt with in this and the preceding chapter, followed by some further comments on the limitations of ratio analysis.

## Review questions

- 22.1** The coverage ratio which is normally used is, in fact, not really suitable for the purpose. Explain why this is so and how it might be improved.
- 22.2** The debt to equity ratio may be used to measure risk. What kind of risk is this, who faces it and how does the ratio help to assess it?
- 22.3** 'Earnings per share is widely used, but it is a limited and potentially misleading figure.' Discuss.
- 22.4** What is measured by the price/earnings ratio? How accurate or reliable do you think this measure is?
- 22.5** Obtain a copy of a published company report and prepare a report on its results, using the ratios covered in Chapters 21 and 22, for discussion in class.
- 22.6** 'Ratio analysis can, I suppose, be of some use, but there are so many limitations in the use of this method that I doubt if it is worth bothering.' Discuss this statement.

## Exercises

Solutions to exercises whose number is in colour can be found at the end of the book.

- 22.1** Cope Co. Ltd and Poole Ltd are two companies in the same industry. Their financial statements for the year ended 31 March 20X3 are summarised below.

		Balance sheets			
		<i>Cope</i>		<i>Poole</i>	
		£	£	£	£
Called-up share capital			400,000		600,000
Profit and loss account			<u>220,000</u>		<u>221,000</u>
			<u>£620,000</u>		<u>£821,000</u>
Fixed assets			532,000		788,000
Current assets					
Stocks	104,000			152,000	
Debtors	38,000			60,000	
Prepayments	3,000			1,000	
Cash at bank and in hand	<u>9,000</u>			<u>12,000</u>	
			<u>154,000</u>		<u>225,000</u>

Current liabilities			
Creditors – trade	44,000		70,000
Accruals	2,000		2,000
Proposed dividend	<u>20,000</u>		<u>120,000</u>
	<u>66,000</u>		<u>192,000</u>
Net current assets		<u>88,000</u>	<u>33,000</u>
		<u>£620,000</u>	<u>£821,000</u>

#### Profit and loss accounts

	<i>Cope</i>	<i>Poole</i>
	£	£
Sales	540,000	820,000
Cost of goods sold	<u>360,000</u>	<u>464,000</u>
Gross profit	180,000	356,000
Expenses	<u>96,000</u>	<u>201,000</u>
Net profit	84,000	155,000
Proposed dividend	<u>20,000</u>	<u>120,000</u>
	64,000	35,000
Unappropriated profit brought forward	<u>156,000</u>	<u>186,000</u>
Unappropriated profit carried forward	<u>£220,000</u>	<u>£221,000</u>

(Note: Purchases were Cope £360,000; Poole £480,000.)

Compare the financial affairs of the two companies, using appropriate ratios.

- 22.2** The following are the summarised balance sheets as at 31 December 20X1 and profit and loss accounts for the year ended on that date, of two competing companies in the same industry.

	<i>Gold Ltd</i>		<i>Underwood Ltd</i>	
	£000	£000	£000	£000
Fixed assets				
Freehold land and buildings		183		365
Plant and machinery, etc.		<u>105</u>		<u>45</u>
		288		410
Current assets				
Stocks	140		160	
Debtors	<u>90</u>		<u>83</u>	
	<u>230</u>		<u>243</u>	
Current liabilities				
Creditors	82		150	
Overdraft	3		85	
Corporation tax	20		17	
Proposed dividend	<u>16</u>		<u>32</u>	
	<u>121</u>		<u>284</u>	
Net current assets/(liabilities)		<u>109</u>		<u>(41)</u>
		397		369
8% Debenture loan		<u>105</u>		<u>–</u>
		<u>292</u>		<u>369</u>

Share capital and reserves		
Called-up share capital	165	255
Profit and loss account	<u>127</u>	<u>114</u>
	<u>292</u>	<u>369</u>
Sales	800	640
Cost of goods sold	<u>650</u>	<u>478</u>
Gross profit	150	162
Expenses	(i) <u>87</u>	(ii) <u>105</u>
Profit before tax	63	57
Corporation tax	<u>20</u>	<u>17</u>
Profit after tax	43	40
Proposed dividend	<u>16</u>	<u>32</u>
	27	8
Balance brought forward	<u>100</u>	<u>106</u>
Balance carried forward	<u>127</u>	<u>114</u>

- (i) Including interest: overdraft £1,000; debenture £8,400.  
(ii) Including interest: overdraft £6,000.

*Required:*

A comparison of the performance and financial affairs of the two companies, using appropriate ratios and any other figures you consider relevant.

- 22.3** Expansion Ltd has raised additional funds by issuing a debenture of £1,600,000 at 10 per cent per annum in order to expand the business. The additional cash was received on 1 July 20X4. The financial statements of the company for the years ended 30 June 20X4 and 20X5 are summarised below.

#### Profit and loss accounts

	30.6.X4		30.6.X5	
	£000	£000	£000	£000
Sales		12,000		14,000
Cost of goods sold		<u>9,400</u>		<u>11,050</u>
Gross profit		2,600		2,950
Expenses:				
Administrative expenses	500		560	
Selling and distribution	1,350		1,450	
Depreciation	60		70	
Debenture interest	<u>—</u>		<u>160</u>	
		<u>1,910</u>		<u>2,240</u>
Net profit		<u>690</u>		<u>710</u>

#### Balance sheets

	30.6.X4		30.6.X5	
	£000	£000	£000	£000
Fixed assets				
At cost	1,400		1,800	
Accumulated depreciation	<u>300</u>		<u>370</u>	
c/f		1,100		1,430

Fixed assets b/f	1,100		1,430
Current assets			
Stock	2,720	3,000	
Debtors	1,920	3,120	
Bank	<u>40</u>	<u>440</u>	
	4,680	6,560	
<i>Less: Current liabilities</i>			
Creditors	<u>1,280</u>	<u>1,690</u>	
Net current assets	<u>3,400</u>		4,870
	4,500		6,300
10% Debenture loan	<u>–</u>		<u>1,600</u>
	<u>4,500</u>		<u>4,700</u>
Share capital and reserves			
Issued share capital	3,000		3,000
Reserves	<u>1,500</u>		<u>1,700</u>
	<u>4,500</u>		<u>4,700</u>

*Required:*

Using the above information, calculate appropriate ratios and comment on your assessment of the success of the expansion plan.

- 22.4** Given the following financial statements, historical ratios, and industry averages calculate the Zeta Company's financial ratios for the most recent year. Analyse its overall financial situation from both a time series and a cross-sectional viewpoint. Your analysis should cover the firm's liquidity, solvency and profitability.

**Profit and loss account for the year ended 31 December 20X3**

	£	£
Net sales		
Cash		300,000
Credit		<u>9,700,000</u>
Total		10,000,000
<i>Less: Cost of goods sold*</i>		<u>7,500,000</u>
Gross profit		2,500,000
<i>Less: Operating expenses</i>		
Selling expense	300,000	
General and administration	700,000	
Depreciation	<u>200,000</u>	<u>1,200,000</u>
Operating profit		1,300,000
<i>Less: Interest expense</i>		<u>200,000</u>
Profit before taxes		1,100,000
<i>Less: Taxes (50%)</i>		<u>550,000</u>
Profit after taxes		550,000
<i>Less: Preference dividends</i>		<u>50,000</u>
Earnings available for ordinary shareholders		500,000
<i>Less: Ordinary share dividends</i>		<u>200,000</u>
To retained earnings		<u>£300,000</u>

\* Credit purchases = £6,200,000.

## Balance sheet as at 31 December 20X3

	£	£	£
Fixed assets, at cost		12,000,000	
<i>Less: Accumulated depreciation</i>		<u>3,000,000</u>	9,000,000
Other assets			1,000,000
Current assets			
Stock	950,000		
Debtors	800,000		
Investments	50,000		
Cash	<u>200,000</u>	2,000,000	
<i>Less: Current liabilities</i>			
Trade creditors	900,000		
Other creditors and accruals	100,000		
Short-term loans	<u>200,000</u>	<u>1,200,000</u>	<u>800,000</u>
			<u>£10,800,000</u>
5% Preference shares			1,000,000
Ordinary shares of 75p			3,000,000
Share premium account			2,800,000
Retained earnings			<u>1,000,000</u>
			7,800,000
Long-term debt			<u>3,000,000</u>
			<u>£10,800,000</u>

*Zeta Co. Ltd*

	<i>Historical data</i>		<i>Industry average</i>
	20X1	20X2	20X3
Current ratio	1.40	1.55	1.85
Net working capital	£760,000	£720,000	£1,600,000
Quick ratio	1.00	0.92	1.05
Average age of debtors	45.0 days	36.4 days	35.0 days
Stock turnover	9.52	9.21	8.60
Creditors' payment period	58.53 days	60.75 days	45.75 days
Debt/equity ratio	0.25	0.27	0.39
Gross profit ratio	0.30	0.27	0.25
Operating profit to sales	0.12	0.12	0.10
Net profit to sales	0.056	0.056	0.048
Total asset turnover	0.74	0.80	0.74
Return on capital employed*	0.11	0.12	0.10
Earnings per share	70p	90p	60p
Dividends per share	21p	30p	20p
Book value per share	140p	150p	175p
Times interest covered	8.2	7.3	8.0

\* Profit before tax attributable to ordinary shareholders ÷ ordinary shareholders' equity.

**22.5** The following statistics relate to a company:

	%		%
Equity capital employed:		Fixed assets	20
Ordinary share capital	10	Stock	30
Share premium account	5	Debtors	30
Retained earnings	<u>25</u>	Cash	20
	40		
Debtures	20		
Current liabilities	<u>40</u>		
	<u>100</u>		<u>100</u>
Debenture interest	= £40,000		
Stock turnover	= 6*		
Debtors' turnover	= 5** (75% of sales are made on credit)		
Return on capital employed	= 8%†		
Earnings per share	= 18p		
Number of shares in existence	= 1,000,000		
Tax rate	= 50% of pre-tax profits		

\* Calculated on year-end stock.

\*\* Calculated on year-end debtors.

† Defined as profit before interest and tax ÷ equity capital employed.

*Required:*

Draft the balance sheet and the profit and loss account of the company, inserting as necessary a balancing figure for expenses other than purchases.

**22.6** A Ltd and B Ltd are two companies both in the same line of business. The financial statements of both companies for the year ended 31 December 20X1 are summarised below.

**Profit and loss accounts**

	<i>A Ltd</i>		<i>B Ltd</i>	
	£000	£000	£000	£000
Sales		3,600		4,350
Cost of goods sold		<u>2,700</u>		<u>3,480</u>
Gross profit		900		870
Expenses:				
Administrative expenses	450		450	
Selling and distribution	150		190	
Debenture interest	<u>—</u>		<u>30</u>	
		<u>600</u>		<u>670</u>
Net profit before tax		300		200
Corporation tax		<u>120</u>		<u>90</u>
Net profit after tax		180		110
Dividend		<u>45</u>		<u>60</u>
Retained profit		<u>135</u>		<u>50</u>

	Balance sheets			
	<i>A Ltd</i>		<i>B Ltd</i>	
	£000	£000	£000	£000
Fixed assets				
At cost	1,500		1,200	
Accumulated depreciation	<u>300</u>		<u>240</u>	
		1,200		960
Current assets				
Stock	825		485	
Debtors	900		750	
Bank	<u>75</u>		<u>5</u>	
	1,800		1,240	
<i>Less: Current liabilities</i>				
Creditors	765		1,050	
Bank overdraft	<u>—</u>		<u>80</u>	
Net current assets		<u>1,035</u>		<u>110</u>
		2,235		1,070
10% Debenture loan		<u>—</u>		<u>300</u>
		<u>2,235</u>		<u>770</u>
		£000		£000
Share capital and reserves				
Issued share capital		1,500		500
Reserves		<u>735</u>		<u>270</u>
		<u>2,235</u>		<u>770</u>

*Required:*

Using the above information, calculate appropriate ratios and comment on the performance and financial position of the two companies.

- 22.7** The following are summaries of the financial statements of Hopwood Ltd for the past two years:

	Profit and loss accounts	
	<i>Year ended</i> 31 Dec. 20X2	<i>Year ended</i> 31 Dec. 20X3
	£000	£000
Sales	8,800	12,800
<i>Less: Cost of goods sold</i>	<u>6,440</u>	<u>10,360</u>
Gross profit	2,360	2,440
<i>Less: Expenses</i>	<u>1,480</u>	<u>1,640</u>
Operating profit	880	800
<i>Less: Interest payable</i>	<u>320</u>	<u>320</u>
Profit before tax	560	480
Corporation tax	<u>160</u>	<u>120</u>
Profit after tax	400	360
Unappropriated profit brought forward	<u>1,400</u>	<u>1,120</u>
	1,800	1,480
Dividends	<u>680</u>	<u>400</u>
Unappropriated profit carried forward	<u>1,120</u>	<u>1,080</u>



	Balance sheets			
	31 Dec. 20X2		31 Dec. 20X3	
	£000	£000	£000	£000
Fixed assets				
Land and buildings		1,760		1,840
Machinery and vehicles		<u>2,160</u>		<u>2,360</u>
		3,920		4,200
Current assets				
Stock	3,360		3,880	
Debtors	2,600		2,240	
Cash	<u>480</u>		<u>160</u>	
	6,440		6,280	
<i>Less:</i> Current liabilities				
Creditors		<u>1,240</u>		<u>1,400</u>
Net current assets		<u>5,200</u>		<u>4,880</u>
Total assets <i>less</i> current liabilities		9,120		9,080
10% Debenture loan		<u>3,200</u>		<u>3,200</u>
		<u>5,920</u>		<u>5,880</u>
Ordinary share capital		4,800		4,800
Retained profits		<u>1,120</u>		<u>1,080</u>
		<u>5,920</u>		<u>5,880</u>

*Required:*

Using appropriate ratios, report on the performance and financial situation of Hopwood Ltd.

# Appendices



Further reading	385
Glossary	388
Solutions to checkpoint questions	395
Solutions to selected exercises	409
Index	483





## Further reading

### Chapter 1

*Financial Accounting*, 2nd edn, Arnold, J., Hope, T., Southworth, A. and Kirkham, L., Financial Times Prentice Hall, Harlow (1996).

### Chapters 2–4

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## Glossary

- Accrued expenses or accruals** Expenses which relate to an accounting period but have not yet been brought into the books of account.
- Aged debtors** The aged debtors schedule shows, for each debtor, the length of time the amounts owed by the debtor have been outstanding.
- Allocate** To allocate revenues and costs is to apportion them to particular accounting periods, requiring judgement by the person making the allocations.
- Assets** A right which is of economic value to its owner, i.e. the future net cash flow to the owner will be greater by virtue of the ownership of the asset. For an asset to be recognised in the accounting records, it normally must have been acquired for a measurable cost.
- Associated company** One over which another company has significant influence but not control.
- Audit** A scrutiny of the accounts by qualified auditors who carry out checks on the figures in order to establish whether the accounts show a 'true and fair view' of the results and of the financial position of the entity.
- Audit trail** The records and documents used to trace items through the system.
- Auditor** A person qualified to carry out audits and to report on his/her findings.
- Auditors' remuneration** The amount payable to the auditors in respect of the period of the accounts. The auditors will carry out a number of checks on the figures in order to establish whether, in their opinion, the financial statements show a 'true and fair view' of the company's results for the period and its financial position at the end of the period.
- Backing-up** The procedure for making security copies of data from the computer system. **Back-up** is the copy produced.
- Balance sheet minority interest** The proportion of the capital and reserves of the subsidiary companies which relates to the shares in those companies not held by the parent company.
- Bank reference** A reference obtained from the selling firm's own bank.
- Branch** A subordinate part of a firm which is not a limited company. (Such a company would be a subsidiary company.)
- Called-up share capital** The nominal value of shares issued.
- Capital maintenance** The financial capital must be maintained to protect the interests of the creditors.
- Code/coding** Transactions are given code numbers/letters to guide the bookkeeper/computer operator in entering the details of the transaction into the books of account. In the United Kingdom, this coding is carried out at the discretion of the company itself.
- Computerised accounting system** A system that relies on the entries reflecting the transactions being keyed into preprogrammed software which contains the whole of the accounting system, much of the information being processed automatically following the initial entries.

- Consolidated accounts** Consolidated accounts (or financial statements) show the results and position of the parent company and its subsidiaries as if they were a single entity.
- Contra-asset account** An account which is held 'opposite' an asset account; in effect a minus-asset account.
- Conventions (accounting)** Guidelines which underlie current accounting practice although they are not specified by any authority.
- Corporation tax** Tax on limited company profits.
- Cover** The amount by which the profit before tax and interest exceeds the interest payable or, in the case of dividend cover, the amount by which the profit exceeds the dividends.
- Credit agency** A firm whose business is the supplying of credit information to clients; it also undertakes the collection of overdue debts.
- Credit control** Procedures undertaken by a firm to minimise the risk of loss through bad debts and to recover overdue debts.
- Creditor** A person or firm to whom money (a debt) is owing.
- Creditors, amounts falling due after more than one year** In the balance sheet, these items must be shown under a separate heading.
- Cross-sectional analysis** Comparison of a firm's results with a similar firm, or with industry figures.
- Current assets** Cash and those assets (see above) which the firm's management intends and can reasonably expect to convert into cash, sell or consume within a year (or within the normal trading cycle of the firm if that is longer than a year).
- Current corporation tax** In the balance sheet, the corporation tax for the period is shown owing at the balance sheet date although not payable until a later date (in order to comply with the matching convention).
- Current liabilities** Those liabilities (see below) which are repayable (or otherwise discharged) either immediately or within a year.
- Currently insolvent** A technical term for when a company cannot pay its short-term debts without realising fixed assets.
- Current value** The market value of an asset at a given date.
- Debenture interest** The interest payable on the debenture loans. The interest is an expense and is payable whether or not a profit is made.
- Debenture loans** Companies may raise long-term capital by means of issuing securities called debentures, giving the holders the right to receive a fixed sum of interest each year and repayment, normally, of a fixed capital sum at a given date (or between given dates) or on liquidation of the company.
- Debtors** Persons or firms which owe money (or equivalent other resources) to the business.
- Depreciation** The process of converting the cost of a fixed asset (see below) into an expense over the life of the asset.
- Directors' emoluments** The amounts paid or payable to the directors of the company in respect of the accounting year.
- Dividends** Payments distributed to the shareholders as their reward for investing in the company.



- Double entry bookkeeping** Any accounting system which follows the convention of duality, entering both debit and credit for each transaction.
- Drawings** The amount of cash (or other asset) withdrawn by a sole trader (see below) from his or her business.
- Earn** When something has been earned it means that an amount has become payable to the firm following the delivery of goods or the performance of a service, regardless of whether the amount is payable immediately or at a later date.
- Entity** Something which has a separate and distinct existence. In business, an organisation set up for the purpose of making profit.
- European Union Directive** A statement issued under the authority of the EU which must be incorporated into the law of the member state.
- Exceptional items** Items in the profit and loss account which are outside the company's normal business.
- Expected residual value** The amount for which it is believed an asset could be sold at the end of its useful life.
- Expenses** A cost which relates to the earning of revenue for a given accounting period. It may equal the amount of assets that have been used up or the liabilities incurred in the revenue-earning process.
- Expired cost** One which has been used up in a given period; an expense of the period.
- Firm** An organisation set up by its owner or owners to provide goods or services with a view to making a profit.
- Fixed assets** Those assets which are held to further the main activities of the firm and which it is not intended should be used up within a year.
- Float** A small sum of money for minor expenditure.
- Foreign exchange** If a firm carries out some of its activities in foreign currencies, it will need to translate the foreign currency into the home currency. As exchange rates between currencies fluctuate, this gives rise to differences on foreign exchange which have to be reported.
- Generally Accepted Accounting Principles (US GAAP)** These consist of all financial accounting standards, rules and regulations which must be observed in the preparation of financial reports which are acceptable to the Securities and Exchange Commission (SEC).
- Giving credit** To give credit is to allow a person or firm to purchase goods or services for payment at a date later than the delivery or performance date.
- Goodwill** The difference between the cost of the investment and the value of the assets less liabilities at the date of acquisition.
- Goodwill on consolidation** This is the difference between the fair value of the purchase consideration and the sum of the fair values of the identifiable assets and liabilities as at the date of acquisition.
- Gross profit** Sales less cost of goods sold.
- Gross profit percentage**  $\frac{\text{Gross profit}}{\text{Sales}} \times 100$
- Group of companies** A group of companies exists when one company is able to control the affairs of one or more other companies.

- Hardware** The mechanical and electrical components of a computer system.
- Hidden reserve** Arises when the value of assets is deliberately reduced, for instance by over-charging depreciation.
- Horizontal accounts** A method of presenting profit and loss accounts and balance sheets in which these statements have two 'sides'. In the profit and loss account, one side will record the revenue and the other side the expenses. In the balance sheet one side will be the assets and the other side will be the liabilities and the owner's equity. (See Vertical accounts.)
- Incur** Incur means 'become liable to pay for'; so if the firm takes delivery of goods or accepts performance of services it becomes liable to pay for them from the date of the acceptance, even if the supplier allows the firm to pay, say, one month later.
- Institutional investors** Large financial institutions, such as insurance companies, pension funds and banks, which have very large funds to invest.
- Intangible assets** Those assets that are not tangible (see below) such as trademarks or patents.
- Investment income** Part of other income in a profit and loss account. Includes income derived from investments by the company, for example investments in shares in other companies.
- Investment market** One where securities may be traded, thus providing the possibility of buying and selling shares, for instance.
- Invoice** A sales invoice is a document setting out the amount owing from a customer in respect of a transaction; a purchase invoice represents the amount owing to a supplier in respect of a particular transaction.
- Invoicing** The act of preparing an invoice and sending it to the customer.
- Joint venture** A partnership, usually involving two or more businesses, normally set up for a specific purpose and a limited time.
- Liability** An obligation to pay money in respect of amounts owed, or to provide goods or services in the future.
- Limited company** A company set up by law; it is incorporated. It is a separate legal person under the law. The owners (the shareholders) have limited liability.
- Liquidate** To liquidate a firm means to dissolve it, realise its assets and pay its creditors, any surplus being distributed to the firm's owner(s).
- Liquidator** A liquidator has to be appointed when a limited company is to be wound up. This is a qualified person who takes control of the company in order to realise its assets, to pay its debts and to distribute any cash balance.
- Liquidity** Liquidity is an indicator of a firm's ability to generate enough cash to remain in existence.
- Manual accounting system** An accounting system where the transactions are physically entered into a book (or similar medium).
- Market value** In the context of stock valuation, is the amount for which the stock could be sold, less any costs of selling it, i.e. the net realisable value.
- Mark-up** The percentage which is added to cost to arrive at sales price.
- Multinational company** One that raises capital where it is cheapest, transfers technology worldwide, often produces where costs are cheapest, and develops markets worldwide.

- Net assets** Net assets equal total assets less total liabilities.
- Net book value** The balance at the end of a period in respect of fixed assets after charging depreciation since the purchase of the asset. ('Net book amount' would be more precise, as the asset is not revalued.)
- Net current assets** The figure obtained by deducting current liabilities from current assets.
- Net profit** Revenue less all expenses.
- Net realisable value** The amount which would be received by selling an asset, after deducting the costs of the sale.
- On credit** An agreement between buyer and seller that the goods or services may be paid for at a date later than that on which they were delivered or provided to the buyer.
- Other income** Other income is divided into operating income and investment income, and includes royalties and rent receivable, for example.
- Other operating income** Operating income, other than from the firm's main activities, which forms part of other income in a profit and loss account.
- Overheads** Costs which are not directly incurred in the manufacture of the goods.
- Owner's equity** The assets less liabilities of the business. It represents the portion of the assets of the business that have been obtained from resources provided by the owner. Owner's equity is sometimes described as being the owner's 'claim' on the business.
- Partly owned subsidiary** One in which the company that controls it does not own all of its shares (otherwise it is a wholly owned subsidiary).
- Partnership** A business carried on by two or more persons sharing in the ownership and profits.
- Payment on account** An amount paid which is less than the total amount invoiced and which leaves part of the total bill outstanding.
- Period expenses (period costs)** Cannot be attached to any particular sale; can only be allocated to a particular period of time.
- Petty cash** Money from or for small items of receipt or expenditure.
- Physical capital** The non-cash resources which the firm needs to carry on business at the same level of activity as before.
- Prepaid expenses, or prepayments** Items recorded in the books which relate to a later accounting period.
- Product expenses (product costs)** Expenses which can be attached to particular goods or services.
- Profit and loss account (in the balance sheet)** The profit and loss account represents earnings retained in the business, i.e. not paid out in dividends.
- Proposed dividends** In the balance sheet, the dividends proposed by the directors but not paid at the balance sheet date.
- Provision** An estimated liability, that is where the existence of the liability is known but where its amount cannot be determined with a reasonable degree of accuracy.
- Purchase returns or returns out** Goods which are returned by the firm to its suppliers.
- Quoted (or listed) company** One whose shares are quoted (or listed) on a stock exchange.

- Realise** In the context of the realisation convention, to convert into money (or equivalent resources). In simple terms, 'to become payable'.
- Recognise** To include in the books of account.
- Reference** In a business context, a testimonial to a firm's (or individual's) good character and ability to meet its (or his or her) obligations.
- Replacement cost** The cost which would be incurred in replacing an asset if the asset were lost.
- Returns** Sales returns or returns in. Goods which are returned to the firm by its customers.
- Revaluation reserve** The difference between a revaluation and the historical cost; must be credited to revaluation reserve.
- Revenue** The gross (that is, before the deduction of expenses) increase in assets that takes place as a result of selling goods or providing services.
- Selling and distribution expenses** Those involved in marketing and the actual delivery of the goods to the customer.
- Shareholder** A person who owns shares in a limited company.
- Share premium account** In the balance sheet, the share premium account represents the difference between the sums received from the issue of shares and their nominal value.
- Software** The programs and other operating information used by a computer, as opposed to hardware.
- Sole trader** An individual carrying on a business with a view to profit with no other person sharing in the ownership of the business.
- Solvency** Solvency is an indicator of a firm's ability to generate enough cash to continue in existence.
- Steward** A person employed to manage another's property.
- Stewardship** Taking responsibility for another's property.
- Stock** Goods held for resale in the normal course of business.
- Subsidiary company** One that is controlled by another company (the parent or holding company).
- T account** A T account is written in debit and credit form with the debit on the left-hand side and the credit on the right-hand side. It represents any type of account in double entry form.
- Tangible assets** Those which are material or corporeal (that can be touched).
- Till** A type of machine which shops, etc., use to keep cash received for sales.
- Till roll** A paper record of sales, and/or a computer record.
- Time series analysis** Comparison of results with firm's own past performance.
- Trade creditors** The liability resulting from suppliers providing goods or services before they have paid for them.
- Trade reference** A reference from a firm in the same trade or industry.
- Turnover** The revenue earned by the company from the sale of goods and the provision of services.

**Unappropriated profit for the year** This represents the balance of profit after deducting taxation payable, transfers to reserves and dividends.

**Uncompleted transactions** Transactions not completed, i.e. used up, turned into cash, etc.

**Unexpired cost** One which has not been used up in a given period; an asset at the end of the period.

**Vertical accounts** Vertical accounts do not have sides (see Horizontal accounts). In a vertical profit and loss account, the expenses are deducted from revenue to arrive at the gross profit, net profit, etc. In a vertical balance sheet, the assets (usually fixed assets plus current assets less current liabilities) are shown either above or below owner's equity plus long-term liabilities.

**Voucher** A document which provides evidence of the validity of a payment or receipt.

**Wind up** To wind up is to close down. In a business context it also implies the sale of the assets and settlement of the debts of the firm; also any distribution to the owner(s) of any balance of cash left.

**Work in progress** Partly completed goods.

**Working capital** The difference between current assets and current liabilities.



# Solutions to checkpoint questions

## Chapter 1

- 1.1 To provide information in financial terms for users of accounts to make decisions concerning resource allocation.
- 1.2 The application of money or other resources to a particular purpose.
- 1.3 Existing and potential shareholders, creditors, analysts, government, Inland Revenue, employees, society.
  - Existing shareholders – includes: sell, keep or increase shareholding; voting annually at shareholders' meetings; deciding whether to call special meetings, e.g. to remove directors.
  - Potential shareholders: whether to buy shares.
  - Creditors: whether to lend money/extend credit.
  - Investment and credit analysts: basis for advice to clients, i.e. investors and creditors.
  - The government: information for economic policy-making.
  - The Inland Revenue: as a basis for taxation.
  - Employees: assessment of employment prospects and for wage bargaining.
  - Society at large: public opinion may be affected, resulting in pressure to change policies, e.g. re environment.
- 1.4 In the context of business accounting, the firm. Note that the firm is considered to be a separate entity whether it has a legal existence, e.g. a limited company, or not, e.g. a sole trader.
- 1.5 A convention is a custom or usage; in this context 'the rules of the game' of accounting.
- 1.6 In order to show a 'true and fair view'.
- 1.7
  - Accruals: revenue and expenses are recognised in the accounts when they are earned or incurred, not when the money is received or paid.
  - Consistency: a firm should adopt a similar approach to similar items in the accounts from one period to the next.
  - Prudence: accountants will not recognise any profit which is not certain, but will take account of all losses, thus taking a pessimistic view.
  - Objectivity: accounts are prepared that are as free as possible from personal opinion or bias.
  - Verifiability: figures should be capable of independent verification.
  - Unit of measure: accounts are expressed in money terms; the type of money, e.g. euros or US dollars, must be specified.
  - Time period: must be specified.
  - Duality: in accounting, every transaction has two aspects; e.g. if an asset is bought for cash, the asset is increased and cash decreased by the same amount; this leads to double entry bookkeeping.

- Materiality: only items of significant size need to be separately reported.
- Relevance: information which is relevant and useful to the users of accounts should be presented to them.
- Stable money unit: in conventional accounting it is assumed that currencies maintain stable values, e.g. £s of last year may be added to £s of this year.

- 1.8** Conventions have no consistent logical basis, but have grown up through practice; they are a rationalisation of what accountants actually do. For example, being prudent involves making subjective judgements, which is not objective.
- 1.9** If it is involved in the conflict, prudence will normally prevail.

## Chapter 2

<b>2.1</b>		=		+	
	A		L		E
	+20,000	=			+20,000
	(cash)				(Brown)
	-7,000				
	(cash)				
	+7,000				
	(stock)				
	<u>20,000</u>	=			<u>20,000</u>
	+5,000		+5,000		
	(stock)		(Smith Supplies)		
	<u>25,000</u>	=	<u>5,000</u>	+	<u>20,000</u>

<b>2.2</b>					
	A		L		E
	+100,000				+100,000
	(cash)				(Jones)
	+3,500		+3,500		
	(stock)		(Koslowski)		
	+400				+400
	(freezer)				(Jones)

**2.3** The following are examples:

- buy stock for cash;
- buy stock on credit;
- borrow money to pay a supplier;
- pay an amount owing to a supplier;
- transfer a personal asset to the business;
- draw cash from the business account for the owner's own needs.

<b>2.4</b>		=		+	
	A		L		E
	+6,600		+6,600		
	(stock)		(Schmidt)		
	+5,200				+5,200
	(cash)				(sales)
	-3,300				-3,300
	(stock)				(cost of goods sold)

## Chapter 3

- 3.1** Total assets plus total expenses (costs) are equal to total liabilities plus total equity plus total revenue (sources).
- 3.2** (a) incorrect, (b) correct, (c) correct, (d) correct, (e) incorrect, (f) correct, (g) correct, (h) incorrect, (i) correct.

**3.3**

<i>Stock</i>				<i>Qureshi</i>			
	Qureshi	2,500	COGS	2,500		Stock	2,500
<i>Cost of goods sold (COGS)</i>							
Stock	2,500			Sales	4,000		
<i>Sales</i>							
				Smith	4,000		

## Chapter 4

- 4.1** A book of prime entry is where the details of a transaction are first entered (in a manual system) before being entered into the ledger. Instructions for the ledger entries are included.  
The following will be included:
- the date;
  - the accounts to be debited and credited;
  - the identifying numbers of the ledger accounts concerned;
  - the amounts to be debited and credited.
- 4.2** The entries in the petty cash and cash books are the same as those which would be entered into the ledger accounts of the same name. In a manual system it is therefore unnecessary to repeat the entries in the ledger itself.
- 4.3** A trial balance is a summary of the balances on the ledger accounts. If no errors are made it must balance because it is a summary of all the debit and credit entries which must, by definition, be equal to each other.
- 4.4** Error of omission; error of commission; error of principle; compensating error; wrong amount entered; reversal of entries. Examples will, of course, vary.

## Chapter 5

<b>5.1</b>	Amount realised	£200,000	
	Add: Withdrawn	<u>66,000</u>	
		266,000	
	Original investment	£100,000	
	Further investment	9,000	
	Profit for the six years	<u>109,000</u>	
		<u>157,000</u>	



- 5.2** To help make decisions about the business in order to maintain or improve performance. If no accounts were to be produced until the business is wound up, it would be too late to take any action.
- 5.3**
- |       |   |            |   |   |   |   |   |       |
|-------|---|------------|---|---|---|---|---|-------|
| A     | + | X          | = | L | + | E | + | R     |
| +500  |   |            |   |   |   |   |   | +500  |
| cash  |   |            |   |   |   |   |   | sales |
| -300  |   | +300       |   |   |   |   |   |       |
| stock |   | cost of    |   |   |   |   |   |       |
|       |   | goods sold |   |   |   |   |   |       |
- 5.4** The gross increase in net assets which occurs as a result of selling goods or services. By gross is meant before deducting expenses.
- 5.5**
- |                             |                         |                         |
|-----------------------------|-------------------------|-------------------------|
| Historical cost<br>of asset | Expense for<br>the year | Asset at end<br>of year |
| £21,000 –                   | £7,000                  | = £14,000               |
- 5.6** The main advantage is reliability. On the other hand: most businesses are conducted on credit terms; if there is a cash inflow from a loan, we need to know that it must be repaid; many assets will benefit the firm over a number of years, so that to record the outflow without the benefits would be misleading.
- 5.7** Revenue is usually recognised when the goods have been delivered or the services performed and an invoice issued. This is because this is usually the first point at which there is objective evidence of the increase in value, i.e. that the customer/client has accepted the sales value. Exceptions are: companies undertaking large contracts lasting more than one year, which need to recognise some revenue for the year; and hire purchase and mail order companies which may have difficulty in collecting debts.
- 5.8** Period costs cannot be directly associated with specific sales of goods or services.
- 5.9** Accrued rent = 2 months at £12,000 per annum = £2,000.  
Rent expense for the year = 1 month at £9,000 per annum plus 11 months at £12,000 per annum = £750 + £11,000 = £11,750.
- 5.10** Prepayment as at 31 December 20X3 = 9 months at £14,400 per annum = £10,800.  
Insurance expense for the year = 9 months at £12,000 per annum plus 3 months at £14,400 per annum = £9,000 + £3,600 = £12,600.
- 5.11** Briefly, the inclusion of accrued and prepaid expenses allows the cash payments and receipts to be adjusted to the amounts earned and incurred for a period.

## Chapter 6

- 6.1** Fixed assets will not be used up in one year but will continue to be used in the business. Current assets comprise cash and those assets which are expected to be sold, used up or converted into cash within one year, or within the firm's normal operating cycle.

- 6.2** It is necessary to charge depreciation in order to recognise the cost of a fixed asset in the periods which benefit from the cost of the asset and not, for instance, when it is bought or when it is disposed of.
- 6.3**
- |                         |                              |
|-------------------------|------------------------------|
| Cost                    | £13,700                      |
| Expected residual value | <u>1,700</u>                 |
| Total expected cost     | 12,000                       |
| Charge per annum        | $\frac{£12,000}{6} = £2,000$ |
- 6.4** Straight-line depreciation charges the expected cost of the asset evenly over the expected life of the asset. The accelerated methods charge more to the earlier periods of the asset's use.
- 6.5**
- |                                     |              |
|-------------------------------------|--------------|
|                                     | £            |
| Cost of asset                       | 5,000        |
| Depreciation year 1 = 20% of £5,000 | <u>1,000</u> |
| Net book value, end of year 1       | 4,000        |
| Depreciation year 2 = 20% of £4,000 | <u>800</u>   |
| Net book value, end of year 2       | 3,200        |
| Depreciation year 3 = 20% of £3,200 | <u>640</u>   |
| Net book value, end of year 3       | 2,560        |
- 6.6** The charges for depreciation are intended to spread the cost of the asset over its useful life. No revaluation is involved.
- 6.7** Straight-line is easy to use and to understand. Accelerated bases may be justified on the grounds that more benefit is received by the firm when the asset is new. Alternatively, it may be thought that maintenance costs will increase as the asset becomes older, so that accelerated depreciation will tend to keep the total expense roughly constant.

## Chapter 7

- 7.1** Firm's bank may take up references. Credit agency may be consulted. Firm's sales-force may be questioned. Potential customer facilities may be examined. Financial statements may be analysed. Trade and bank references may be taken up.
- 7.2** Letters; telephone calls; collection agency; delivery refused; legal action.
- 7.3** Known bad debts should be written off to P&L account, reducing the debtors' figure. Provision should be made for doubtful debts by creating a doubtful debts account (a contra-asset account), crediting this account and debiting bad debts expense (and ultimately P&L account). The figure of doubtful debts should be reconsidered at least once a year.

## Chapter 8

- 8.1** There may be very many similar items of stock sold, so that it is not practicable to trace the cost of each item. It may be that stock at later prices is physically mixed with stock at an older price, e.g. petrol delivered to a petrol station.

**8.2** First in first out assumes that the first items bought are the first items sold. Average cost takes the average cost of the goods sold.

**8.3**

800 @ £10 =	£8,000
100 @ £11 =	<u>1,100</u>
	<u>9,100</u>

**8.4**

800 @ £10	8,000
300 @ £11	3,300
100 @ £12	<u>1,200</u>
	12,500

$$\frac{£12,500}{1,200} = £10.42 \text{ per unit}$$

$$900 \text{ units @ } £10.42 = £9,378$$

No further purchases have taken place, so the average cost per unit remains £10.42. The cost is 200 @ £10.42 = £2,084.

**8.5** FIFO. Advantages: often gives a fairly close approximation to actual flow of goods sold; is easy to calculate and understand; stock figure will be fairly close to current value. Disadvantages: cost of goods sold based on out-of-date figures; when prices are rising cost of goods sold understated, overstating profit.

AVCO. Advantages: smooths out the effect of price changes; the more extreme results of FIFO are avoided. Disadvantages: more complex to calculate; neither cost of goods sold nor the stock figure in the balance sheet are likely to be close to current values.

**8.6** The COMA rule states that if a stock can only realise less than its historical cost, it must be written down to its realisable value after deducting costs of realisation. It is needed so that the profit and balance sheet figures are not overstated (prudence convention). NRV is net realisable value, i.e. the figure for which the stock (or other asset) may be sold, less any costs involved in making the sale.

<b>8.7</b> Stock	Cost	NRV
	£	£
Type X	200	350
Type Y	150	130
Type Z	<u>400</u>	<u>520</u>
	750	1,000

COMA rule applied:

Type X	Cost	200
Type Y	NRV	130
Type Z	Cost	<u>400</u>
		730

**8.8** Up-to-date stock figure provided for the balance sheet. Consistent profit measurement. Provides profit figures which are a reliable guide in making the consumption decision. Does not overstate profit in times of rising prices.

**8.9** Because current replacement prices are used in measuring profit, only such an amount as represents current profit (as at the time of sale) is free to be withdrawn from the business, leaving sufficient funds available to replace the stock sold. That is, the physical capacity of the firm is not reduced (or accidentally increased, if prices are falling).

<b>8.10</b> Stock at start	350,000
Purchases	<u>800,000</u>
Total available for sale	1,150,000
Less: Stock at end	<u>98,000</u>
Cost of goods sold	1,052,000

## Chapter 10

- 10.1** More than one owner (unlike a sole trader); not a legal entity (unlike a limited company); view to profit.
- 10.2** The capital accounts represent the amounts which the partners intend to invest in the partnership for the long term.
- 10.3** Share in profit – a partner's share in the annual profits.  
Share of capital – a partner's share in the ownership of the business, relevant when a partner withdraws or the partnership is dissolved.
- 10.4** To avoid arguments, especially when there is a cash shortage. The amount and timing of drawings.
- 10.5** The differences between the fair value of the partnership and the sum of the fair values of its individual assets less the fair value of the liabilities. When there is a change in the partnership arrangements.
- 10.6** (1) £95,000, £65,000 and £30,000.  
(2) £330,000, £90,000 and £120,000.  
(3) £109,000, £152,000 and £24,000.
- 10.7** There may be insufficient liquid assets to pay the estate of the deceased partner. Assure the partners' lives. Make a prior agreement that the sum due may be paid in instalments.  
Introduce additional capital. Borrow money.
- 10.8** A joint venture is a partnership established for a special purpose, usually for a limited duration. Not necessary to keep separate books of accounts.
- 10.9** (1) Nil, £59,500.  
(2) £8,000.

## Chapter 11

- 11.1** The liability of the shareholders is limited to their existing investment in the company. Creditors cannot require shareholders to pay them from their private assets.
- 11.2** They receive dividends. The amount of dividends is limited to the amount of the undistributed profit available.

- 11.3** Preference and ordinary shares. Holders of preference shares are entitled to a specified rate of dividend before the ordinary shareholders receive anything. Ordinary shares do not have a right to a fixed rate of return. They have a right to any profits which remain after payment of any preference dividend. Dividends are declared from this amount, usually after retaining some part for reinvestment.
- 11.4** A public company is one which states in its Memorandum of Association that it is to be a public company; and has a minimum allotted share capital of £50,000; also at least one-quarter of the nominal value of the allotted shares and the whole of any share premium must be paid up. A private company is any company which is not a public company. Private companies are not allowed to offer their shares to the public.
- 11.5** A quoted (or listed) company is one the shares of which are traded on the stock exchange. Not a legal term.
- 11.6** Called-up share capital. Share premium account. Revaluation reserve. Profit and loss account.
- 11.7** (a) Revaluation reserve arises when assets are revalued upwards in the balance sheet. The difference between the valuation figure and the cost must be credited to revaluation reserve. (b) The profit and loss account balance represents profits retained in the business, i.e. not paid out in dividends.
- 11.8** The dividends in respect of the year: already paid and proposed. The amount proposed is included as a current liability in the balance sheet on the assumption that it will be approved and paid: it is taken to be owed to the individual shareholders.
- 11.9** Corporation tax. It appears in the profit and loss account as a deduction from profit, and in the balance sheet as a liability.
- 11.10** Add: expenses not allowed for tax; depreciation; capital expenditure; losses on sales of fixed assets. Deduct: capital allowances; profits on sales of fixed assets; dividends received from UK companies.

## Chapter 12

- 12.1** A group of companies consists of a parent or holding company and any other company which is controlled by the parent.
- 12.2** Advantages: continuity; spreading of risks; preservation of staff and customer loyalty; financial flexibility. Disadvantages: few of substance, some additional accounting and legal costs; it may be less easy to demonstrate to the public the size of the combined undertaking and to transfer loyalty and reputation from one business to the other.
- 12.3** Much the same as in 12.2 plus advantage: might preserve goodwill of other retailers who would probably not wish to be seen in competition with the manufacturer. Disadvantages: few, but if link between the manufacturer and retailing arms is not well known, opportunities for promoting the implied cash savings and profit reductions might be lost.

- 12.4** Goodwill on consolidation is the difference between the fair value of the business as a whole and the sum of the fair values of the identifiable assets less liabilities. The business can be valued at any time, but the only objective measurement is when ownership passes, which means that a price has been agreed by a buyer and seller. Similarly estimates of the fair values of individual assets and liabilities can be made at any time. But in general goodwill is only measured when the business is sold.
- 12.5** High 'value added' businesses such as consultants and accountants who depend primarily on the knowledge and experience of their staff, not included as an asset, as compared with businesses who rely on the use of physical assets which do appear on the balance sheet.
- 12.6** Because one, Group A, was created by purely internal growth while the other, Group B, reached the same position through the acquisition of other companies.  
 Group A reserves: total created since incorporation.  
 Group B reserves: subsidiary reserves included would only be those created post-acquisition. Also, reserves might be reduced through the writing-off of goodwill.
- 12.7** (1) £20,000; (2) £20,000, £36,000; (3) £170,000, £40,000; (4) £231,000, 90%.
- 12.8** No. The group is under no obligation to pay the minority interest shareholders other than when the subsidiary has declared a dividend, in which case the amount due to the minority shareholders would be shown under dividends payable.
- 12.9** (a) The associated company is not under the control of the investing company.  
 (b) The investing company can influence the decisions of the associated company.
- 12.10** If the other 65 per cent are held by a single shareholder or a group of shareholders acting in consort.

## Chapter 13

- 13.1** Small sole traders. Perhaps because formal accounting statements are not seen as being important, as the owner is in close daily touch with the business.
- 13.2** The preparation of an opening balance sheet if one is not available. Otherwise the construction of a cash book and petty cash book.
- 13.3** Primarily, the bank statements; also various vouchers, if available, to provide details.
- 13.4** Enter the details from the cash book and petty cash book into a ledger. A trial balance can then be extracted and accounts prepared.
- 13.5** Get information from the owner. Any unidentified items thereafter should, in theory, be treated as drawings but the owner may well insist on their being treated as, for example, sundry expenses.

- 13.6** By using the purchases records, adjusting for opening and closing stocks, and estimating the percentage mark-up.

## Chapter 14

- 14.1** Income and expenditure account; excess (or surplus) of income over expenditure for the year; excess of expenditure over income for the year; accumulated (or general) fund.
- 14.2** Donations received for a special purpose. Open a special bank account for the funds received.
- 14.3** In theory, life subscriptions should be dealt with by estimating the life expectancy of the member and spreading the subscriptions over that number of years. In practice the subscriptions are credited immediately to the income and expenditure account, or credited over an arbitrarily chosen period, or credited direct to the accumulated fund.
- 14.4** The reasons why the Charity Commissioners take a special interest in the financial statements of charities include: (1) the relative lack of financial knowledge of the users of the financial statements, essentially those who have given to the charity and those who are capable of benefiting from it, as compared with, say, the users of the financial statements of limited companies; (2) the desire to ensure that the users are given clear information about the sums spent on administrative as against direct charitable purposes.
- 14.5** Restricted funds can only be used for the purposes specified by the person or agency that gave the money to the charity. Designated funds are those set aside by the trustees to be used for a particular purpose, but unlike restricted funds, trustees may change their minds and transfer designated funds to general (unrestricted) funds. Unrestricted funds may be used for any purpose which relates to the objective of the charity.

## Chapter 15

- 15.1** Method 1 – full accounting records are maintained at the branch. Information available to local management immediately. More scope for delegation of authority. Method 2 – records are maintained at head office. Simplicity; no need for reconciliation of accounts.
- 15.2** As both head office and the branch will have entered the items in their books at the date of remittance/dispatch or receipt, any items in transit will cause a difference between the balances on the accounts. This means that the balances will not cancel out when preparing the combined balance sheet.

## Chapter 17

- 17.1** There is no legal or generally agreed definition of ‘true and fair’.
- 17.2** A qualified audit report is one where the auditor has some reservations regarding the figures in the financial statements. The auditors (a) have come to the view that

the financial statements do not show a true and fair view or (b) are uncertain about their truth and fairness.

- 17.3** If the auditor is seen as having been influenced by the directors, the readers of the audit report will feel unable to rely upon it.
- 17.4** Dealings with banks may be improved. Audited accounts carry greater weight with the tax authorities. Dispute between partners/managers may be avoided, or more easily resolved.
- 17.5** An external audit is carried out by suitably qualified persons acting on behalf of the shareholders (or other interested parties). An internal audit is part of the internal control system, intended to support the directors/managers in carrying out their responsibilities.

## Chapter 18

- 18.1** Different treatment of uncompleted transactions, e.g. depreciation, cost of goods sold.
- 18.2** Because ultimately the accounts will show the eventual cash effect, e.g. charging higher or lower rates of depreciation will change the year-on-year results but eventually the total charge will equal the amount paid less the amount realised.
- 18.3** It was originally needed to protect the position of lenders and other creditors who needed to know that their money was safe.
- 18.4** Because investors needed to know if their investments were being efficiently and effectively handled.
- 18.5** Unrealised losses must be shown; unrealised profits may not be shown.
- 18.6** Realisation date, which is merely a matter of convention, e.g. is a sale really realised before the cash is received (or even then, as goods may be returned)? Also, some types of business, e.g. contractors, show profit before final completion. Does an asset actually exist (e.g. research and development)? How big is the historical cost (e.g. should overheads be included in valuation of stock and work in progress)?
- 18.7** Distortion occurs when prices change. (Any example showing how the application of a price index changes, e.g. sales figures.)
- 18.8** Higher remuneration; increased value in the labour market; value of share options.
- 18.9** Change depreciation basis, changing asset 'value' and reported profit; change doubtful debts figure, with similar effect; capitalise costs rather than writing them off to P&L account, increasing profit and asset 'values'.
- 18.10** Making figures look better than they really are, e.g. by borrowing long term to buy current assets, thus 'improving' the current ratio.
- 18.11** Net profit (on historical cost basis) equals current operating profit plus realised holding gains.



## Chapter 19

- 19.1** The main influences are: the existence of a large number of shareholders who need meaningful reports on performance; and law which does, or did, not have a major effect on content and form of accounts. The Fourth Directive requires that ‘true and fair’ should override accounting rules in member states.
- 19.2** The requirement to ‘present fairly’ is limited by the need to conform with US GAAP.
- 19.3** The legal approach is less likely to produce relevant figures because it conforms to legal rules rather than economic reality.
- 19.4** Roman law is based on rules and law is essentially statute law. In old English law there is a relatively limited amount of statute law; there is a large and important body of case law.
- 19.5** Depreciation in the UK is disallowed and replaced by capital allowances.
- 19.6** The main influence in countries which have significant ownership by ‘outside’ shareholders is the need to satisfy those shareholders. Where firms are owned and run by families, or where shareholders have inside information, there is less need for external reporting.
- 19.7** By disclosure of additional information. In effect, there was no real attempt to arrive at a true and fair view. The result remains the same; giving further information does not change the result, which remains based in law.
- 19.8** True and fair should override the *plan*.
- 19.9** US accounting adheres strictly to historical cost; no revaluations are allowed.
- 19.10** The existence of the *Keiretsu*, which are in effect ‘groups’, but not in the meaning used in law and accounting practice.

## Chapter 20

- 20.1** (A) +£270, (B) +£55, (C) –£33.
- 20.2** Investment in fixed assets, paying off a long-term loan, dividends paid, tax.
- 20.3** (A) £23,751, (B) £13,872.
- 20.4** £17,224.
- 20.5** Seasonal variations; a relatively small number of large-scale contracts when the business cannot obtain adequate progress payments.

## Chapter 21

- 21.1** To provide help in decision-making. Ratio analysis helps in making comparisons: cross-sectional or time series.
- 21.2** Cross-sectional analysis involves comparison with another similar firm or with industry figures. Time series analysis involves comparison with the firm’s own past results.

**21.3** Most importantly, the profit figure on its own does not reveal the return on investment.

**21.4** Gross profit ratio:  $\frac{\text{Gross profit}}{\text{Sales}} \times 100$

Net profit ratio:  $\frac{\text{Net profit}}{\text{Sales}} \times 100$

**21.5** Return on equity, measuring return to the shareholders:

$$\frac{\text{Profit available to shareholders}}{\text{Capital and reserves}} \times 100$$

Return on assets employed, measuring efficiency and effectiveness in using assets:

$$\frac{\text{Profit before tax and interest}}{\text{Total assets used in the business}} \times 100$$

**21.6** Faster. The firm either sells more in a given time period on the same stock level, thus earning more gross profit, or the same amount is sold, but less is invested in stock.

**21.7** The current ratio includes stocks in the assets figure; the quick ratio does not. Stock has to be sold and the cash collected before it is available to cover the current liability. The quick ratio is therefore a more crucial measure of the firm's ability to pay its debts.

**21.8** The analyses are based on accounts prepared on historical cost; inflation, specific price change and differing bases of valuation are likely to distort results.

## Chapter 22

**22.1** Times interest cover:

$$\frac{\text{Profit before tax and interest}}{\text{Interest expense}}$$

shows the number of times the interest expense is covered by the profit. The higher the cover, the better the company's ability to pay the interest and the safer the position of the creditors.

Dividend cover:

$$\frac{\text{Profit available to ordinary shareholders}}{\text{Dividend}}$$

shows the coverage of the dividend by the profit. The lower the coverage, the more likely it is that the dividend might have to be reduced if profit is reduced. (A similar ratio is calculated for preference dividends if there are preference shares.)

**22.2** Probably the most common measure:

$$\frac{\text{Book value of long-term debt}}{\text{Book value of owners' equity}}$$

(market values may also be used). Gives an indication of the risk faced by both long-term creditors and shareholders. The higher the ratio, the higher the risk.

**22.3** The risk faced by the ordinary shareholders as a result of gearing; the higher the gearing, the higher the risk. Obviously, the gearing ratio is used to measure this risk.

**22.4** Literally, the earnings in respect of each share in the company:

$$\frac{\text{Profit attributable to ordinary shareholders}}{\text{Average number of ordinary shares}}$$

$$\text{Price/earnings ratio} = \frac{\text{Share price}}{\text{Earnings per share}}$$

**22.5** The analyst is, generally, limited to calculating the overall rate of return because of difficulties in obtaining an adequate breakdown of the figures between the activities.

- 22.6**
- Finding a company engaged in the same business.
  - The companies may have differing accounting policies.
  - Historical cost accounts will not be comparable.
  - There may be different patterns of asset ownership.
  - Most large companies operate in more than one industry.

**22.7** Problems in comparison caused by the use of historical cost accounting, e.g. by inflation and specific price changes.

# Solutions to selected exercises

## Chapter 1

1.1 (a) iii; (b) ii; (c) i; (d) iii; (e) iii.

1.2 (a)

		£	Conventions
1. At the start			
Assets:	bucket	5	
	cash	<u>3</u>	Objectivity, historical cost
		<u>8</u>	
2. Filled the bucket			
Assets:	bucket	5	
	cash £(3 – 2)	1	Duality demonstrated
	water	<u>2</u>	Objectivity, verifiability
		<u>8</u>	
3. Jack collides with passer-by			
Assets:	as above	8	
Liabilities:	repairs to glasses	<u>6</u>	Prudence, relevance
		<u>2</u>	(business liability)
4. Sold half the water:			
Assets:	bucket	5	Materiality (no depreciation charged)
	cash £(1 + 10)	11	
	water	<u>1</u>	Historical cost, objectivity
		17	
Liability:	repairs to glasses	<u>6</u>	
		<u>11</u>	The other information is not objective or verifiable, and is irrelevant (within the historical cost model)

Assets at the end *less* assets at the start =  
£11 – 8 = £3 ‘better off’

Other conventions assumed:  
money measurement  
going concern  
entity  
stable money unit

Exercises 1.2(b) and (c) are intended for classwork with a tutor.

## Chapter 2

2.2 In order to find  $x$ , the liabilities at 31 December 20X1, we need to calculate the owner’s equity at 31 December 20X1 as follows:

	$\pounds$		
Owner's equity at 1 Jan. 20X1	60,000		
Plus capital introduced during year ended 31 Dec. 20X1	+10,000		(increase in equity)
Minus capital withdrawn during year ended 31 Dec. 20X1	-30,000		(decrease in equity)
Minus loss for year ended 31 Dec. 20X1	<u>-20,000</u>		(decrease in equity)
Owner's equity at 31 Dec. 20X1	<u><u>\pounds 20,000</u></u>		

Assets (A)	=	Liabilities (L)	+	Equity (E)	=	L + E
70,000		x		20,000		70,000

Therefore

A	=	L	+	E	=	L + E
70,000		50,000		20,000		70,000

2.3	Date	Assets (A)			Liabilities (L)			Equity (E)			L + E	
		+	-	Cumu- lative	+	-	Cumu- lative	+	-	Cumu- lative	Cumu- lative	
	1 Jan.	100,000 (Cash)		100,000				100,000		100,000	100,000	100,000
	2 Jan.	4,000 (Furniture)	4,000 (Cash)	100,000				100,000		100,000	100,000	100,000
	3 Jan.	10,000 (Stock)	10,000 (Cash)	100,000				100,000		100,000	100,000	100,000
	4 Jan.	20,000 (Stock)		120,000	20,000 (Schmidt)	20,000		100,000		100,000	120,000	120,000
	6 Jan.	15,000 (Weiss)		135,000		20,000		15,000 (Sales)		115,000	135,000	135,000
			10,000 (Stock)	125,000		20,000		10,000 (Cost of goods sold)		105,000	125,000	125,000
	12 Jan.	15,000 (Cash)		110,000	15,000 (Schmidt)	5,000				105,000	110,000	110,000
	12 Jan.	1,000 (Cash)		109,000		5,000		1,000 (Wages)		104,000	109,000	109,000

2.4 The balance sheet identity after successive transactions:

Date	Assets	$\pounds$	= Equity	$\pounds$	+ Liabilities	$\pounds$	Total equity + liabilities $\pounds$
1 Oct.	Cash	<u>\pounds 50,000</u>	A. Moore	<u>\pounds 50,000</u>			<u>\pounds 50,000</u>
2 Oct.	Furniture	5,000	A. Moore	50,000			
	Cash	<u>45,000</u>					
		<u>\pounds 50,000</u>		<u>\pounds 50,000</u>			<u>\pounds 50,000</u>
4 Oct.	Furniture	5,000	A. Moore	50,000			
	Goods	3,500					
	Cash	<u>41,500</u>					
		<u>\pounds 50,000</u>		<u>\pounds 50,000</u>			<u>\pounds 50,000</u>

Date	Assets	£	= Equity	£	+ Liabilities	£	Total equity + liabilities £
7 Oct.	Furniture	5,000	A. Moore	50,000	H. Verity	12,000	
	Goods	15,500					
	Cash	41,500					
		<u>£62,000</u>		<u>£50,000</u>		<u>£12,000</u>	<u>£62,000</u>
8 Oct.	Furniture	5,000	A. Moore	50,000	H. Verity	12,000	
	Vehicles	11,000			I. Karic	11,000	
	Goods	15,500					
	Cash	41,500					
		<u>£73,000</u>		<u>£50,000</u>		<u>£23,000</u>	<u>£73,000</u>
10 Oct.	Furniture	5,000	A. Moore	50,000	I. Karic	11,000	
	Vehicles	11,000					
	Goods	15,500					
	Cash	29,500					
		<u>£61,000</u>		<u>£50,000</u>		<u>£11,000</u>	<u>£61,000</u>
11 Oct.	Furniture	5,000	A. Moore	50,000	I. Karic	5,500	
	Vehicles	11,000			L. Fortune	5,500	
	Goods	15,500					
	Cash	29,500					
		<u>£61,000</u>		<u>£50,000</u>		<u>£11,000</u>	<u>£61,000</u>
14 Oct.	Furniture	5,000	A. Moore	50,000	I. Karic	5,500	
	Vehicles	11,000	+ profit	2,500	L. Fortune	5,500	
	Goods	12,000					
	Cash	35,500					
		<u>£63,500</u>		<u>£52,500</u>		<u>£11,000</u>	<u>£63,500</u>
15 Oct.	Furniture	5,000	A. Moore	50,000			
	Vehicles	11,000	+ profit	1,600			
	Goods	12,000					
	Cash	34,600					
		<u>£62,600</u>		<u>£51,600</u>		<u>£11,000</u>	<u>£62,600</u>
16 Oct.	Furniture	5,000	A. Moore	50,000			
	Vehicles	11,000	+ profit	4,600			
	Goods	6,000					
	Cash	34,600					
	Debtor	9,000					
		<u>£65,600</u>		<u>£54,600</u>		<u>£11,000</u>	<u>£65,600</u>
17 Oct.			A. Moore	50,000			
			J. Moore	5,000	I. Karic	500	
			profit	4,600	L. Fortune	5,500	
		<u>£65,600</u>		<u>£59,600</u>		<u>£6,000</u>	<u>£65,600</u>
18 Oct.			A. Moore	50,000	I. Karic	500	
			J. Moore	5,000	L. Fortune	5,500	
			profit	1,600	Lee	3,000	
		<u>£65,600</u>		<u>£56,600</u>		<u>£9,000</u>	<u>£65,600</u>

Solutions to selected exercises

Date	Assets	£	= Equity	£	+ Liabilities	£	Total equity + liabilities
							£
21 Oct.			A. Moore	25,000			
			J. Moore	5,000			
			A. Teak	25,000			
			profit	<u>1,600</u>			
		<u>£65,600</u>		<u>£56,600</u>		<u>£9,000</u>	<u>£65,600</u>

2.7	Date	Assets (A)			Liabilities (L)			Equity (E)		L + E	
		+	-	Cumu- lative	+	-	Cumu- lative	+	-	Cumu- lative	Cumu- lative
	Day 1	50,000 (Bank)		50,000				50,000 (Capital)		50,000	50,000
	Day 1	20,000 (Lease)	20,000 (Bank)	50,000						50,000	50,000
	Day 1	10,000 (F & F)		60,000	10,000 (XP Ltd)	10,000				50,000	60,000
	Day 1	4,000 (Stock)		64,000	4,000 (SA Ltd)	14,000				50,000	64,000
	Day 1	960 (Stock)	960 (Bank)	64,000		14,000				50,000	64,000
	Day 2	480 (CA)		64,480		14,000	480 (Sales)			50,480	64,480
			320 (Stock)	64,160		14,000		320 (Cost of Sales)		50,160	64,160
	Day 3	720 (CB)		64,880		14,000	720 (Sales)			50,880	64,880
			480 (Stock)	64,400		14,000		480 (Cost of Sales)		50,400	64,400
	Day 3	1,000 (Stock)		65,400	1,000 (SB Ltd)	15,000				50,400	65,400
	Day 3		90 (Bank)	65,310		15,000		90 (Wages)		50,310	65,310
	Day 4		240 (CA)	65,070		15,000	-240 (Sales)			50,070	65,070
		160 (Stock)		65,230		15,000		-160 (Cost of Sales)		50,230	65,230
			20 (Bank)	65,210		15,000		20 (Repairs)		50,210	65,210
			80 (Stock)	65,130	80 (SA Ltd)	14,920				50,210	65,130
	Day 5	1,400 (Bank)		66,530		14,920	1,400 (Sales)			51,610	66,530
			800 (Stock)	65,730		14,920		800 (Cost of Sales)		50,810	65,730
	Day 6	2,520 (CC)		68,250		14,920	2,520 (Sales)			53,330	68,250
			1,600 (Stock)	66,650		14,920		1,600 (Cost of Sales)		51,730	66,650

Date	Assets (A)			Liabilities (L)		Equity (E)		L + E		
	+	-	Cumu- lative	+	-	Cumu- lative	+	-	Cumu- lative	
Day 6		90 (Bank)	66,560			14,920		90 (Wages)	51,640	66,560
Day 7	500 (Bank)	500 (CB)	66,560			14,920			51,640	66,560
Day 7	240 (Bank)	240 (CA)	66,560			14,920			51,640	66,560
Day 9	600 (Bank)		67,160			14,920	600 (Sales)		52,240	67,160
		320 (Stock)	66,840			14,920		320 (Cost of Sales)	51,920	66,840
Day 9		90 (Bank)	66,750			14,920		90 (Wages)	51,830	66,750
Day 10	200 (Bank)		66,550			14,920		200 (Drawings)	51,630	66,550
Day 10	5,000 (Bank)		61,550	5,000 (XP Ltd)		9,920			51,630	61,550
Day 10	1,000 (Bank)		60,550	1,000 (SB Ltd)		8,920			51,630	60,550
Day 10			60,550	30 (Wages payable)		8,950		30 (Wages)	51,600	60,550
Day 10			60,550	500 (Sundry expenses payable)		9,450		500 (Sundry expenses)	51,100	60,550

**Clive**  
**Profit and loss account**  
*Period day 1 to day 10*

Sales		5,720
Less: Sales returns		<u>240</u>
		5,480
Less: Cost of goods sold	3,360	
Wages	300	
Repairs	20	
Sundry expenses	<u>500</u>	<u>4,180</u>
Profit for the period		<u><u>£1,300</u></u>

**Balance sheet as at day 10**

Assets		
Lease		20,000
Fixtures and fittings		10,000
Stock		2,520
Trade debtors: CB	220	
CC	<u>2,520</u>	2,740
Balance at bank		<u>25,290</u>
		<u><u>£60,550</u></u>



Financed by		
Liabilities		
Trade creditors: XP Limited	5,000	
SA Limited	<u>3,920</u>	8,920
Wages payable		30
Sundry expenses payable		<u>500</u>
		9,450
Owner's equity		
Capital subscribed	50,000	
Add: Profit for period	<u>1,300</u>	
	51,300	
Less: Drawings	<u>200</u>	<u>51,100</u>
		<u>£60,550</u>

### Chapter 3

#### 3.2

##### Cash at bank

		£			£
1 Jan.	Capital	150,000	1 Jan.	Rent	12,000
11 Jan.	Sales	30,000	3 Jan.	Stock	23,000
			14 Jan.	Van	120
			21 Jan.	Drawings	6,000
			29 Jan.	Wages	7,500

##### Deborah – Capital

					£
			1 Jan.	Bank	150,000

##### Rent

		£			
1 Jan.	Bank	12,000			

##### Stock

		£			£
2 Jan.	Dawe	17,500	7 Jan.	Cost of goods sold	8,750
3 Jan.	Bank	23,000	11 Jan.	Cost of goods sold	23,000
25 Jan.	Cost of goods sold	2,188	28 Jan.	Dawe	2,188

##### Dawe

		£			£
28 Jan.	Stock	2,188	2 Jan.	Stock	17,500

##### Anne

		£			£
7 Jan.	Sales	12,000	25 Jan.	Sales	3,000

<i>Sales</i>						
		£			£	
25 Jan.	Anne	3,000		7 Jan.	Anne	12,000
				11 Jan.	Bank	30,000

<i>Cost of goods sold</i>						
		£			£	
7 Jan.	Stock	8,750		25 Jan.	Stock	2,188
11 Jan.	Stock	23,000				

<i>Van</i>					
		£			
14 Jan.	Ivor	40,000			
14 Jan.	Bank	120			

<i>Ivor</i>						
					£	
				14 Jan.	Van	40,000

<i>Drawings</i>					
		£			
21 Jan.	Bank	6,000			

<i>Wages</i>					
		£			
29 Jan.	Bank	7,500			

**3.4 (a) Entry**

- 2 The debit to the stock account should be £4,500 and not £5,400.
- 3 The debit and credit sides of the entry have been reversed.
- 5a The sale was for cash and not credit so the debit to the debtors account is an error.
- 6b The debit and credit sides of the entry have been reversed.
- 7 The sundry expense account, with its debit of £200, has been omitted.
- 8 The debtors account should be credited and not debited.

*Notes*

- (i) Entry 9 could be correct, recording a reduction in the selling price.
- (ii) Since the stock account has a credit balance after the sale recorded by entry 6, it appears that an entry recording the purchase of goods has been omitted.

<i>Capital</i>						
		£			£	
				1	Cash	100,000

*Cash*

	£		£
1 Capital	100,000	2 Stock	4,500
5a Sales	8,000	7 Sundry expenses	200
8 Debtors	15,000	10 Motor vehicles	40,000
	<u>123,000</u>	12 Creditors	<u>8,000</u>
			52,700

*Cost of goods sold*

	£		£
5b Stock	5,000		
6b Stock	<u>12,000</u>		
	17,000		

*Creditors*

	£		£
12 Cash	8,000	3 Motor vehicles	20,000
	<u>8,000</u>	4 Stock	10,000
		11 Stock	<u>9,000</u>
			39,000

*Debtors*

	£		£
6a Sales	20,000	8 Cash	15,000
	<u>20,000</u>	9 Sales	<u>3,000</u>
			18,000

*Stock*

	£		£
2 Cash	4,500	5b Cost of goods sold	5,000
4 Creditors	10,000	6b Cost of goods sold	12,000
11 Creditors	<u>9,000</u>		<u>17,000</u>
	23,500		

*Motor vehicles*

	£		£
3 Creditors	20,000		
10 Cash	<u>40,000</u>		
	60,000		

*Sales*

	£		£
9 Debtors	3,000	5a Cash	8,000
	<u>3,000</u>	6a Debtors	<u>20,000</u>
			28,000

*Sundry expenses*

	£	£
7 Cash	200	

(b) Statement showing that debits = credits

	<i>Debits</i>	<i>Credits</i>
	£	£
Capital		100,000
Cash	123,000	52,700
Cost of goods sold	17,000	
Creditors	8,000	39,000
Debtors	20,000	18,000
Stock	23,500	17,000
Motor vehicles	60,000	
Sales	3,000	28,000
Sundry expenses	200	
	<u>£254,700</u>	<u>£254,700</u>

*Note:* As will be shown in Chapter 4 the above statement can be replaced by one showing the balances on the accounts.

<b>3.6</b>	A +	X =	L +	E' (original equity)	+ R
1 Oct.	+50,000 Cash			+50,000 Capital	
2 Oct.	+5,000 Furniture				
	-5,000 Cash				
4 Oct.	+3,500 Stock				
	-3,500 Cash				
7 Oct.	+12,000 Stock		+12,000 H. Verity		
8 Oct.	+11,000 Vehicles		+11,000 I. Karic		
10 Oct.	-12,000 Cash		-12,000 H. Verity		
11 Oct.	+5,500 Cash		+5,500 L. Fortune		
11 Oct.	-5,500 Cash		-5,500 I. Karic		
14 Oct.	+6,000 Cash				+6,000 Sales
	-3,500 Stock	+3,500 Cost of goods sold			
15 Oct.	-900 Cash	+900 Wages			
16 Oct.	+9,000 Debtor				+9,000 Sales

Solutions to selected exercises

	A +	X =	L +	E' (original equity)	+ R
	-6,000	+6,000			
	Stock	Cost of goods sold			
17 Oct.	+5,000			+5,000	
	Cash			J. Moore Capital	
	-5,000		-5,000		
	Cash		I. Karic		
18 Oct.		+3,000	+3,000		
		Damages	Lee		
21 Oct.				-25,000	
				A. Moore Capital	
				+25,000	
				A. Teak Capital	

*Cash*

<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 10%;">1 Oct.</td> <td style="width: 40%;">A. Moore Capital</td> <td style="width: 10%; text-align: right;">50,000</td> <td style="width: 10%; border-left: 1px solid black; width: 10%;"></td> <td style="width: 10%;">2 Oct.</td> <td style="width: 40%;">Furniture</td> <td style="width: 10%; text-align: right;">5,000</td> </tr> <tr> <td>11 Oct.</td> <td>L. Fortune</td> <td style="text-align: right;">5,500</td> <td style="border-left: 1px solid black;"></td> <td>4 Oct.</td> <td>Stock</td> <td style="text-align: right;">3,500</td> </tr> <tr> <td>14 Oct.</td> <td>Sales</td> <td style="text-align: right;">6,000</td> <td style="border-left: 1px solid black;"></td> <td>10 Oct.</td> <td>H. Verity</td> <td style="text-align: right;">12,000</td> </tr> <tr> <td>17 Oct.</td> <td>J. Moore Capital</td> <td style="text-align: right;">5,000</td> <td style="border-left: 1px solid black;"></td> <td>11 Oct.</td> <td>I. Karic</td> <td style="text-align: right;">5,500</td> </tr> <tr> <td></td> <td></td> <td style="text-align: right; border-top: 1px solid black;">66,500</td> <td style="border-left: 1px solid black;"></td> <td>15 Oct.</td> <td>Wages</td> <td style="text-align: right;">900</td> </tr> <tr> <td></td> <td></td> <td></td> <td style="border-left: 1px solid black;"></td> <td>17 Oct.</td> <td>I. Karic</td> <td style="text-align: right; border-bottom: 1px solid black;">5,000</td> </tr> <tr> <td></td> <td></td> <td></td> <td style="border-left: 1px solid black;"></td> <td></td> <td></td> <td style="text-align: right;">31,900</td> </tr> </table>	1 Oct.	A. Moore Capital	50,000		2 Oct.	Furniture	5,000	11 Oct.	L. Fortune	5,500		4 Oct.	Stock	3,500	14 Oct.	Sales	6,000		10 Oct.	H. Verity	12,000	17 Oct.	J. Moore Capital	5,000		11 Oct.	I. Karic	5,500			66,500		15 Oct.	Wages	900					17 Oct.	I. Karic	5,000							31,900	
1 Oct.	A. Moore Capital	50,000		2 Oct.	Furniture	5,000																																												
11 Oct.	L. Fortune	5,500		4 Oct.	Stock	3,500																																												
14 Oct.	Sales	6,000		10 Oct.	H. Verity	12,000																																												
17 Oct.	J. Moore Capital	5,000		11 Oct.	I. Karic	5,500																																												
		66,500		15 Oct.	Wages	900																																												
				17 Oct.	I. Karic	5,000																																												
						31,900																																												

Excess of receipts (debit) over payments (credit) = 34,600

*A. Moore capital*

<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 10%;">21 Oct.</td> <td style="width: 40%;">A. Teak Capital</td> <td style="width: 10%; text-align: right;">25,000</td> <td style="width: 10%; border-left: 1px solid black; width: 10%;"></td> <td style="width: 10%;">1 Oct.</td> <td style="width: 40%;">Cash</td> <td style="width: 10%; text-align: right;">50,000</td> </tr> </table>	21 Oct.	A. Teak Capital	25,000		1 Oct.	Cash	50,000	
21 Oct.	A. Teak Capital	25,000		1 Oct.	Cash	50,000		

Original capital £50,000 less transferred to Teak £25,000 = £25,000

*J. Moore capital*

	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 10%;"></td> <td style="width: 40%;"></td> <td style="width: 10%;"></td> <td style="width: 10%; border-left: 1px solid black; width: 10%;"></td> <td style="width: 10%;">17 Oct.</td> <td style="width: 40%;">Cash</td> <td style="width: 10%; text-align: right;">5,000</td> </tr> </table>					17 Oct.	Cash	5,000
				17 Oct.	Cash	5,000		

*A. Teak capital*

	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 10%;"></td> <td style="width: 40%;"></td> <td style="width: 10%;"></td> <td style="width: 10%; border-left: 1px solid black; width: 10%;"></td> <td style="width: 10%;">21 Oct.</td> <td style="width: 40%;">A. Moore Capital</td> <td style="width: 10%; text-align: right;">25,000</td> </tr> </table>					21 Oct.	A. Moore Capital	25,000
				21 Oct.	A. Moore Capital	25,000		

*Furniture*

<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 10%;">2 Oct.</td> <td style="width: 40%;">Cash</td> <td style="width: 10%; text-align: right;">5,000</td> <td style="width: 10%; border-left: 1px solid black; width: 10%;"></td> <td style="width: 10%;"></td> <td style="width: 40%;"></td> <td style="width: 10%;"></td> </tr> </table>	2 Oct.	Cash	5,000					
2 Oct.	Cash	5,000						

*Stock*

<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 10%;">4 Oct.</td> <td style="width: 40%;">Cash</td> <td style="width: 10%; text-align: right;">3,500</td> <td style="width: 10%; border-left: 1px solid black; width: 10%;"></td> <td style="width: 10%;">14 Oct.</td> <td style="width: 40%;">Cost of goods sold</td> <td style="width: 10%; text-align: right;">3,500</td> </tr> <tr> <td>7 Oct.</td> <td>H. Verity</td> <td style="text-align: right; border-bottom: 1px solid black;">12,000</td> <td style="border-left: 1px solid black;"></td> <td>16 Oct.</td> <td>Cost of goods sold</td> <td style="text-align: right; border-bottom: 1px solid black;">6,000</td> </tr> <tr> <td></td> <td></td> <td style="text-align: right;">15,500</td> <td style="border-left: 1px solid black;"></td> <td></td> <td></td> <td style="text-align: right;">9,500</td> </tr> </table>	4 Oct.	Cash	3,500		14 Oct.	Cost of goods sold	3,500	7 Oct.	H. Verity	12,000		16 Oct.	Cost of goods sold	6,000			15,500				9,500	
4 Oct.	Cash	3,500		14 Oct.	Cost of goods sold	3,500																
7 Oct.	H. Verity	12,000		16 Oct.	Cost of goods sold	6,000																
		15,500				9,500																

Cost of goods left in stock = £6,000

*Cost of goods sold*

14 Oct.	Stock	3,500	
16 Oct.	Stock	<u>6,000</u>	
		9,500	

Cost of goods sold during October = £9,500

*Vehicles*

8 Oct.	I. Karic	11,000	
--------	----------	--------	--

*Lee*

18 Oct.	Damages		3,000
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*H. Verity*

10 Oct.	Cash	12,000	7 Oct. Stock	12,000
---------	------	--------	--------------	--------

*L. Fortune*

11 Oct.	Cash		5,500
---------	------	--	-------

*I. Karic*

11 Oct.	Cash	5,500	8 Oct. Vehicles	11,000
17 Oct.	Cash	<u>5,000</u>		
		10,500		<u>11,000</u>

Amount still owed to Karic = £500

*Sales*

14 Oct.	Cash		6,000
16 Oct.	Debtor		<u>9,000</u>
			15,000

Sales during October = £15,000

*Wages*

15 Oct.	Cash	900	
---------	------	-----	--

*Debtor*

16 Oct.	Sales	9,000	
---------	-------	-------	--

*Damages*

18 Oct.	Lee	3,000	
---------	-----	-------	--

*Profit and loss account for period ended 31 October*

	£	£
Sales		15,000
<i>Less: Cost of goods sold</i>		<u>9,500</u>
Gross profit		5,500
<i>Less: Expenses</i>		
Wages	900	
Damages	<u>3,000</u>	
		<u>3,900</u>
Net profit		<u>£1,600</u>

*Balance sheet as at 31 October*

	£	£
Fixed assets		
Van	11,000	
Furniture	<u>5,000</u>	
		16,000
Current assets		
Stock	6,000	
Debtors	9,000	
Cash	<u>34,600</u>	
	<u>49,600</u>	
<i>Less: Current liabilities</i>		
Creditors: Lee	3,000	
Fortune	5,500	
Karic	<u>500</u>	
	<u>9,000</u>	
Net current assets		<u>40,600</u>
Total assets <i>less</i> current liabilities		<u>£56,600</u>
Capital		
A. Moore	25,000	
J. Moore	5,000	
A. Teak	<u>25,000</u>	
		55,000
Profit		<u>1,600</u>
		<u>£56,600</u>

**3.7**

	£	£
1 July Debit business bank account	60,000	
Credit MacPherson capital account		60,000
1 July Debit furniture account	16,000	
Credit MacDuff (creditor)		16,000
4 July Debit stock account	10,000	
Credit Harris (creditor)		10,000
7 July Debit McDougall (debtor)	3,500	
Credit sales account		3,500
Debit cost of goods sold account	2,500	
Credit stock account		2,500

	£	£
10 July Debit sundry expenses	1,200	
Credit bank account		1,200
20 July Debit bank account	3,600	
Credit sales account		3,600
Debit cost of goods sold account	2,000	
Credit stock account		2,000
28 July Debit bank account	3,500	
Credit McDougall (debtor)		3,500
30 July Debit wages expense	1,800	
Credit bank account		1,800

## Chapter 4

### 4.1

#### Bank

(a) Capital	20,000	(b) Rent	3,500
Loan	15,000	(c) Fixtures & fittings	7,500
(e) Sales	18,000	(d) Stock	20,000
		(f) Wages	1,100
		Lighting & heating	900
		Other expenses	1,200
		(i) Interest	150
		Wages	1,300
		Telephone	200
		Other expenses	<u>1,700</u>
	<u>53,000</u>		37,550
<i>Debit balance</i>	15,450		

#### Capital

	(a) Bank	20,000
	<i>Credit balance</i>	20,000

#### Loan

	(a) Bank	15,000
	<i>Credit balance</i>	15,000

#### Fixtures & fittings

(c) Bank	7,500
<i>Debit balance</i>	7,500

#### Stock

(d) Bank	20,000	(e) Cost of goods sold	8,000
(h) Basil	<u>7,500</u>	(g) Cost of goods sold	<u>10,000</u>
	27,500		18,000
<i>Debit balance</i>	9,500		



<i>Cost of goods sold</i>	
(e) Stock	8,000
(g) Stock	<u>10,000</u>
	18,000
<i>Debit balance</i>	18,000

<i>Sales</i>	
(e) Bank	18,000
(g) Samuel	<u>25,000</u>
	43,000
<i>Credit balance</i>	43,000

<i>Interest</i>	
(i) Bank	150
<i>Debit balance</i>	150

<i>Rent</i>	
(b) Bank	3,500
<i>Debit balance</i>	3,500

<i>Wages</i>	
(f) Bank	1,100
(i) Bank	<u>1,300</u>
	2,400
<i>Debit balance</i>	2,400

<i>Lighting and heating</i>	
(f) Bank	900
<i>Debit balance</i>	900

<i>Telephone</i>	
(i) Bank	200
<i>Debit balance</i>	200

<i>Other expenses</i>	
(f) Bank	1,200
(i) Bank	<u>1,700</u>
	2,900
<i>Debit balance</i>	2,900

<i>Samuel</i>	
(g) Sales	25,000
<i>Debit balance</i>	25,000

*Basil*

	(h) Stock	7,500
	<i>Credit balance</i>	7,500

**Extended trial balance as at 31 January 20X1**

	<i>Dr</i>		<i>Cr</i>		<i>P &amp; L Account</i>		<i>Balance Sheet</i>	
	<i>£</i>	<i>£</i>	<i>Dr</i>	<i>Cr</i>	<i>Dr</i>	<i>Cr</i>	<i>Dr</i>	<i>Cr</i>
Business bank account	15,450						15,450	
Capital account		20,000						20,000
Loan		15,000						15,000
Rent	3,500		3,500					
Fixtures and fittings	7,500						7,500	
Cost of goods sold	18,000		18,000					
Stock	9,500						9,500	
Sales		43,000		43,000				
Interest on loan	150		150					
Wages	2,400		2,400					
Lighting and heating	900		900					
Telephone	200		200					
Other expenses	2,900		2,900					
Debtor (Samuel)	25,000						25,000	
Creditor (Basil)		7,500						7,500
	<u>£85,500</u>	<u>£85,500</u>						
Profit			14,950					14,950
			<u>£43,000</u>	<u>£43,000</u>	<u>£57,450</u>	<u>£57,450</u>		

**Profit and loss account for the month ended 31 January 20X1**

	<i>£</i>	<i>£</i>
Sales		43,000
Cost of goods sold		<u>18,000</u>
Gross profit		25,000
<i>Less: Expenses</i>		
Rent	3,500	
Wages	2,400	
Lighting and heating	900	
Interest	150	
Telephone	200	
Other expenses	<u>2,900</u>	
Net profit		<u>£14,950</u>

**Balance sheet as at 31 January 20X1**

	<i>£</i>	<i>£</i>
Fixed assets		
Fixtures and fittings		7,500

Solutions to selected exercises

	£	£
Current assets		
Stock	9,500	
Debtors	25,000	
Cash at bank	<u>15,450</u>	
	49,950	
<i>Less: Current liabilities</i>		
Creditors	<u>7,500</u>	42,450
Total assets <i>less</i> current liabilities		49,950
Loan		<u>15,000</u>
		<u>34,950</u>
Capital account (1.1.X1)		20,000
Add profit for the year		<u>14,950</u>
		<u>£34,950</u>

**4.5** (a) Journal entries

1. Dr Sales	£1,000		
Cr Capital		£1,000	
2. Dr Wages	£700		
Cr Wages payable		£700	
3. Dr Cash	£2,000		
Cr Suspense a/c*		£2,000	
4. Dr Cost of goods sold	£200		
Cr Stock		£200	
5. Dr Suspense a/c	£600		
Cr Sales		£600	
6. Dr Insurance	£200		
Cr Insurance prepaid		£200	
7. Dr Drawings	£30,000		
Cr Wages		£30,000	
8. Dr Suspense a/c	£400		
Cr Jarvis		£400	
9. Dr Cost of goods sold	£900		
Cr Smith		£900	
Dr Stock	£900		
Cr Cost of goods sold		£900	(assuming goods have now been found)
10. Dr Sales	£300		
Cr Driot		£300	

(b)

	<b>Trial balance (corrected)</b>	
	<i>Dr</i>	<i>Cr</i>
Balance at bank	10,000	
Capital account		24,000
Cash in hand	1,200	
Cost of goods sold	80,200	
Insurance: expense	3,200	
prepaid	300	
Stock	9,700	

\* A temporary account to hold differences until dealt with.

	<i>Dr</i>	<i>Cr</i>
Sales		124,700
Sundry expenses	5,000	
Sundry expenses payable		1,000
Trade creditors: Smith		4,900
Jones		2,000
Trade debtors: Jarvis	7,800	
Driot		100
Wages	10,000	
Wages payable		700
Drawings	<u>30,000</u>	
	<u>£157,400</u>	<u>£157,400</u>

*Suspense account*

	£		£
Amount debited by bookkeeper	1,000	Journal entry No. 3	2,000
Journal entry No. 5	600		
Journal entry No. 8	<u>400</u>		
	<u>£2,000</u>		<u>£2,000</u>

(c) **Profit and loss account for the year ended 31 December 20X0**

	£	£
Sales		124,700
Cost of goods sold		<u>80,200</u>
Gross profit		44,500
<i>Less: Expenses</i>		
Wages	10,000	
Insurance	3,200	
Sundry expenses	<u>5,000</u>	
		<u>18,200</u>
Net profit		<u>£26,300</u>

**Balance sheet as at 31 December 20X0**

Current assets		
Stock		9,700
Debtors		7,800
Prepayments		300
Cash at bank and in hand		<u>11,200</u>
		29,000
<i>Less: Current liabilities</i>		
Creditors	7,000	
Accruals	<u>1,700</u>	
		<u>8,700</u>
Net current assets		<u>20,300</u>
Capital		24,000
<i>Add: Profit</i>		<u>26,300</u>
		50,300
<i>Less: Drawings</i>		<u>30,000</u>
		<u>£20,300</u>

4.7	<i>Dr</i>	<i>Cr</i>
Bank	25,290	
Lease	20,000	
Fixtures and fittings	10,000	
Stock	2,520	
CB	220	
CC	2,520	
XP Ltd		5,000
SA Ltd		3,920
Wages payable		30
Sundry expenses payable		500
Capital		50,000
Drawings	200	
Sales		5,720
Sales returns	240	
Cost of goods sold	3,360	
Wages expense	300	
Repairs	20	
Sundry expenses	500	
	<u>£65,170</u>	<u>£65,170</u>

## Chapter 5

### 5.1

#### Malcolm

#### Profit and loss account for the year ended 30 June 20X1

	£	£
Sales		243,000
<i>Less:</i> Cost of goods sold		<u>144,000</u>
Gross profit		99,000
<i>Less:</i> Expenses		
Wages £(14,250 + 750)	15,000	
Rent £(13,500 + 3,000)	16,500	
Insurance £(2,000 – 400)	1,600	
Sundry	<u>3,000</u>	<u>36,100</u>
Net profit		<u>62,900</u>

#### Balance sheet as at 30 June 20X1

<b>Assets</b>		
Vehicles		21,000
Stock		36,000
Debtors		22,650
Prepaid expenses (insurance)		400
Cash at bank		<u>4,500</u>
		<u>84,550</u>
<b>Liabilities</b>		
Creditors	21,000	
Accrued expenses (wages £750 + rent £3,000)	<u>3,750</u>	24,750
Capital account as at 1 July 20X0	29,000	
<i>Add:</i> Profit for the year	<u>62,900</u>	
	91,900	
<i>Less:</i> Drawings	<u>32,100</u>	<u>59,800</u>
		<u>£84,550</u>

## 5.2 Workings

	£	<i>Income statement</i> £	<i>Balance sheet</i> £
Fees			
Cash received	180,000		
Less: Debtors at 1.7.X2	<u>60,000</u>		
(Amount received in respect of this year)	120,000		
Fee income for the year	<u>210,000</u>	<u>£210,000</u>	
Debtors at 30.6.X3	<u>£90,000</u>		Asset <u>£90,000</u>
Rent			
Cash paid	12,000		
Less: Payable at 1.7.X2	<u>2,000</u>		
(Paid in respect of this year)	10,000		
Expense for the year	<u>12,000</u>	<u>£12,000</u>	
Payable at 30.6.X3	<u>£2,000</u>		Liability <u>£2,000</u>
Rates			
Cash paid	8,000		
Add: Prepaid at 1.7.X2	<u>3,000</u>		
	11,000		
Less: Prepaid at 30.6.X3	<u>4,000</u>		
		<u>£7,000</u>	Asset <u>£4,000</u>
Wages and NI			
Cash paid	28,000		
Less: Payable at 1.7.X2	<u>200</u>		
	27,800		
Add: Payable at 30.6.X3	<u>120</u>		
		<u>£27,920</u>	Liability <u>£120</u>
Bank			
Balance 1.7.X2 (overdraft)		40,000	
Add: Payments			
Rent	12,000		
Rates	8,000		
Wages and NI	28,000		
Sundry expenses	20,000		
Drawings	<u>100,000</u>	<u>168,000</u>	
		208,000	
Less: Receipts from debtors for fees		<u>180,000</u>	
Balance 30.6.X3 (overdraft)		<u>£28,000</u>	
Capital at 1 July 20X2			
Assets:			
Debtors		60,000	
Prepaid rates		<u>3,000</u>	
		63,000	
Liabilities:			
Overdraft	40,000		
PAYE and NI payable	200		
Rent payable	<u>2,000</u>	<u>42,200</u>	
∴ Capital was		<u>£20,800</u>	

## St John income statement for the year ended 30 June 20X3

	£	£
Fees		210,000
<i>Less:</i> Rent	12,000	
Rates	7,000	
Wages and NI	27,920	
Sundry expenses	<u>20,000</u>	<u>66,920</u>
Net income for the year		<u>£143,080</u>

## St John balance sheet as at 30 June 20X3

	£	£
Assets: Debtors for fees		90,000
Cash at bank		-
Rates prepaid		<u>4,000</u>
		94,000
<i>Less:</i> Liabilities: Rent payable	2,000	
PAYE and NI payable	120	
Bank overdraft	<u>28,000</u>	<u>30,120</u>
Net assets		<u>£63,880</u>
Financed by:		£
Capital at 1 July 20X2		20,800
<i>Add:</i> net income for the year		<u>143,080</u>
		163,880
<i>Less:</i> drawings		<u>100,000</u>
		<u>£63,880</u>

## 5.6

## Deborah

## Profit and loss account for the month to 31 January 20X1

	£	£
Sales		39,000
<i>Less:</i> Cost of goods sold		<u>29,562</u>
Gross profit		9,438
<i>Less:</i> Expenses		
Rent (£12,000 – £10,000 prepaid)	2,000	
Wages	7,500	
Telephone (accrued expense)	<u>100</u>	<u>9,600</u>
Loss for the month		<u>£(162)</u>

## Balance sheet as at 31 January 20X1

	£	£
Assets		
Vans		40,120
Stock		8,750
Debtors		9,000
Prepaid expenses (rent)		10,000
Bank		<u>131,380</u>
		<u>£199,250</u>

Liabilities		
Creditors	55,312	
Accrued expenses (telephone)	<u>100</u>	55,412
Capital account as at 1 January 20X1	150,000	
Less: Loss for the month	<u>162</u>	
	149,838	
Less: Drawings	<u>6,000</u>	<u>143,838</u>
		<u>£199,250</u>

## 5.7

## Theodore

## Profit and loss account for the year ended 31 December 20X2

	£	£	
Fees earned		225,000	
Less: Expenses			
Wages and salaries	145,000		
Heating and lighting	9,600		
Other office expenses	23,550		(22,800 – 2,250 + 3,000)
Interest payable	<u>10,000</u>		(9,000 + 1,000)
		<u>188,150</u>	
Net profit		<u>£36,850</u>	

## Balance sheet as at 31 December 20X2

	£	£	£
Fixed assets			
Freehold property			180,000
Current assets			
Debtors		38,000	
Prepaid expenses (rates)		<u>2,250</u>	
		40,250	
Less: Current liabilities			
Creditors	5,000		
Accrued expenses	4,000		(1,000 + 3,000)
Bank overdraft	<u>33,400</u>	<u>42,400</u>	
Net current assets/(liabilities)			<u>(2,150)</u>
			177,850
Long-term loan			<u>100,000</u>
			<u>£77,850</u>
Capital at 1.1.X2			73,000
Add: Profit for the year			<u>36,850</u>
			109,850
Less: Drawings			<u>32,000</u>
			<u>£77,850</u>



## Chapter 6

6.1

Malcolm

## Profit and loss account for the year ended 30 June 20X2

	£	£
Sales		243,000
Less: Cost of goods sold		<u>144,000</u>
Gross profit		99,000
Less: Expenses		
Wages £(14,250 + 750)	15,000	
Rent £(13,500 + 3,000)	16,500	
Insurance £(2,000 – 1,000)	1,000	
Sundry	3,000	
Depreciation	<u>5,250</u>	<u>40,750</u>
Net profit		<u><u>58,250</u></u>

## Balance sheet as at 30 June 20X2

Assets		
Vehicles at cost	21,000	
Less: Accumulated depreciation	<u>5,250</u>	15,750
Stock		36,000
Debtors		22,650
Prepaid expenses (insurance)		1,000
Cash at bank		<u>4,500</u>
		<u><u>79,900</u></u>
Liabilities		
Creditors	21,000	
Accrued expenses (wages £750 + rent £3,000)	<u>3,750</u>	24,750
Capital account as at 1 July 20X1	29,000	
Add: Profit for the year	<u>58,250</u>	
	87,250	
Less: Drawings	<u>32,100</u>	<u>55,150</u>
		<u><u>79,900</u></u>

6.2 (a)

## Motor vehicles at cost

		£			£
20X1			20X1		
1 Jan.	Balance b/f	23,040	31 Dec.	Balance c/f	33,600
7 Mar.	Cash	<u>10,560</u>			
		<u>£33,600</u>			<u>£33,600</u>
20X2			20X2		
1 Jan.	Balance b/f	33,600	5 July	Disposal	9,600
10 July	Cash*	<u>10,464</u>	31 Dec.	Balance c/f	<u>34,464</u>
		<u>£44,064</u>			<u>£44,064</u>
20X3					
1 Jan.	Balance b/f	34,464			

\* Purchase £10,080 + Delivery £96 + Accessories £288.

*Motor vehicles, accumulated depreciation*

20X1		£	20X1		£
31 Dec.	Balance c/f	14,160	1 Jan.	Balance b/f	5,760
			31 Dec.	Depreciation expense	<u>8,400</u>
		<u>£14,160</u>			<u>£14,160</u>
20X2			20X2		
5 July	Disposal	4,800	1 Jan.	Balance b/f	14,160
31 Dec.	Balance c/f	<u>17,976</u>	31 Dec.	Depreciation expense	<u>8,616</u>
		<u>£22,776</u>			<u>£22,776</u>
			20X3		
			1 Jan.	Balance b/f	17,976

*Disposal of motor vehicles*

20X2		£	20X2		£
5 July	Motor vehicles at cost	9,600	July	Motor vehicles,	
				accum. depreciation	4,800
				Cash	4,320
				Profit and loss account	<u>480</u>
		<u>£9,600</u>			<u>£9,600</u>

*Depreciation expense*

20X1		£	20X1		£
31 Dec.	Motor vehicles – accumulated depreciation	<u>£8,400</u>	31 Dec.	Profit and loss account	<u>£8,400</u>
20X2		£	20X2		£
31 Dec.	Motor vehicles – accumulated depreciation	<u>£8,616</u>	31 Dec.	Profit and loss account	<u>£8,616</u>

(b)

**Balance sheets (extracts)**

	31 Dec. 20X1	31 Dec. 20X2
	£	£
Motor vehicles at cost	33,600	34,464
Less: Accumulated depreciation	<u>14,160</u>	<u>17,976</u>
	<u>£19,440</u>	<u>£16,488</u>

**Profit and loss accounts (extracts)**

Depreciation expense	8,400	8,616
Loss on sale of fixed assets	–	480

**6.6****Simon****Profit and loss account for the year ended 30 April 20X3**

	£	£
Sales		182,000
Less: Cost of goods sold		<u>93,600</u>
Gross profit		88,400

Less: Expenses		
General expenses	42,600	
Depreciation expense	<u>8,850</u>	<u>51,450</u>
Net profit		<u><u>£36,950</u></u>

**Balance sheet as at 30 April 20X3**

	Cost	Accumulated depreciation	Net book value
	£	£	£
Fixed assets			
Plant and machinery	53,000	31,250	21,750
Fixtures and fittings	<u>16,000</u>	<u>7,000</u>	<u>9,000</u>
	<u><u>£69,000</u></u>	<u><u>£38,250</u></u>	<u>30,750</u>
Current assets			
Stock		10,000	
Debtors		21,000	
Bank		<u>19,200</u>	
		50,200	
Less: Current liabilities			
Creditors		<u>11,000</u>	
Net current assets			<u>39,200</u>
			<u><u>£69,950</u></u>
Capital at 1.5.X2			50,000
Add: Profit for the year			<u>36,950</u>
			86,950
Less: Drawings			<u>17,000</u>
			<u><u>£69,950</u></u>

**6.7 (a) Old machine**

*Asset account*

		£			£
Year 1	Cash (or creditors)	<u>5,700</u>	Year 1	Balance c/d	<u>5,700</u>
Year 2	Balance b/d	<u>5,700</u>	Year 2	Balance c/d	<u>5,700</u>
Year 3	Balance b/d	<u>5,700</u>	Year 3	Disposal account	<u>5,700</u>

*Accumulated depreciation account*

		£			£
Year 1	Balance c/d	<u>900</u>	Year 1	Depreciation	<u>900</u>
Year 2	Balance c/d	<u>1,800</u>	Year 2	Balance b/d	<u>900</u>
		<u>1,800</u>		Depreciation	<u>900</u>
Year 3	Disposal account	<u>1,800</u>	Year 3	Balance b/d	<u>1,800</u>

*Disposal account*

		£			£
Year 3	Asset	<u>5,700</u>	Year 3	Accum. depreciation	1,800
				Cash (or debtors)	1,900
		<u>5,700</u>		Profit and loss account	<u>2,000</u>
					<u><u>5,700</u></u>

(b) New machine

		<i>Annual depn and written-down amount</i>	<i>Accumulated depreciation</i>
		£	£
Year 1	Cost	8,000	
	Depreciation for the year	<u>1,600</u>	1,600
	Written-down amount	6,400	
Year 2	Depreciation for the year	<u>1,280</u>	<u>1,280</u>
	Written-down amount	5,120	2,880
Year 3	Depreciation for the year	<u>1,024</u>	<u>1,024</u>
	Written-down amount	4,096	3,904

## Chapter 7

### 7.1

#### *Provision against doubtful debts*

20X3		£	20X3		£
31 Dec.	Balance c/f	<u>£1,500</u>	31 Dec.	Bad debts expense	<u>£1,500</u>
20X4			20X4		
31 Dec.	Balance c/f	1,800	1 Jan.	Balance b/f	1,500
			20X4		
		<u>£1,800</u>	31 Dec.	Bad debts expense	<u>300</u>
20X5					<u>£1,800</u>
31 Dec.	Bad debts expense	1,600	20X5		
	Balance c/f	<u>200</u>	1 Jan.	Balance b/f	1,800
		<u>£1,800</u>			<u>£1,800</u>
			20X5		
			1 Jan.	Balance b/f	200

#### *Bad debts expense*

20X3		£	20X3		£
31 Dec.	Provision	<u>£1,500</u>	31 Dec.	Profit and loss account	<u>£1,500</u>
20X4			20X4		
31 Dec.	Debtors	2,100	31 Dec.	Profit and loss account	2,400
	Provision	<u>300</u>			<u>£2,400</u>
		<u>£2,400</u>			
20X5			20X5		
31 Dec.	Debtors	750	31 Dec.	Provision	1,600
	Profit and loss account	<u>850</u>			<u>£1,600</u>
		<u>£1,600</u>			

## 7.2

## Malcolm

## Profit and loss account for the year ended 30 June 20X2

	£	£
Sales		243,000
<i>Less: Cost of goods sold</i>		<u>144,000</u>
Gross profit		99,000
<i>Less: Expenses</i>		
Wages £(14,250 + 750)	15,000	
Rent £(13,500 + 3,000)	16,500	
Insurance £(2,000 – 1,000)	1,000	
Sundry	3,000	
Bad debts £(2,650 + 2,000*)	4,650	
Depreciation	<u>5,250</u>	<u>45,400</u>
Net profit		<u><u>£53,600</u></u>

## Balance sheet as at 30 June 20X2

Assets		
Vehicles at cost	21,000	
<i>Less: Accumulated depreciation</i>	<u>5,250</u>	15,750
Stock		36,000
Debtors £(22,650 – 2,650 bad debts)	20,000	
<i>Less: Doubtful debts</i>	<u>2,000</u>	18,000
Prepaid expenses (insurance)		1,000
Cash at bank		<u>4,500</u>
		<u><u>75,250</u></u>
Liabilities		
Creditors	21,000	
Accrued expenses (wages £750 + rent £3,000)	<u>3,750</u>	24,750
Capital account as at 1 July 20X1	29,000	
<i>Add: Profit for the year</i>	<u>53,600</u>	
	82,600	
<i>Less: Drawings</i>	<u>32,100</u>	<u>50,500</u>
		<u><u>75,250</u></u>

\* Doubtful debts 10 per cent of £20,000.

## 7.3 Debtors

	£
Debtors at 1.1.X3	10,000
<i>Add: Sales year ended 31.12.X3</i>	<u>120,000</u>
	130,000
<i>Less: Cash received year ended 31.12.X3</i>	<u>115,000</u>
	15,000
<i>Less: Bad debts written off year ended 31.12.X3</i>	<u>1,000</u>
Debtors at 31.12.X3	14,000
<i>Add: Sales year ended 31.12.X4</i>	<u>130,000</u>
	144,000
<i>Less: Cash received year ended 31.12.X4</i>	<u>136,000</u>
	8,000
<i>Less: Bad debts written off year ended 31.12.X4</i>	<u>300</u>
Debtors at 31.12.X4	<u><u>£ 7,700</u></u>

Provision required	31.12.X2	5% of £10,000 = £500
	31.12.X3	5% of £14,000 = £700
	31.12.X4	5% of £7,700 = £385

(a)

*Bad debts expense account*

		£			£
31.12.X3 Debtors		1,000	31.12.X3 Profit & loss account		1,200
Provision against doubtful debts		<u>200</u>			
		<u>1,200</u>			<u>1,200</u>
31.12.X4 Debtors		300	31.12.X4 Provision against doubtful debts		315
Profit & loss account		<u>15</u>			<u>£315</u>
		<u>£315</u>			

*Provision against doubtful debts account*

		£			£
31.12.X3 Balance c/d		700	1.1.X3 Balance b/d		500
		<u>£700</u>	31.12.X3 Bad debts expense account		<u>200</u>
					<u>£700</u>
31.12.X4 Balance c/d		385	1.1.X4 Balance b/d		<u>700</u>
31.12.X4 Bad debts expense account		<u>315</u>			
		<u>£700</u>			<u>£700</u>
			1.1.X5 Balance b/d		<u>385</u>

(b) Credit to bad debts recovered (Profit &amp; loss account).

**7.4****Profit and loss account for the year ended 30 June 20X2**

	£	£
Sales		162,000
Less: Cost of goods sold		<u>98,000</u>
Gross profit		64,000
Less: Expenses		
Wages £(9,500 + 250)	9,750	
Rent	12,000	
Rates	4,800	
Depreciation	3,000	
Bad debts	880	
Sundry expenses	<u>2,000</u>	<u>32,430</u>
Profit for the year		<u>£31,570</u>

**Balance sheet as at 30 June 20X2**

Fixed assets		
Motor vehicle at cost	18,000	
Less: Accumulated depreciation	<u>6,000</u>	12,000

Solutions to selected exercises

	£	£	£
Current assets			
Stock		24,000	
Debtors	15,800		
<i>Less: Provision for bad debt</i>	<u>1,580</u>	14,220	
Prepaid rates		<u>1,200</u>	
		39,420	
<i>Less: Current liabilities</i>			
Creditors	14,000		
Rent payable	3,000		
Wages payable	250		
Bank overdraft	<u>4,500</u>	<u>21,750</u>	<u>17,670</u>
			<u>£29,670</u>
<i>Owner's equity</i>			
Capital at 1 July 20X1		19,500	
Add: Profit for the year		<u>31,570</u>	
		51,070	
<i>Less: Drawings</i>		<u>21,400</u>	<u>£29,670</u>
			£
<i>Workings</i>			
<i>Wages</i>			
Per trial balance			9,500
Payable at year end			<u>250</u>
Expense for the year			<u>£9,750</u>
<i>Rent</i>			
Per trial balance			9,000
Expense for the year			<u>12,000</u>
Accrued expenses			<u>£3,000</u>
<i>Rates</i>			
Per trial balance (for 15 months)			6,000
Prepaid at year end: 3 months = $3/15 \times £6,000 =$			<u>1,200</u>
Expense for the year			<u>£4,800</u>
<i>Depreciation</i>			
Motor vehicle at cost			18,000
Accumulated depreciation			<u>3,000</u>
Written-down value			15,000
Depreciation expense for the year 20% written-down value			<u>3,000</u>
Written-down value			<u>£12,000</u>
<i>Bad and doubtful debts</i>			
Debtors per trial balance			16,100
<i>Less: Bad debts written off</i>			<u>300</u>
			<u>15,800</u>
Required provision 10%			1,580
Balance per trial balance			<u>1,000</u>
			<u>£580</u>
<i>Expense for the year</i>			
Written off			300
Addition provision			<u>580</u>
			<u>£880</u>

**7.5** *Workings*  
*Debtors and provision required*

	<i>Debtors</i>	<i>Provision (5%)</i>
	£	£
Balance at 31.12.20X5	15,000	<u>750</u>
Add: Sales 20X6	<u>190,000</u>	
	205,000	
Less: Cash received 20X6	<u>172,000</u>	
	33,000	
Less: Bad debt written off	<u>1,600</u>	
Balance at 31.12.20X6	31,400	<u>£1,570</u>
Add: Sales 20X7	<u>200,000</u>	
	231,400	
Less: Cash received 20X7	<u>205,000</u>	
	26,400	
Less: Bad debt written off	<u>500</u>	
Balance at 31.12.20X7	<u>£25,900</u>	<u>£1,295</u>

*Provision against doubtful debts and expense*

	<i>Provision</i>	<i>Expense</i>
	£	£
31.12.20X6 (Balance)	750	
31.12.20X6 (Required)	<u>1,570</u>	
Increase in provision		820
Bad debt written off		<u>1,600</u>
		<u>£2,420</u>
31.12.20X7 (Required)	<u>1,295</u>	
Decrease in provision		(275)
Bad debt written off		<u>500</u>
		<u>£225</u>

*Extracts from balance sheets (under 'Current assets')*

	£	£
As at 31 December 20X6		
Debtors	31,400	
Less: Provision for doubtful debts	<u>1,570</u>	<u>29,830</u>
As at 31 December 20X7		
Debtors	25,900	
Less: Provision for doubtful debts	<u>1,295</u>	<u>24,605</u>

*Extracts from profit and loss accounts, year ended 31 December*

	20X6	20X7
	£	£
Expenses		
Bad debts written off	1,600	500
Increase in provision against doubtful debts	820	–
Deduction from expenses		
Reduction in provision against doubtful debts	–	275
Bad debts recovered	–	300



*Bad debts expense*

		£			£
20X6			20X6		
31 Dec.	Bad debt written off	1,600	31 Dec.	Profit and loss account	2,420
	Provision against doubtful debts	<u>820</u>			
		<u>£2,420</u>			<u>£2,420</u>
20X7			20X7		
31 Dec.	Bad debt written off	500	31 Dec.	Provision against doubtful debts	275
		<u>£500</u>		Profit and loss account	<u>225</u>
					<u>£500</u>

*Provision against doubtful debts*

		£			£
20X6			20X6		
31 Dec.	Balance c/d	1,570	1 Jan.	Balance b/f	750
		<u>£1,570</u>	31 Dec.	Bad debts expense	<u>820</u>
					<u>£1,570</u>
20X7			20X7		
31 Dec.	Bad debts expense	275	1 Jan.	Balance b/f	1,570
	Balance c/f	<u>1,295</u>			
		<u>£1,570</u>			<u>£1,570</u>
			20X8		
			1 Jan.	Balance b/f	1,295

## Chapter 8

<b>8.3</b> Closing stock	<i>Units</i>
Opening stock	100
Purchases	<u>100</u>
	200
Sales	<u>90</u>
	<u>110</u>

Purchases for 20X0 = £(600 + 8,000 + 1,200) = £9,800

	<i>Units</i>	£	
(a) FIFO Closing stock	10 × £120	1,200	
	80 × £100	8,000	
	10 × £60	600	
	<u>10 × £60</u>	<u>600</u>	
	<u>110</u>	<u>£10,400</u>	
		£	
Cost of goods sold		6,000	(opening stock)
		+ <u>9,800</u>	(purchases)
		15,800	
		- <u>10,400</u>	(closing stock)
		<u>£5,400</u>	

(b) Average cost (perpetual)	<i>Average cost</i>	<i>Cost of goods sold</i>
	£	£
After January purchase		
$\frac{100 \times \pounds 55 + 10 \times \pounds 60}{110}$	55.40	
March sales $40 \times \pounds 55.40$		2,216
After April purchase		
$\frac{70 \times \pounds 55.40 + 80 \times \pounds 100}{150}$	79.20	
June sales $30 \times \pounds 79.20$		2,376
November sales $20 \times \pounds 79.20$		<u>1,584</u>
		<u><u>£6,176</u></u>
After December purchase		
$\frac{100 \times \pounds 79.20 + 10 \times \pounds 120}{110}$	82.90	
Closing stock $110 \times \pounds 82.90$		<u><u>£9,119</u></u>

**8.5** Nora Ferber**Balance sheet as at 30 June 20X3**

	<i>Cost</i>	<i>Depreciation</i>	<i>Net</i>
	£	£	£
Fixed assets			
Motor vehicles	<u>£90,000</u>	<u>£30,000</u>	60,000
Current assets			
Stock		112,000	
Debtors	79,000		
Less: Provision for bad debts	<u>7,900</u>		
		71,100	
Prepaid expenses		<u>6,000</u>	
		189,100	
Less: Current liabilities			
Creditors	70,000		
Bank overdraft	22,500		
Accrued expenses	<u>16,260</u>	<u>108,760</u>	<u>80,340</u>
			<u>£140,340</u>
Financed by:			
Capital account balance as at 1 July 20X2			97,500
Add: Profit for the year			<u>149,840</u>
			247,340
Less: Drawings			<u>107,000</u>
			<u>£140,340</u>

## Income statement for the year ended 30 June 20X3

	£	£	£
Sales			810,000
Less: Cost of goods sold (COGS)			<u>498,000</u>
Gross profit			312,000
Less: Expenses			
Wages	48,760		
Rent	60,000		
Rates	24,000		
Sundry expenses	10,000		
Bad debts	4,400		
Depreciation of motor vehicle	<u>15,000</u>		
			<u>162,160</u>
Net profit			<u>£149,840</u>
Accrued expenses			
Wages		1,260	
Rent (£60,000 – £45,000)		<u>15,000</u>	
			<u>£16,260</u>
Prepaid expenses			
Rates (£30,000 – £24,000)		<u>£6,000</u>	
Bad and doubtful debts			
Debtors per trial balance		80,500	
Less: Bad debts written off		<u>1,500</u>	
			<u>£79,000</u>
Provision required 10% × £79,000		7,900	
Existing provision per trial balance		<u>5,000</u>	
Additional provision required		<u>£2,900</u>	
Income statement:			
Bad debts written off		1,500	
Increase in provision		<u>2,900</u>	
			<u>£4,400</u>
Depreciation			
Motor vehicles at cost		90,000	
Accumulated depreciation at 1.7.X2		<u>15,000</u>	
Balance		<u>£75,000</u>	
Charge for the year 20% of reducing balance		<u>£15,000</u>	
COMA rule	<i>Cost</i>	<i>NRV</i>	<i>Change</i>
A	40,000	60,000	none
B	50,000	42,000	–8,000
C	<u>30,000</u>	44,000	<u>none</u>
	120,000		<u>–£8,000</u>
	<u>–8,000</u>	COGS per TB	£490,000
Revised stock	<u>£112,000</u>		<u>+8,000</u>
		Revised COGS	<u>£498,000</u>

8.6	Average cost	Cost of goods sold	Stock
Opening stock			100 @ £725 <u>72,500</u>
February sales		20 @ £725    14,500	80 @ £725 <u>58,000</u>
After April purchase	$\frac{80 \times £725 + 200 \times £750}{280}$ = £742.86		280 @ £742.86 <u>208,001</u>
June sales		180 @ £742.86    133,715	100 @ £742.86 <u>74,286</u>
After October purchase	$\frac{100 \times £742.86 + 100 \times £780}{200}$ = £761.43		200 @ £761.43 <u>152,286</u>
November sales		60 @ £761.43 <u>45,686</u>	140 @ £761.43 <u>106,600</u>
			<u>193,901</u>

## Chapter 9

### 9.1

#### Extended trial balance

	Trial balance		Adjustments		Income statement		Balance sheet	
	Dr	Cr	Dr	Cr	Dr	Cr	Dr	Cr
Capital account		60,900						60,900
Cash at bank	6,300						6,300	
Cleaning etc.	2,600					2,600		
Shop fittings at cost	50,000						50,000	
Wages	10,000		(a) 200		10,200			
Motor vehicle expenses	3,000				3,000			
Motor vehicles at cost	20,000						20,000	
Creditors		5,100						5,100
Debtors	8,800			(b) 300			8,500	
Stock (opening)	7,500				7,500			
Purchases	64,800				64,800			
Sales		113,400				113,400		
Stationery	300				300			
Insurance	200				200			
Electricity	1,800				1,800			
Rent	4,000				4,000			
Rates	1,900			(c) 400	1,500			
Cash in hand	600						600	
Drawings	12,000						12,000	
Provision doubtful debts		400		(b) 450				850
Accumulated depreciation:								
Shop fittings		10,000		(d) 5,000				15,000
Motor vehicles		4,000		(d) 3,200				7,200
	<u>193,800</u>	<u>193,800</u>						
Stock (closing)			(e) 4,200				4,200	
				(e) 4,200		4,200		
Bad & doubtful debts expense			(b) 750		750			
Depreciation expense			(d) 8,200		8,200			
Accrued expense				(a) 200				200
Prepaid expense			(c) 400				400	
			<u>13,750</u>	<u>13,750</u>				
c/f					104,850	117,600	102,000	89,250

	Trial balance		Adjustments		Income statement		Balance sheet	
	Dr	Cr	Dr	Cr	Dr	Cr	Dr	Cr
b/f					104,850	117,600	102,000	89,250
Profit					<u>12,750</u>			<u>12,750</u>
					<u>117,600</u>	<u>117,600</u>	<u>102,000</u>	<u>102,000</u>

**Profit and loss account for the year ended 31 December 20X1**

	£	£
Sales		113,400
Less: Cost of goods sold		
Opening stock	7,500	
Add: Purchases	<u>64,800</u>	
	72,300	
Less: Closing stock	<u>4,200</u>	<u>68,100</u>
Gross profit		45,300
Less: Expenses		
Wages	10,200	
Cleaning etc.	2,600	
Motor vehicle expenses	3,000	
Stationery	300	
Insurance	200	
Electricity	1,800	
Rent	4,000	
Rates	1,500	
Bad and doubtful debts	750	
Depreciation	<u>8,200</u>	<u>32,550</u>
Net profit		<u>£12,750</u>

**Balance sheet as at 31 December 20X1**

	£	£	£
Fixed assets	Cost	Depn	
Shop fittings	50,000	15,000	35,000
Motor vehicles	<u>20,000</u>	<u>7,200</u>	<u>12,800</u>
	<u>£70,000</u>	<u>£22,200</u>	47,800
Current assets			
Stock		4,200	
Debtors	8,500		
Less: Provision against doubtful debts	<u>850</u>	7,650	
Prepaid expense		400	
Cash at bank and in hand		<u>6,900</u>	
		19,150	
Less: Current liabilities			
Creditors	5,100		
Accrued expense	<u>200</u>	<u>5,300</u>	<u>13,850</u>
			<u>£61,650</u>
Capital account			
Balance as at 1 January 20X1			60,900
Add: Profit for the year			<u>12,750</u>
			73,650
Less: Drawings			<u>12,000</u>
			<u>£61,650</u>

## Chapter 10

## 10.1

## Profit and loss account for the year ended 30 June 20X5

	£	£
Sales		200,000
<i>Less: Cost of goods sold</i>		
Opening stock	20,000	
Purchases	<u>98,000</u>	
	118,000	
<i>Less: Closing stock</i>	<u>35,000</u>	<u>83,000</u>
Gross profit		117,000
<i>Less: Expenses</i>		
Salaries and wages	21,000	
Rent	7,000	
Other office expenses	12,300	
Depreciation		
– fixtures and fittings	8,200	
– motor vehicles	<u>20,000</u>	<u>68,500</u>
Net profit		<u>£48,500</u>
As appropriated below:		
Interest on capital		
Anderson	10,000	
Barrymore	<u>5,000</u>	15,000
Share of profit		
Anderson	16,750	
Barrymore	<u>16,750</u>	<u>33,500</u>
		<u>£48,500</u>

## Balance sheet as at 30 June 20X5

	Cost £	Accumulated depreciation £	Net book value £
Fixed assets			
Fixtures and fittings	82,000	27,200	54,800
Motor vehicles	<u>80,000</u>	<u>40,000</u>	<u>40,000</u>
	<u>£162,000</u>	<u>£67,200</u>	94,800
Current assets			
Stock		35,000	
Debtors		31,000	
Prepayments		4,000	
Cash at bank		<u>46,000</u>	
		116,000	
<i>Less: Current liabilities</i>			
Creditors		<u>24,300</u>	
Net current assets			<u>91,700</u>
			<u>£186,500</u>
Capital accounts			
Anderson			100,000

Barrymore		<u>50,000</u>
		150,000
Current accounts		
Anderson	20,750	
Barrymore	<u>15,750</u>	
		<u>36,500</u>
		<u>£186,500</u>

*Workings*

## Partners' current accounts

<i>Anderson</i>				
	£			£
Drawings during year	28,000	1.7.X4	Balance b/d	22,000
30.6.X5 Balance c/d	20,750	30.6.X5	Interest	10,000
			Profit share	<u>16,750</u>
	<u>48,750</u>			<u>48,750</u>
<i>Barrymore</i>				
	£			£
Drawings during year	21,000	1.7.X4	Balance b/d	15,000
30.6.X5 Balance c/d	15,750	30.6.X5	Interest	5,000
			Profit share	<u>16,750</u>
	<u>36,750</u>			<u>36,750</u>

**10.2****Profit and loss account for the year ended 31.12.X6**

	£	£
Sales		988,950
<i>Less: Cost of goods sold</i>		
Opening stock	130,200	
Purchases	<u>762,300</u>	
	892,500	
Closing stock	<u>197,850</u>	
		<u>694,650</u>
Gross profit		294,300
<i>Less: Expenses</i>		
Office expenses	48,000	
Motor vehicle expenses	26,700	
Wages and salaries	57,975	
Insurance	4,125	
Discounts allowed	19,200	
Depreciation: fittings	945	
vans	8,520	
car	1,200	
Bad debts expense	150	
Provision for rent	6,960	
Bank interest	<u>525</u>	
		<u>174,300</u>
Net profit		<u>£120,000</u>

As appropriated below:

Interest on capital:

Priestley	12,300	
Judge	<u>9,900</u>	22,200

Share of profit:

Priestley	58,680	
Judge	<u>39,120</u>	<u>97,800</u>
		<u>£120,000</u>

**Balance sheet as at 31.12.X6**

	<i>Cost</i>	<i>Accumulated depreciation</i>	<i>Net book value</i>
Fixed assets			
Fittings	18,000	9,495	8,505
Motor vehicles	<u>99,000</u>	<u>55,320</u>	<u>43,680</u>
	<u>£117,000</u>	<u>£64,815</u>	52,185
Current assets			
Stock		197,850	
Debtors	90,000		
Less: Provision for doubtful debts	<u>2,250</u>		
		87,750	
Prepayments		<u>525</u>	
		286,125	
Less: Current liabilities			
Creditors	31,500		
Bank overdraft	3,750		
Accruals	<u>10,260</u>		
		<u>45,510</u>	
Net current assets			<u>240,615</u>
			<u>£292,800</u>
Capital accounts			
Priestley		123,000	
Judge		<u>99,000</u>	
		222,000	
Current accounts			
Priestley	43,980		
Judge	<u>26,820</u>	<u>70,800</u>	<u>£292,800</u>

*Workings**Current accounts**Priestley*

	<u>£</u>		<u>£</u>
Drawings	27,000	Interest on capital	12,300
Balance c/d	<u>43,980</u>	Share of profit	<u>58,680</u>
	<u>70,980</u>		<u>70,980</u>



<i>Judge</i>			
	£		£
Drawings	18,000	Interest on capital	9,900
Motor expenses (Depreciation £1,200 + expenses £3,000)	4,200	Share of profit	39,120
Balance c/d	<u>26,820</u>		
	<u>49,020</u>		<u>49,020</u>

**10.6 Profit and loss and appropriation account for the year ended 31 December 20X5**

	£000		£000
Sales			
<i>Less:</i> Cost of goods sold			222
Gross profit			<u>80</u>
<i>Less:</i> Expenses			142
Net profit as appropriated below			31
			<u>111</u>
Appropriations:			
Salary: Mr Wye			12
Interest on capital:			
Mr Zed	15		
Mr Wye	<u>14</u>	29	
Share of profit:			
Mr Zed	40		
Mr Wye	<u>30</u>	<u>70</u>	
			<u>111</u>

**Partners' current accounts**

		Zed	Wye			Zed	Wye
Drawings		42	37	Balances b/f		32	29
				Salary			12
				Interest		15	14
Balances c/f		<u>45</u>	<u>48</u>	Profit share		<u>40</u>	<u>30</u>
		<u>87</u>	<u>85</u>			<u>87</u>	<u>85</u>
				Balances b/f		45	48

**Balance sheet as at 31 December 20X5**

	£000		£000
Sources of capital funds			
Partners' capital accounts			
Zed		150	
Wye		<u>140</u>	
			<u>290</u>
Partners' current accounts			
Zed		45	
Wye		<u>48</u>	
			<u>93</u>
			<u>383</u>
Employment of funds			
Current asset			
Cash			<u>383</u>

**10.7 Trading and profit and loss and appropriation account for the year ended 31 March 20X0**

	£	£
Sales, less returns inwards		323,072
<i>Less:</i> Cost of goods sold		
Opening stock	28,567	
<i>Add:</i> Purchases	<u>232,174</u>	
	260,741	
<i>Less:</i> Closing stock	<u>33,259</u>	<u>227,482</u>
Gross profit		95,590
<i>Add:</i> Discounts receivable		<u>1,110</u>
		96,700
<i>Less:</i> Expenses		
General expenses, including bank charges (33,049 + 64)	33,113	
Administration expenses (19,363 + 300 + 276)	19,939	
Bad debts written off	328	
Provision for bad debts	500	
Depreciation on fixtures and fittings	300	
Depreciation on motor vehicles	3,000	
Interest on loan from Smith	<u>800</u>	
Net profit, appropriated below		<u>57,980</u>
		<u>38,720</u>

	<i>Appropriations</i>		
	£	£	£
6 months up to 30.9.X9			
Salary: Amber		2,500	
Share of profits			
Green ( $2/3 \times 16,860$ )	11,240		
Amber ( $1/3 \times 16,860$ )	<u>5,620</u>	<u>16,860</u>	19,360
6 months up to 31.3.X0			
Salaries: Amber	3,000		
Red	<u>2,000</u>	5,000	
Interest on capital			
Green	1,500		
Amber	<u>1,000</u>	2,500	
Share of profits			
Green ( $2/5 \times 11,860$ )	4,744		
Amber ( $2/5 \times 11,860$ )	4,744		
Red ( $1/5 \times 11,860$ )	<u>2,372</u>	<u>11,860</u>	<u>19,360</u>
Total appropriations			<u>38,720</u>

## Balance sheet as at 31 March 20X0

	£	£	£
Partners' capital accounts			
Green		30,000	
Amber		20,000	
Red		<u>2,272</u>	52,272
Partners' current accounts			
Green		8,860	
Amber		11,418	
Red		—	<u>20,278</u>
Loan from Smith			10,000
			<u>82,550</u>
<i>Fixed assets</i>	<i>Cost</i>	<i>Depreciation</i>	<i>£</i>
Fixtures and fittings	3,000	1,750	1,250
Motor vehicles	<u>15,000</u>	<u>7,500</u>	<u>7,500</u>
	<u>18,000</u>	<u>9,250</u>	8,750
Goodwill			18,000
<i>Current assets</i>			
Stock		33,259	
Debtors, less provision for doubtful debts		27,464	
Cash on hand and at bank (50 + 14,100 – 64)		<u>14,086</u>	
		74,809	
<i>Less: Current liabilities</i>			
Trade creditors	18,433		
Accruals	<u>576</u>	<u>19,009</u>	<u>55,800</u>
			<u>82,550</u>

*Partners' capital accounts*

	Green	Amber	Red		Green	Amber	Red
				Balances 1.4.X9	18,000	14,000	
				Goodwill 1.10.X9	12,000	6,000	
				Transfer from			
Balance c/d	<u>30,000</u>	<u>20,000</u>	<u>2,272</u>	current a/c			2,272
	<u>30,000</u>	<u>20,000</u>	<u>2,272</u>		<u>30,000</u>	<u>20,000</u>	<u>2,272</u>
				Balance b/d	30,000	20,000	2,272

*Partners' current accounts*

	Green	Amber	Red		Green	Amber	Red
				Balances	1,236	894	
Drawings	9,860	6,340	2,100	6 mths to 30.9.X9			
				Salary		2,500	
				Profit	11,240	5,620	
				6 mths to 31.3.X0			
				Salary		3,000	2,000
Transfer to capital a/c			2,272	Interest	1,500	1,000	
Balance c/d	<u>8,860</u>	<u>11,418</u>	<u>2,272</u>	Profit	<u>4,744</u>	<u>4,744</u>	<u>2,372</u>
	<u>18,720</u>	<u>17,758</u>	<u>4,372</u>		<u>18,720</u>	<u>17,758</u>	<u>4,372</u>

## Chapter 11

## 11.4

## Van der Pant Ltd

## Trading and profit and loss account for the year ended 31 December 20X0

	£	£	£
Sales			4,500,000
Less: Cost of goods sold:			
Stock at 1.1.20X0		900,000	
Add: Purchases		<u>3,000,000</u>	
		3,900,000	
Less: Stock at 31.12.20X0		<u>1,200,000</u>	
			<u>2,700,000</u>
Gross profit			1,800,000
Less: General expenses		840,000	
Debenture interest		25,200	
Directors' remuneration		210,000	
Depreciation:			
fixtures and fittings	96,000		
motor vehicles	<u>42,000</u>		
		<u>138,000</u>	
			<u>1,213,200</u>
Net profit before tax			586,800
Corporation tax			<u>240,000</u>
Profit after tax			346,800
Retained profit brought forward			<u>55,800</u>
			402,600
Preference dividend		24,000	
Proposed ordinary dividend of 25%		300,000	
			<u>324,000</u>
Retained profit, carried forward			<u><u>£78,600</u></u>

## Balance sheet as at 31 December 20X0

	Cost	Depreciation	Net
	£	to date	£
	£	£	£
Fixed assets			
Fixtures and fittings	480,000	156,000	324,000
Motor vehicles	<u>210,000</u>	<u>72,000</u>	<u>138,000</u>
	<u>£690,000</u>	<u>£228,000</u>	462,000
Current assets			
Stock		1,200,000	
Debtors		1,500,000	
Bank		<u>31,800</u>	
		2,731,800	
Less: Creditors:			
amounts falling due within one year			
Creditors	517,200		
Directors' current account	144,000		
Corporation tax	240,000		
Preference dividend	24,000		
Proposed ordinary dividend	<u>300,000</u>		
		<u>1,225,200</u>	

Net current assets	<u>1,506,600</u>
Total assets <i>less</i> current liabilities	1,968,600
Creditors: amounts falling due after more than one year	
7% Debentures	<u>360,000</u>
	<u>£1,608,600</u>
Capital and reserves	
Called-up share capital	
Ordinary shares	1,200,000
Preference shares	300,000
Share premium account	30,000
Profit and loss account	<u>78,600</u>
	<u>£1,608,600</u>

## 11.5

## EKSWYE Co. Ltd

## Profit and loss account for the year ended 31 December 20X2

	£	£	£
Turnover			4,030,000
Cost of goods sold			<u>2,800,000</u>
Gross profit			1,230,000
Administrative expenses			
Directors' remuneration	250,000		
Audit fee	15,000		
Other administrative expenses	<u>185,000</u>	450,000	
Selling and distribution expenses		250,000	
Depreciation: land and buildings	40,000		
plant and machinery	<u>190,000</u>	230,000	
Debenture interest		<u>30,000</u>	
		960,000	
<i>Less:</i> Reduction in provision for doubtful debts		<u>10,000</u>	950,000
Operating profit before taxation			280,000
Corporation tax			<u>50,000</u>
Profit after taxation			230,000
Dividends: 6% on preference shares	18,000		
10p per share on ordinary shares	<u>60,000</u>	<u>78,000</u>	<u>78,000</u>
Unappropriated profit for the year			152,000
Unappropriated profit brought forward			<u>330,000</u>
Unappropriated profit carried forward			<u>£482,000</u>

## Balance sheet as at 31 December 20X2

	<i>Cost or valuation</i>	<i>Depreciation</i>	<i>Net</i>
	£	£	£
Fixed assets			
Land and buildings at valuation	1,600,000	440,000	1,160,000
Plant and machinery at cost	<u>1,900,000</u>	<u>890,000</u>	<u>1,010,000</u>
	<u>£3,500,000</u>	<u>£1,330,000</u>	2,170,000

	£	£	£
Current assets			
Stock		300,000	
Debtors	400,000		
<i>Less:</i> Provision for doubtful debts	<u>10,000</u>	390,000	
Cash		<u>10,000</u>	
		700,000	
<i>Less:</i> Current liabilities			
Creditors and accrued expenses	390,000		
Bank overdraft	150,000		
Proposed dividends	78,000		
Current corporation tax	<u>50,000</u>	668,000	
Net current assets			<u>32,000</u>
Total assets <i>less</i> current liabilities			2,202,000
Creditors: amounts falling due after more than one year			
Debenture loans			<u>600,000</u>
			<u>£1,602,000</u>
Capital and reserves			
Called-up share capital			
600,000 Ordinary shares of £1 each			600,000
300,000 6% Preference shares of £1 each			300,000
Share premium account			120,000
Revaluation reserve			100,000
Profit and loss account			<u>482,000</u>
			<u>£1,602,000</u>

## 11.6

## Baxter Ltd

## Profit and loss account for the year ended 31 December 20X3

	£	£
Sales		6,400,000
Cost of goods sold		<u>3,616,000</u>
Gross profit		2,784,000
<i>Less:</i> Expenses		
Wages and salaries	608,000	
Distribution expenses	265,600	
General expenses	598,400	
Depreciation expense	1,004,800	
Bad debts	31,000	
Provision for doubtful debts	43,200	
Audit fees	20,000	
Debenture interest	<u>64,000</u>	2,635,000
Operating profit before taxation		149,000
Corporation tax		<u>48,000</u>
		101,000
Profit and loss account b/f		<u>329,600</u>
		430,600
Dividends		<u>200,000</u>
		<u>£230,600</u>

## Balance sheet as at 31 December 20X3

	<i>Cost</i>	<i>Accumulated depreciation</i>	<i>Net book value</i>
	£	£	£
Fixed assets			
Plant and machinery	5,840,000	2,102,400	3,737,600
Fixtures and fittings	<u>704,000</u>	<u>306,800</u>	<u>397,200</u>
	<u>£6,544,000</u>	<u>£2,409,200</u>	4,134,800
Current assets			
Stock		1,232,000	
Debtors	432,000		
Less: Provision for doubtful debts	<u>43,200</u>	<u>388,800</u>	
		1,620,800	
Cash at bank		<u>112,000</u>	
		1,732,800	
Less: Current liabilities			
Creditors	537,000		
Debenture interest	32,000		
Audit fees	20,000		
Corporation tax	48,000		
Dividends	<u>200,000</u>	<u>837,000</u>	<u>895,800</u>
			5,030,600
Debenture (long-term loan)			<u>800,000</u>
			<u>£4,230,600</u>
Share capital and reserves			
Called-up share capital			4,000,000
Profit and loss account			<u>230,600</u>
			<u>£4,230,600</u>
<i>Workings</i>			
Depreciation			
Fixtures and fittings	704,000 × 10%	70,400	
Plant and machinery	5,840,000 (at cost)		
minus accumulated			
depreciation to date	<u>1,168,000</u>		
	4,672,000 × 20%	<u>934,400</u>	
		<u>£1,004,800</u>	
Provision for doubtful debts			
Debtors of £432,000 × 10% = £43,200			
Dividends			
Share capital of £4,000,000 × 5% = £200,000			
Debenture interest			
Total interest for the year, loan of £800,000 × 8% =		£64,000	
minus already paid		<u>£32,000</u>	
accrual		<u>£32,000</u>	

## 11.7

	Trial balance		Adjustments		Profit and loss		Balance sheet	
	Dr	Cr	Dr	Cr	Dr	Cr	Dr	Cr
Share capital		400,000						400,000
Share premium		40,000						40,000
Profit & loss account		82,000				82,000		
Land buildings	600,000		200,000				800,000	
Office equipment cost	410,000						410,000	
– accumulated depreciation		89,000		61,500				150,500
Motor vehicles at cost	200,000						200,000	
– accumulated depreciation		37,500		50,000				87,500
Stock	250,000						250,000	
Sales		2,600,000				2,600,000		
Cost of goods sold	1,100,000				1,100,000			
Wages and salaries	166,000				166,000			
Admin. expenses	261,200				261,200			
Selling expenses	190,000				190,000			
Debtors	266,000						266,000	
Provision for doubtful debts		25,000		1,600				26,600
Creditors		130,000						130,000
Bank	50,300						50,300	
Long-term loan		100,000						100,000
Loan interest	10,000				10,000			
Audit fees			16,000		16,000			16,000
Accruals				16,000				
Depreciation:								
– office equipment			61,500		61,500			
– vehicles			50,000		50,000			
Bad debts expense			1,600		1,600			
Revaluation reserve				200,000				200,000
Corporation tax			100,000	100,000	100,000			100,000
Dividend			48,000	48,000	48,000			48,000
	<u>3,503,500</u>	<u>3,503,500</u>	<u>477,100</u>	<u>477,100</u>	<u>2,004,300</u>	<u>2,682,000</u>		
Profit after tax and dividends					<u>677,700</u>		<u>677,700</u>	
					<u>2,682,000</u>	<u>2,682,000</u>	<u>1,976,300</u>	<u>1,976,300</u>

## Profit and loss account for the year ended 31 March 20X6

	£	£
Sales		2,600,000
Cost of goods sold		<u>1,100,000</u>
Gross profit		1,500,000
Less: Wages and salaries	166,000	
Administrative expenses	261,200	
Selling expenses	190,000	
Increase in provision for doubtful debts	1,600	
Depreciation expense: office equipment	61,500	
motor vehicles	50,000	
Audit fees	<u>16,000</u>	<u>746,300</u>
cf		753,700



	£	£
bf		753,700
Loan interest		<u>10,000</u>
Profit before tax		743,700
Taxation		<u>100,000</u>
Profit after tax		643,700
Unappropriated profit brought forward		<u>82,000</u>
		725,700
Dividends		<u>48,000</u>
Unappropriated profit carried forward		<u>£677,700</u>

## Balance sheet as at 31 March 20X6

	Cost	Accumulated depreciation	Net
	£	£	£
Fixed assets			
Land and buildings (at revaluation)	800,000	–	800,000
Office equipment	410,000	150,500	259,500
Motor vehicles	<u>200,000</u>	<u>87,500</u>	<u>112,500</u>
	<u>£1,410,000</u>	<u>£238,000</u>	1,172,000
Current assets			
Stock		250,000	
Debtors	266,000		
Less: Provision for doubtful debts	<u>26,600</u>	239,400	
Bank		<u>50,300</u>	
		539,700	
Less: Current liabilities			
Creditors	130,000		
Audit fees	16,000		
Taxation	100,000		
Dividends	<u>48,000</u>	<u>294,000</u>	
Net current assets			<u>245,700</u>
			1,417,700
Less: Liabilities due after more than one year			
Long-term loan			<u>100,000</u>
			<u>£1,317,700</u>
Share capital and reserves			
Issued share capital			400,000
Share premium account			40,000
Revaluation reserve			200,000
Profit and loss account			<u>677,700</u>
			<u>£1,317,700</u>

## Chapter 12

## 12.2

	Highgate £000	Southgate £000	Sub-total £000	Adjustments		Consolidated £000
				Dr £000	Cr £000	
Fixed assets	30,000	13,000	43,000			43,000
Investment at cost	20,000	–	20,000		20,000	–
Goodwill				2,000		2,000
Stock	10,500	5,500	16,000			16,000
Debtors	7,500	3,500	11,000			11,000
Cash	<u>2,000</u>	<u>1,500</u>	<u>3,500</u>			<u>3,500</u>
	70,000	23,500	93,500			75,500
Creditors	9,500	4,000	13,500			13,500
	<u>60,500</u>	<u>19,500</u>	<u>80,000</u>			<u>62,000</u>
Share capital and reserves						
Share capital	40,000	15,000	55,000	15,000		40,000
Retained earnings	<u>20,500</u>	<u>4,500</u>	<u>25,000</u>	<u>3,000</u>		<u>22,000</u>
	<u>60,500</u>	<u>19,500</u>	<u>80,000</u>	<u>20,000</u>	<u>20,000</u>	<u>62,000</u>
<i>Calculation of goodwill</i>						
		£000				
Investment at cost		20,000				
Less: Share capital		(15,000)				
Retained earnings		<u>(3,000)</u>				
		<u>2,000</u>				

## 12.4

	H Ltd	S1 Ltd	S2 Ltd	Sub-total	Dr	Cr	Consolidated
Fixed assets	20,000	6,000	12,000	38,000			38,000
Investment in S1 Ltd	11,000			11,000		11,000	
Investment in S2 Ltd	14,000			14,000		14,000	
Goodwill					2,000 [1]		
					2,000 [2]		4,000
Current assets	<u>12,000</u>	<u>6,000</u>	<u>7,000</u>	<u>25,000</u>			<u>25,000</u>
	57,000	12,000	19,000	88,000			67,000
Current liabilities	10,000	1,000	3,000	14,000			14,000
	<u>47,000</u>	<u>11,000</u>	<u>16,000</u>	<u>74,000</u>			<u>53,000</u>
Share capital	30,000	6,000	10,000	46,000	6,000 [1]		
					8,000 [2]		
					2,000 [3]		30,000
General reserve	5,000	2,000	2,000	9,000	1,000 [1]		
					1,600 [2]		
					400 [3]		6,000
Profit & loss account	12,000	3,000	4,000	19,000	2,000 [1]		
					2,400 [2]		
					800 [3]		<u>13,800</u>
							49,800
Minority interest						2,000 [3]	
						400 [3]	
						800 [3]	<u>3,200</u>
	<u>47,000</u>	<u>11,000</u>	<u>16,000</u>	<u>74,000</u>	<u>28,200</u>	<u>28,200</u>	<u>53,000</u>

*Notes:*

1. Goodwill in S1 Ltd	2. Goodwill in S2 Ltd (80% owned)	3. Minority interest in S2 Ltd
Cost of shares 11,000	Cost of shares 14,000	Share capital (20%) 2,000
Share capital -6,000	Share capital (80%) -8,000	General reserve (20%) 400
General reserve -1,000	General reserve (80%) -1,600	P&L account (20%) 800
P&L account <u>-2,000</u>	P&L account (80%) <u>-2,400</u>	
		<u>3,200</u>
	<u>2,000</u>	

**12.6****Consolidated Balance Sheet worksheet**

(All figures £000)

	<i>A Ltd</i>	<i>B Ltd</i>	<i>Sub-totals</i>	<i>Adjustments</i>	<i>Consolidated balance sheet</i>
Fixed assets	800	300	1,100		1,100
Investments in B Ltd	550		550	550	-
Stock	300	160	460		460
Debtors	160	70	230		230
Bank	90	20	110		110
Goodwill on consolidation				90*	90
	<u>1,900</u>	<u>550</u>	<u>2,450</u>		<u>1,990</u>
Share capital	1,000	400	1,400	400	1,000
Retained earnings	<u>650</u>	<u>60</u>	<u>710</u>	60	650
	1,650	460	2,110		
Creditors	<u>250</u>	<u>90</u>	<u>340</u>		340
	<u>1,900</u>	<u>550</u>	<u>2,450</u>	<u>550</u>	<u>1,990</u>

\* £550 - £460

**A Ltd and its subsidiary**  
**Consolidated balance sheet as at 31 March 20X7**

	£000	£000
Fixed assets		1,100
Goodwill on consolidation		90
Current assets		
Stock	460	
Debtors	230	
Bank	<u>110</u>	
	800	
<i>Less: Current liabilities</i>		
Creditors	<u>340</u>	<u>460</u>
		<u>1,650</u>
Share capital		1,000
Retained earnings		<u>650</u>
		<u>1,650</u>

## 12.7

## Consolidated Balance Sheet worksheet

	Brenda	Ogden	Sub-totals	Adjustments		Consolidated balance sheet
				Dr	Cr	
Fixed assets	125,000	85,000	210,000			210,000
Investment	75,000	–	75,000	a 75,000		
Stock	12,000	11,000	23,000			23,000
Debtors	11,000	10,000	21,000			21,000
Cash	8,000	6,000	14,000			14,000
Goodwill on consolidation				a 24,000		24,000
	<u>231,000</u>	<u>112,000</u>	<u>343,000</u>			<u>292,000</u>
Share capital	130,000	55,000	185,000	a 33,000 b 22,000		130,000
Retained earnings	54,000	41,000	95,000	a 18,000 b 16,400		60,600
Current liabilities	23,000	16,000	39,000			39,000
Long-term liabilities	24,000	–	24,000			24,000
Minority interest					b 38,400	38,400
	<u>231,000</u>	<u>112,000</u>	<u>343,000</u>	<u>113,400</u>	<u>113,400</u>	<u>292,000</u>

## (a) The Goodwill Adjustment

	Dr	Cr
	£	£
Goodwill on consolidation	(i) 24,000	
Share capital, subsidiary	(ii) 33,000	
Retained earnings, subsidiary	(iii) 18,000	
Shares in subsidiary		75,000

## (i) Summarised balance sheet of Ogden Ltd at date of acquisition

	£
Share capital	55,000
Retained earnings	<u>30,000</u>
	<u>85,000</u>
Assets less liabilities	<u>85,000</u>
60% purchased by Brenda	51,000
Cost of investment	<u>75,000</u>
Goodwill on consolidation	<u>24,000</u>

(ii) 60% of £55,000

(iii) 60% retained earnings on acquisition £30,000

## (b) Minority interest adjustment

	£	£
Share capital, Ogden 40% of £55,000	22,000	
Retained earnings 40% of £41,000	16,400	
Minority interest		38,400

## Chapter 13

## 13.3

*Trade debtors*

Opening balance b/f	2,870	Cash	52,550
Credit sales*	52,920	Bad debts expense	560
	<u>          </u>	Closing balance c/d	<u>2,680</u>
	<u>£55,790</u>		<u>£55,790</u>

*Trade creditors*

Bank	188,340	Opening balance	18,260
Closing balance c/d	<u>17,250</u>	Purchases*	<u>187,330</u>
	<u>£205,590</u>		<u>£205,590</u>

*Electricity*

Bank	300	Balance b/d (accrual)	200 †
Bank	320	Electricity expense*	1,320
Bank	280		
Bank	360		
Balance c/d (accrual)	<u>260 †</u>		
	<u>£1,520</u>		<u>£1,520</u>

\* Balancing figures. †  $\frac{2}{3}$  of (say) £390. ‡  $\frac{2}{3} \times £300$

*Insurance, shop*

Balance b/d	100	Balance c/d (Prepayment $\frac{1}{3}$ of 420)	140
Bank	<u>420</u>	Insurance expense*	<u>380</u>
	<u>£520</u>		<u>£520</u>

Prepayment as at 30.11.X2. Insurance during year to 31.3.X4 = 140% of year to 31.3.X3. Year to 31.3.X3 = £300. Prepaid at 30.11.X2 =  $\frac{1}{3}$  of £300 = £100.

*Vans at cost*

Balance b/d	<u>£23,000</u>	Balance c/d	<u>£23,000</u>
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*Vans – accumulated depreciation*

Balance c/d	8,000	Balance b/d	4,000
	<u>          </u>	Depreciation expense	<u>4,000 §</u>
	<u>£8,000</u>		<u>£8,000</u>

\* Balancing figures.  
§  $£(23,000 - 7,000)/4$

*Sundry expenses*

Bank	<u>£1,180</u>	Sundry expenses	<u>£1,180</u>
------	---------------	-----------------	---------------

*Insurance, vans*

Balance b/d (prepaid)	300	Balance c/d	420
Bank	<u>840</u>	Insurance expense*	<u>720</u>
	<u>£1,140</u>		<u>£1,140</u>

Prepayment as at 30.11.X2. Insurance year to 31.5.X3 = £600 (as year to 31.5.X4 is 140% higher). Prepayment as at 30.11.X3 six months of £840 = £420.

*Licence, vans*

Balance b/d (prepaid $\frac{1}{2}$ of £400)	200	Balance c/d ( $\frac{1}{2}$ of £400)	200
Bank	<u>400</u>	Licence expense*	<u>400</u>
	<u>£600</u>		<u>£600</u>

*Cost of goods sold/stock*

Balance b/d	5,620	Balance c/d	28,430
Purchases	<u>187,330</u>	Cost of goods sold*	<u>164,520</u>
	<u>£192,950</u>		<u>£192,950</u>

*Cash sales*

Sales*	202,720	Bank	189,920
		Wages (12 × £1,000)	12,000
		Drawings (petrol)	600
		Cash in hand (increase)	<u>200</u>
	<u>£202,720</u>		<u>£202,720</u>

*Bad debts expense*

Debtors	<u>£560</u>	Bad debts expense	<u>£560</u>
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*Drawings*

Bank – cash	12,000	Drawings*	13,060
Petrol	600		
Insurance – car	<u>460</u>		
	<u>£13,060</u>		<u>£13,060</u>

\* Balancing figures.

*Cash in hand*

Balance b/d	300	Balance c/d	500
Increase in float	<u>200</u>		
	<u>£500</u>		<u>£500</u>

*Shop*

Balance b/d	<u>£100,000</u>	Balance c/d	<u>£100,000</u>
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*Capital account*

Balance c/d	<u>£114,600</u>	Balance b/d	<u>£114,600</u>
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## Balance sheet as at 30.11.X2

	£	£
<b>Assets</b>		
Shop		100,000
Vans at cost	23,000	
Less: Accumulated depreciation	<u>4,000</u>	
		19,000
Stock		5,620
Debtors		2,870
Prepaid expenses: insurance, shop	100	
insurance, vans	300	
licence, vans	<u>200</u>	
		600
Cash at bank		4,670
Cash in hand		<u>300</u>
		133,060
<b>Less: Liabilities</b>		
Creditors	18,260	
Accrued expenses: electricity	<u>200</u>	
		<u>18,460</u>
		<u>£114,600</u>

*Bank account*

Balance b/d	4,670	Payments	245,480
Receipts	<u>242,470</u>	Balance c/d	<u>1,660</u>
	<u>£247,140</u>		<u>£247,140</u>

*Repairs, vans*

Bank	<u>£580</u>	Repairs, van expenses	<u>£580</u>
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*Deposit account*

Bank	<u>£40,000</u>	Balance c/d	<u>£40,000</u>
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*Accountant's fee*

Balance c/d (accrual)	<u>£450</u>	Fee (expense)	<u>£450</u>
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*Sales*

	Debtors	52,920
	Cash	<u>202,720</u>
		<u>255,640</u>

*Wages*

Cash	<u>£12,000</u>	Wages expense	<u>£12,000</u>
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## Trial balance as at 30.11.X3

	£	£
Trade debtors	2,680	
Trade creditors		17,250
Electricity accrual		260
Insurance, shop prepayment	140	
Vans, at cost	23,000	
Vans, accumulated depreciation		8,000
Insurance, vans prepayment	420	
Licences, vans prepayment	200	
Stock	28,430	
Cash in hand	500	
Shop	100,000	
Capital account		114,600
Drawings	13,060	
Credit sales		52,920
Cost of goods sold	164,520	
Electricity expense	1,320	
Insurance expense, shop	380	
Depreciation expense	4,000	
Insurance expense, vans	720	
Licences expense	400	
Cash sales		202,720
Repairs, vans	580	
Bad debts expense	560	
Cash at bank	1,660	
Deposit account	40,000	
Sundry expenses	1,180	
Accountant's fee	450	
Accountant's fee accrued		450
Wages expense	12,000	
	<u>£396,200</u>	<u>£396,200</u>

## Dean

## Profit and loss account for the year ended 30 November 20X3

Sales: credit	52,920
cash	<u>202,720</u>
	255,640
<i>Less:</i> Cost of goods sold	<u>164,520</u>
Gross profit	91,120
<i>Less:</i> Expenses	
Insurance, shop	380
Electricity	1,320
Wages	12,000
Accountant's fee	450
Sundry expenses	1,180
Vans, depreciation	4,000
insurance	720
licences	400
repairs	580
Bad debts written off	<u>560</u>
	<u>21,590</u>
Net profit	<u>£69,530</u>



## Balance sheet as at 30 November 20X3

Assets		
Shop		100,000
Vans at cost	23,000	
<i>Less: Accumulated depreciation</i>	<u>8,000</u>	
		15,000
Stock	28,430	
Debtors	2,680	
Prepayments £(140 + 420 + 200)	<u>760</u>	
		31,870
Deposit account	40,000	
Cash at bank	1,660	
Cash in hand	<u>500</u>	
		<u>42,160</u>
		189,030
<i>Less: Liabilities</i>		
Trade creditors	17,250	
Accrued expenses £(260 + 450)	<u>710</u>	
		<u>17,960</u>
		<u>£171,070</u>
Capital account		
Balance as at 30 November 20X2		114,600
<i>Add: Profit for the year</i>		<u>69,530</u>
		184,130
<i>Less: Drawings</i>		<u>13,060</u>
		<u>£171,070</u>

## 13.4

## Balance sheet as at 1.1.X0

	£	£
Fixed assets		
Fittings at cost		20,000
<i>Less: Accumulated depreciation</i>		<u>4,000</u>
		16,000
Current assets		
Stock	38,000	
Debtors	400	
Bank	8,800	
Cash	<u>800</u>	
	48,000	
<i>Less: Current liabilities</i>	Creditors	<u>28,400</u>
		<u>£44,400</u>
Capital (balancing figure)		<u>£44,400</u>

## Workings

(a) <i>Creditors/Purchases</i>		£
Opening balance		19,600
Payments to suppliers		<u>503,200</u>
(Payments in respect of 20X0 purchases)		483,600
Closing balance		<u>18,400</u>
Purchases for 20X0		502,000
<i>Less: Miss Codd's own use (drawings)</i>		<u>6,000</u>
Purchases 20X0		<u>496,000</u>

(b) <i>Cash account/takings</i>		£
Banked		558,640
<i>Add:</i> Taken out of takings:		
Drawings		62,400
Wages		<u>45,760</u>
		666,800
<i>Add:</i> Increase in cash balance (£1,200 – £800)		<u>400</u>
Takings for 20X0		<u>£667,200</u>
(c) <i>Bank account</i>	£	£
Opening balance		8,800
Bankings		<u>558,640</u>
		567,440
Payments to creditors	503,200	
Rent	32,000	
Wood – Shopfitters	6,800	
Advertising	4,000	
Sundry expenses	<u>3,040</u>	<u>549,040</u>
Closing balance		<u>£18,400</u>
(d) <i>Debtors/sales</i>		
Opening balance		400
Takings (cash) (b)		<u>667,200</u>
(Receipts in respect of 20X0)		666,800
Closing balance		<u>6,800</u>
Sales 20X0		<u>£673,600</u>
(e) <i>Drawings</i>		
Cash		62,400
Goods		<u>6,000</u>
		<u>£68,400</u>

**Profit and loss account for the year ended 31.12.20X0**

	£	£	£
Sales (d)			673,600
Cost of goods sold			
Opening stock		38,000	
<i>Add:</i> Purchases (a)		<u>496,000</u>	
		534,000	
<i>Less:</i> Closing stock		<u>56,800</u>	<u>477,200</u>
Gross trading profit			196,400
<i>Less:</i> Expenses			
Wages		45,760	
Rent		32,000	
Repairs		2,800	
Advertisement		4,000	
Accountants' fees		2,000	
Depreciation		2,400	
Sundry	3,040		
<i>Add:</i> Due at 31.12.X0	<u>800</u>	<u>3,840</u>	<u>92,800</u>
Net profit			<u>£103,600</u>

## Balance sheet as at 31.12.20X0

	£	£	£
Fixed assets			
Fittings at cost			20,000
<i>Add:</i> Purchased during year			<u>4,000</u>
			24,000
<i>Less:</i> Accumulated depreciation			<u>6,400</u>
			17,600
Current assets			
Stock		56,800	
Debtors		6,800	
Cash at bank (c)		18,400	
Cash		<u>1,200</u>	
		83,200	
<i>Less:</i> Current liabilities			
Creditors	18,400		
Accrued expenses (£2,000+£800)	<u>2,800</u>	<u>21,200</u>	<u>62,000</u>
			<u>£79,600</u>
Capital account			
Opening balance			44,400
<i>Add:</i> Profit for the year			<u>103,600</u>
			148,000
<i>Less:</i> Drawings (e)			<u>68,400</u>
			<u>£79,600</u>

## 13.5

## Statement of affairs as at 1 January 20X2

Liabilities	£	Assets	£
Creditors	40,000	Premises	100,000
Capital (balancing item)	160,000	Plant and machinery	35,000
		Vehicles	15,000
		Stock	35,000
		Debtors	10,000
		Cash	<u>5,000</u>
	<u>£200,000</u>		<u>£200,000</u>

## Statement of affairs as at 31 December 20X2

Liabilities	£	Assets	£
Creditors	50,000	Premises	120,000
Capital (balancing item)	200,000	Plant and machinery	50,000
		Vehicles	20,000
		Stock	40,000
		Debtors	15,000
		Cash	<u>5,000</u>
	<u>£250,000</u>		<u>£250,000</u>

## Statement of profit for year ended 31 December 20X2

	£	£
Capital 31 Dec. 20X2		200,000
<i>Add:</i> Drawings		
Cash	20,000	
Stock	<u>2,500</u>	<u>22,500</u>
		222,500
<i>Less:</i> Capital introduced during period		<u>25,000</u>
		197,500
<i>Less:</i> Capital at start (1 Jan. 20X2)		<u>160,000</u>
Profit for year		<u>£37,500</u>

*Summary of receipts and payments*

Insufficient information has been provided to enable this to be compiled.

## Trial balance as at 31 December 20X2

	<i>Dr</i>	<i>Cr</i>
	£	£
Capital		200,000
Premises	120,000	
Plant and machinery	50,000	
Vehicles	20,000	
Stock	40,000	
Debtors	15,000	
Cash	5,000	
Creditors		<u>50,000</u>
	<u>£250,000</u>	<u>£250,000</u>

*Final accounts*

Insufficient information is available for the production of a profit and loss account, although a figure for profit has been computed. However, the balance sheet is as follows:

## Balance sheet for Mr Inc as at 31 December 20X2

	£	£	£
<i>Assets employed</i>			
Fixed assets			
Premises			120,000
Plant and machinery			50,000
Vehicles			<u>20,000</u>
			190,000
Current assets			
Stock		40,000	
Debtors		15,000	
Cash		<u>5,000</u>	
		60,000	
<i>Less:</i> Current liabilities			
Creditors		<u>50,000</u>	
Working capital			<u>10,000</u>
			<u>£200,000</u>

Financed by:		
Capital as at 1 Jan. 20X2		160,000
Capital introduced during year		25,000
Add: Profits for year		<u>37,500</u>
		222,500
Less: Drawings		
Cash	20,000	
Stock	<u>2,500</u>	
		<u>22,500</u>
Owner's capital		<u><u>£200,000</u></u>

## Chapter 14

### 14.1

#### Bewley Rugby and Field Sports Club Balance sheet as at 1 January 20X6

	£	£
Assets		
Clubhouse		28,000
Bar stocks		1,500
Prepaid rent		1,000
Cash		<u>2,400</u>
		32,900
Less: Liabilities		
Subscriptions received in advance	360	
Creditors – bar purchases	1,200	
Sundry expenses outstanding	<u>1,200</u>	
		<u>2,760</u>
Accumulated funds as at 1 January 20X6		<u><u>£30,140</u></u>

#### Bewley Rugby and Field Sports Club Income and expenditure account for the year ended 31.12.X6

	£	£
Rugby		
Subscriptions	7,360	
Less: Rent of field	<u>8,050</u>	
		(690)
Sports club		
Subscriptions		<u>4,520</u>
		3,830
Bar profit		<u>8,690</u>
		12,520
Less: Expenses		
Sundry expenses	2,680	
Printing and stationery	3,520	
Hire fees	<u>5,750</u>	
		<u>11,950</u>
Excess of income over expenditure		<u><u>£570</u></u>

## Balance sheet as at 31.12.X6

Assets		
Clubhouse		33,000
Bar stocks	1,350	
Prepaid rent	1,250	
Cash	<u>4,840</u>	
		<u>7,440</u>
		40,440
Less: Liabilities		
Creditors – bar	1,300	
Accrued expenses – sundry	1,300	
– hire fees	150	
Subscriptions paid in advance	<u>480</u>	
		<u>3,230</u>
		<u>£37,210</u>

*Accumulated fund*

Balance at 1.1.X6	30,140
Add: Excess of income over expenditure	<u>570</u>
	30,710
Entrance fees	<u>2,000</u>
	32,710
Coaching fund	<u>4,500</u>
	<u>£37,210</u>

<i>Workings</i>	£	Rugby £	Field sports £
Subscriptions in respect of 20X6			
received in 20X5 for 20X6		240	120
received in 20X6 for 20X6		<u>6,960</u>	<u>2,000</u>
		7,200	2,120
received in 20X6 for 20X5		<u>160</u>	<u>2,400</u>
		<u>7,360</u>	<u>4,520</u>
<i>Bar</i>			
Sales			27,600
Opening stock		1,500	
Purchases	18,660		
Less: Opening creditors	<u>1,200</u>		
	17,460		
Add: Closing creditors	<u>1,300</u>	<u>18,760</u>	
		20,260	
Less: Closing stock		<u>1,350</u>	<u>18,910</u>
			<u>8,690</u>
<i>Rent</i>			
Payments			8,300
Add: Opening prepayment			<u>1,000</u>
			9,300
Less: Closing prepayment			<u>1,250</u>
			<u>8,050</u>

Clubhouse		
Cost		28,000
Add: Extension		<u>5,000</u>
		33,000
Sundry expenses		
Payments		2,580
Less: Outstanding 1.1.X6		<u>1,200</u>
		1,380
Add: Outstanding 31.12.X6		<u>1,300</u>
		2,680
Hire fees		
Payments		5,600
Add: Creditors 31.12.X6		<u>150</u>
		5,750

## Chapter 15

15.1 (a)

*Head office records (in London)*  
*York branch current account*

	£		£
(i) Bank	500,000	(ix) Stock	3,000
(ii) Bank: premises	600,000	(x) Bank	100,000
(vi) Stock	<u>35,000</u>		
	1,135,000		<u>103,000</u>
(Balance £1,032,000)			

*Bank (extract)*

	£		£
(x) York branch	100,000	(i) York branch	500,000
		(ii) York branch premises	600,000

*Stock account (extract)*

	£		£
(ix) York branch	3,000	(vi) York branch	35,000

*Branch records (at York)*  
*Head office current account*

	£		£
(ix) Stock	3,000	(i) Bank	500,000
(x) Bank	100,000	(ii) Premises	600,000
	<u>103,000</u>	(vi) Stock	<u>35,000</u>
			1,135,000
		(Bal. £1,032,000)	

*Bank*

	£		£
(i) Head office	500,000	(iii) Insurance	12,000
		(v) Stock	100,000
		(viii) Salaries	6,000
	<u>500,000</u>	(x) Head office	<u>100,000</u>
(Balance £282,000)			218,000

<i>Premises</i>			
	£		£
(ii) Head office	600,000		
<i>Insurance</i>			
	£		£
(iii) Bank	12,000		
<i>Prentice (creditor)</i>			
	£		£
		(iv) Warehouse equipment	170,000
<i>Warehouse equipment</i>			
	£		£
(iv) Prentice	170,000		
<i>Stock</i>			
	£		£
(v) Bank	100,000	(vii) Cost of goods sold	50,000
(vi) Head office	<u>35,000</u>	(ix) Head office	<u>3,000</u>
	135,000		53,000
	(Balance £82,000)		
<i>Cost of goods sold</i>			
	£		£
(vii) Stock	50,000		
<i>Sales</i>			
	£		£
		(vii) Bloggs	65,000
<i>Bloggs (debtor)</i>			
	£		£
(vii) Sales	65,000		
<i>Salaries</i>			
	£		£
(viii) Bank	6,000		

**15.1** (b) Accounts maintained at head office.

**Accounts which are essential for preparing the financial statements**

<i>Insurance: York</i>			
	£		£
(iii) Bank	12,000		



<i>Salaries: York</i>	
	£
(viii) Bank	6,000
	£

<i>Sales: York</i>	
	£
	(vii) Bloggs
	65,000
	£

<i>Cost of goods sold: York</i>	
	£
(vii) Stock	50,000
	£

**Additional York branch assets and liabilities accounts**

<i>Premises: York</i>	
	£
(ii) Bank	600,000
	£

<i>Warehouse equipment: York</i>	
	£
(iv) Prentice	170,000
	£

<i>Bloggs (York debtor)</i>	
	£
(vii) Sales	65,000
	£

<i>Stock: York</i>	
	£
(v) Bank	100,000
(vi) Head office stock account	35,000
	£
(vii) Cost of goods sold	50,000
(ix) Head office stock account	3,000
	£

<i>Prentice (York creditor)</i>	
	£
	(iv) Warehouse equipment
	170,000
	£

**15.1 (c)**

<i>York branch trial balance</i>		
	<i>Dr</i>	<i>Cr</i>
Head office current account		1,032,000
Bank	282,000	
Premises	600,000	
Insurance	12,000	
Prentice		170,000
Warehouse equipment	170,000	
Stock	82,000	
Cost of goods sold	50,000	
Sales		65,000
Bloggs	65,000	
Salaries	6,000	
	<u>£1,267,000</u>	<u>£1,267,000</u>

## York branch profit and loss account for the month ended 31 January

	£	£
Sales		65,000
Cost of goods sold		<u>50,000</u>
Gross profit		15,000
Less: Expenses		
Salaries	6,000	
Insurance (£12,000 less prepaid £11,000)	1,000	
Heating and lighting	700	
Travel	200	
Sundry	<u>1,000</u>	8,900
Net profit		<u><u>£6,100</u></u>

(Check: balance sheet)

	£	£	£
Fixed assets			
Premises		600,000	
Warehouse equipment		<u>170,000</u>	770,000
Current assets			
Stock		82,000	
Debtors		65,000	
Prepaid expenses		11,000	
Cash at bank		<u>282,000</u>	
		440,000	
Less: Current liabilities			
Creditors	170,000		
Accrued expenses	<u>1,900</u>	<u>171,900</u>	
Net current assets			<u>268,100</u>
			<u><u>£1,038,100</u></u>
Head office current account			
Balance per trial balance			1,032,000
Add: Profit for the month			<u>6,100</u>
			<u><u>£1,038,100</u></u>

## 15.2

Head office records  
Dover branch current account

	£		£
Opening balance c/d	18,700	Bank	19,700
Stock	22,500	Stock returns	460
Net profit	7,800	Balance c/d	26,680
		Goods in transit c/d	1,500
		Cheques in transit c/d	600
		Returns in transit c/d	<u>60</u>
	<u><u>£49,000</u></u>		<u><u>£49,000</u></u>
Balance b/d	26,680		
Goods in transit b/d	1,500		
Cheques in transit b/d	600		
Returns in transit b/d	60		

*Check: Head office current accounts in branch books*

	£		£
Cheques sent	20,300	Opening balance b/d	18,700
Stock returns	520	Goods received	21,000
Balance c/d	<u>26,680</u>	Net profit	<u>7,800</u>
	<u>£47,500</u>	Balance b/d	<u>26,680</u>

**Chapter 18**

**18.2 (a) Polly**

	£	£
Sales 900 @ £160		144,000
COGS 600 @ £60	36,000	
300 @ £80	<u>24,000</u>	<u>60,000</u>
Profit		<u>£84,000</u>

*Mona*

Sales 900 @ £150		135,000
COGS 300 @ £110	33,000	
500 @ £90	45,000	
100 @ £80	<u>8,000</u>	<u>86,000</u>
		<u>£49,000</u>

*(b) Polly – cash account*

	£		£
Capital	100,000	Stock	36,000
Sales	144,000	Stock	24,000
		Stock	40,000
		Drawings	84,000
		Balance	<u>60,000</u>
	<u>£244,000</u>		<u>£244,000</u>
She can buy:			
	600	@ £100	
In stock	<u>400</u>		
	1,000		
Shortfall	<u>300</u>		
	<u>1,300</u>		

*Mona – cash account*

	£		£
Capital	100,000	Stock	100,000
Sales	135,000	Drawings	49,000
		Balance	<u>86,000</u>
	<u>£235,000</u>		<u>£235,000</u>
She can buy:			
	1,075	@ £80	
Stock	<u>175</u>		
	<u>1,250</u>		

- (c) No further price change.  
 (d) Advise Polly to charge COGS at RC:

	£
Sales	144,000
COGS 900 @ £100	<u>90,000</u>
	<u>£54,000</u>

<i>Cash account</i>			
	£		£
Capital	100,000	Stock	100,000
Sales	144,000	Drawings	54,000
		Balance	<u>90,000</u>
	<u>£244,000</u>		<u>£244,000</u>

She can buy:

	900	@ £100
In stock	<u>400</u>	
	<u>1,300</u>	

which is equal to her original stock.

18.5	(a)	No.	Date	Sale price £	Cost (FIFO) £	Acctg profit £	RC £	COP £	Realised HG £
		2	30 Jan.	14,000	10,000	4,000	10,000	4,000	–
		2	28 Feb.	12,000	10,000	2,000	11,000	1,000	1,000
		3	30 Mar.	19,500	15,000	4,500	18,000	1,500	3,000
		1	30 June	7,000	5,000	2,000	7,500	(500)	2,500
		2	10 Aug.	16,000	10,000	6,000	12,000	4,000	2,000
		2	10 Aug.	16,000	12,000	4,000	12,000	4,000	–
		5	20 Sept.	<u>45,000</u>	<u>30,000</u>	<u>15,000</u>	<u>35,000</u>	<u>10,000</u>	<u>5,000</u>
		17		<u>£129,500</u>	<u>£92,000</u>	<u>£37,500</u>	<u>£105,500</u>	<u>£24,000</u>	<u>£13,500</u>
									<i>Unrealised HG</i>
			8 in stock	<u>£48,000</u>			<u>£72,000</u>		<u>£24,000</u>
			COP	<u>£24,000</u>					
			Realised holding gain	<u>13,500</u>					
			Accounting profit (FIFO)	<u>37,500</u>					
			Unrealised holding gain	<u>24,000</u>					
			Total gain	<u>£61,500</u>					

- (b)
- (i) Profit = current operating profit (plus any extraordinary gains).  
 Holding gains must be retained so that the assets may be replenished.
- (ii) Profit = all gains  
 It is argued that approach (i) mixes up the recognition of profit and the investment plans of the firm which are a matter for management to decide.
- (iii) Profit = all gains except unrealised holding gains (i.e. HG accounting profit).  
 Broadly as (ii) except that unrealised gains should not be brought into account.

**18.6** (a) *FIFO*

Sales	900 @ £16		£14,400
Cost of goods sold	600 @ £6	£3,600	
	300 @ £8	<u>£2,400</u>	<u>£6,000</u>
Profit			<u>£8,400</u>

(b)

*Cash account*

	£		£
Capital	10,000	Stock	3,600
Sales	14,400	Stock	2,400
		Stock	4,000
		Drawings	8,400
		Balance	<u>6,000</u>
	<u>£24,400</u>		<u>£24,400</u>

Sue can buy:

	600	@ £10
In stock	<u>400</u>	
	1,000	
Shortfall	<u>300</u>	
	<u>1,300</u>	

(c) Assume no further price change.

(d) Advise Sue to charge cost of goods sold at replacement cost, as she can then replace her stock after drawings equal to reported profit.

Sales		£14,400
Cost of goods sold	900 @ £10	<u>£9,000</u>
Profit		<u>£5,400</u>

*Cash account*

	£		£
Capital	10,000	Stock	10,000
Sales	14,400	Drawings	5,400
		Balance	<u>9,000</u>
	<u>£24,400</u>		<u>£24,400</u>

Sue can buy:

	900	@ £10
In stock	<u>400</u>	
	<u>1,300</u>	

<b>18.7</b>	(i)				
	Year	1	2	3	4
		£000	£000	£000	£000
	Sales	<u>200</u>	<u>220</u>	<u>240</u>	<u>260</u>
	Adjusting factor	100/100	100/110	110/115	100/120
	Adjusted figures	<u>200</u>	<u>200</u>	<u>209</u>	<u>217</u>
	(ii)				
	Year		1	2	3
			£	£	£
	Cash outlays		<u>300</u>	<u>350</u>	<u>400</u>
	Adjusting factor		100/100	100/105	100/112
	Adjusted figures		<u>300</u>	<u>333</u>	<u>357</u>
	(iii)				
			<i>X Co. Ltd</i>	<i>Y Co. Ltd</i>	
	Land at cost		<u>£200,000</u>	<u>£200,000</u>	
	Restated at year 7 prices: factor		200/100	110/100	
	Restated figures		<u>£400,000</u>	<u>£220,000</u>	

## Chapter 20

### 20.2

#### Duncan Ltd

#### Cash flow statement for the year ended 31 December 20X6

	£000	£000
Cash flowing from operating activities (1)		196
Investing activities		
Payments to acquire fixed assets	(55)	
Receipts from sale of fixed assets (2)	<u>455</u>	
Net cash inflow before financing		<u>400</u>
Financing activities		
Issue of shares		<u>400</u>
Change in cash and cash equivalents (3)		<u>996</u>
1. Reconciliation of operating profit to net cash inflow		
Operating profit		205
Depreciation	26	
Less excess depreciation	<u>(5)</u>	21
Increase in debtors		(50)
Increase in creditors		<u>20</u>
		<u>196</u>
2. Investing activities		
Sale of land and buildings	440	
Sale of plant and machinery	<u>15</u>	<u>455</u>
3. Reconciliation of changes in cash and cash equivalents		
Cash and cash equivalents at 1.1.X6		(1,100)
Net cash inflow per cash flow statement		<u>996</u>
Cash and cash equivalents at 31.12.X6		<u>(104)</u>

If the net book value of the assets sold had not been given, you could calculate the figures as follows:

<i>Movement on fixed assets</i>	
	£000
At cost 1.1.X6	205
Additions	<u>55</u>
	260
Sales (260 – 230)	<u>30</u>
At 31.12.X6	<u>230</u>
Accumulated depreciation at 1.1.X6	104
Depreciation provided in the year	<u>26</u>
	130
On assets sold (130 – 110)	<u>20</u>
At 31.12.X6	<u>110</u>
Sales of fixed assets	£000
Net book value (30 – 20)	10
Profit on sale	<u>5</u>
Sales proceeds	<u>15</u>

**20.3 (a)****Kerr and Bush Ltd****Cash flow statement for the year ended 31 October 20X6**

	£000	£000
Cash flow from operating activities (1)		230
Returns on investment and servicing of finance		
Debenture interest paid		(40)
Dividends paid		(130)
Taxation paid (2)		(140)
Investing activities		
Payments to acquire fixed assets		(900)
Financing activities		
Issue of shares	500	
Issue of debentures	<u>500</u>	
		<u>1,000</u>
Change in cash and cash equivalents (3)		<u>20</u>
1. Reconciliation of operating profit to net cash inflow		
Operating profit before tax and interest	880	
Depreciation	200	
Goodwill amortised	100	
Increase in stock	(670)	
Increase in debtors	(580)	
Increase in creditors	<u>300</u>	
	<u>230</u>	
2. Taxation paid		
Tax charge for the year	170	
Less change in liability	<u>30</u>	
	<u>140</u>	

3. Cash and cash equivalents at 1.11.X5	100
Net cash inflow per cash flow statement	<u>20</u>
Cash and cash equivalents at 31.10.X6	<u>120</u>

**20.5**                      **Cash flow statement for the year ended 31.12.X7**

	£000	£000
Net cash flow from operating activities		97
Returns on investment and servicing of finance		
Dividends paid	(10)	
Interest paid	<u>(20)</u>	(30)
Investing activities		
Payments for fixed assets		
– land and buildings	(8)	
– plant and machinery	(150)	
Receipts from sale of fixed assets	<u>82</u>	(76)
Net outflow before financing		(9)
Financial activities		
Issue of shares		
(Ordinary £50,000 + Premium £150,000)	200	
Issue of debentures	50	
Repayment of loan	<u>(50)</u>	<u>200</u>
Change in cash and cash equivalents		<u>191</u>
Workings:		
<i>Net cash flow from operating activities</i>	£	£
Profit before interest		103
Add back depreciation		<u>78</u>
		181
Increase in stock	75	
Increase in debtors	<u>29</u>	
	104	
Increase in creditors	<u>(20)</u>	84
		<u>97</u>
<i>Disposal of machinery</i>		
Cost at 31.12.X7		650
Less additions		<u>150</u>
		500
Cost at 31.12.X6		<u>600</u>
Cost of disposal		<u>100</u>
Depreciation at 31.12.X7		<u>258</u>
Less charge for the year		<u>78</u>
		180
Depreciation at 31.12.X6		<u>198</u>
Depreciation on disposal		<u>18</u>
Net book value of disposal		<u>18</u>
Cost		100
Depreciation		<u>18</u>
		<u>82</u>



**20.6** Cash flow statement for the year ended 31.12.X7

	£000	£000
Net cash flow from operating activities		660
Returns on investment and servicing of finance		
Dividends paid		(150)
Taxation		
Corporation tax paid		(110)
Investing activities		
Payments for fixed assets	720	
Receipts from sale of fixed assets	<u>(125)</u>	<u>(595)</u>
Net outflow before financing		(195)
Financing activities		
Issue of shares (£500,000 + £100,000)		<u>600</u>
		<u>405</u>
Workings:		
<i>Net cash flow from operating activities</i>	£000	£000
Profit before tax		375
Add depreciation	300	
Less excess depreciation (profit on sale of fixed assets)	<u>(25)</u>	<u>275</u>
		650
Increase in stock	(20)	
Decrease in debtors	20	
Increase in creditors	<u>10</u>	<u>10</u>
		<u>660</u>
<i>Dividends paid</i>		
Liability at 1.1.X6		100
Proposed and paid during 20X6		175
Less liability at 31.12.X6		<u>(125)</u>
		<u>150</u>
<i>Taxation</i>		
Liability at 1.1.X6		180
Tax for 20X6		150
Less liability at 31.12.X6		<u>(220)</u>
		<u>110</u>

**Chapter 22**

**22.1** The following ratios are likely to be among those used:

	<i>Cope</i>		<i>Poole</i>	
Current	$\frac{154,000}{66,000}$	= 2.3	$\frac{225,000}{192,000}$	= 1.2
Quick	$\frac{50,000}{66,000}$	= 0.8	$\frac{73,000}{192,000}$	= 0.4
Debtors	$\frac{38,000}{540,000}$	× 52 = 3.7 weeks	$\frac{60,000}{820,000}$	× 52 = 3.8 weeks

Creditors	$\frac{44,000}{360,000}$	$\times 52 = 6.4$ weeks	$\frac{70,000}{480,000}$	$\times 52 = 7.6$ weeks
Stock turnover	$\frac{104,000}{360,000}$	$\times 52 = 15.0$ weeks	$\frac{152,000}{464,000}$	$\times 52 = 17.0$ weeks
or	$\frac{360,000}{104,000}$	$= 3.5$ times per annum	$\frac{464,000}{152,000}$	$= 3.1$ times per annum
Gross profit	$\frac{180,000}{540,000}$	$\times 100 = 33.3\%$	$\frac{356,000}{820,000}$	$\times 100 = 43.4\%$
Net profit	$\frac{84,000}{540,000}$	$\times 100 = 15.6\%$	$\frac{155,000}{820,000}$	$\times 100 = 18.9\%$
Return on capital employed	$\frac{84,000}{620,000}$	$\times 100 = 13.5\%$	$\frac{155,000}{821,000}$	$\times 100 = 18.9\%$
Return on assets	$\frac{84,000}{686,000}$	$\times 100 = 12.2\%$	$\frac{155,000}{1,013,000}$	$\times 100 = 15.3\%$

Poole has better returns on capital employed and assets, which taken together with higher gross and net profit percentages, indicates that Poole is the stronger of the two companies. Against this, Cope has a slightly faster stock turnover, which it may have achieved by charging less for its products, as indicated by a lower gross profit margin. Given that the debtors' payment period is similar for both companies, Poole takes longer to pay its creditors, which may represent a more risky situation, particularly when taken together with its relatively poor quick and current ratios. These are partly the result of a high creditors figure which tends to confirm the relative riskiness of its solvency position. Given that position, the relatively high proposed dividend seems to be ill judged.

**22.2**

		<i>Gold Ltd</i>	<i>Underwood Ltd</i>
Ratios:			
<i>Current</i>	$\frac{\text{Current assets}}{\text{Current liabilities}}$	$\frac{230}{121} = 1.9$	$\frac{243}{284} = 0.86$
<i>Quick</i>	$\frac{\text{Monetary assets}}{\text{Current liabilities}}$	$\frac{90}{121} = 0.74$	$\frac{83}{284} = 0.29$
<i>Stock turnover</i>	$\frac{\text{COGS}}{\text{Stock}}$	$\frac{650}{140} = 4.64$	$\frac{478}{160} = 2.99$
<i>Debtors</i>	$\frac{\text{Debtors}}{\text{Sales}} \times 365$	$\frac{90}{800} \times 365 = 41$ days	$\frac{83}{640} \times 365 = 47$ days
<i>Creditors</i>	$\frac{\text{Creditors}}{\text{Purchases}} \times 365$	insufficient data	
<i>Return on assets</i>			
	$\frac{\text{Profit before interest and tax}}{\text{Gross assets}}$	$\frac{63 + 9}{288 + 230} \times 100 = 13.9\%$	$\frac{57 + 6}{410 + 243} \times 100 = 9.6\%$

*Return on equity*

	$\frac{\text{After-tax profit attributable to shareholders}}{\text{Book value of ordinary share capital and reserves}} \times 100$	
	$\frac{43}{292} \times 100 = 14.7\%$	$\frac{40}{369} \times 100 = 10.8\%$
<i>Gross profit %</i>	$\frac{150}{800} \times 100 = 18.75\%$	$\frac{162}{640} \times 100 = 25.3\%$
<i>Net profit %</i>	$\frac{63}{800} \times 100 = 7.88\%$	$\frac{57}{640} \times 100 = 8.9\%$
<i>Total asset turnover</i>	$\frac{800}{518} = 1.54 \text{ times}$	$\frac{640}{653} = 0.98 \text{ times}$

Gold's returns on assets and equity are superior to Underwood's, even though its gross and net profit percentages are lower. This is more than compensated for by faster turnover of stock and of total assets.

Gold's quick ratio may be rather low but it is impossible to tell as we cannot work out the creditors' payment period. Underwood's current and quick ratios appear to be dangerously low.

**22.3**

	20X4	20X5
Return on equity	$\frac{690}{4,500} \times 100 = 15.3\%$	$\frac{710}{4,700} \times 100 = 15.1\%$
Return on assets	$\frac{690}{1,100 + 4,680} \times 100 = 11.9\%$	$\frac{710 + 160}{1,430 + 6,560} \times 100 = 10.9\%$
Net profit %	$\frac{690}{12,000} \times 100 = 5.75\%$	$\frac{710}{14,000} \times 100 = 5.1\%$
Gross profit %	$\frac{2,600}{12,000} \times 100 = 21.7\%$	$\frac{2,950}{14,000} \times 100 = 21.1\%$
Stock turnover	$\frac{9,400}{2,720} = 3.5 \text{ times}$	$\frac{11,050}{3,000} = 3.7 \text{ times}$
Total asset turnover	$\frac{12,000}{5,780} = 2.1 \text{ times}$	$\frac{14,000}{7,990} = 1.8 \text{ times}$
Current ratio	$\frac{4,680}{1,280} = 3.7 : 1$	$\frac{6,560}{1,690} = 3.9 : 1$
Quick ratio	$\frac{1,960}{1,280} = 1.5 : 1$	$\frac{3,560}{1,690} = 2.1 : 1$
Debtors' collection period	$\frac{1,920}{12,000} \times 12 = 1.9 \text{ months}$	$\frac{3,120}{14,000} \times 12 = 2.7 \text{ months}$

All the profitability ratios have deteriorated a little. Also, the total asset turnover has declined. However, the rate of stock turnover has improved which gives some encouraging signs about the future profitability of the business. Both the current and the quick ratios have increased which is not necessarily a good or bad indicator because it depends on the type of industry and other circumstances. However, it does appear from the figures in the

balance sheet that some of the debenture has not yet been invested. The increase in debtors is also interesting because it could be the result of different factors such as: poor credit control, increased credit terms offered to customers, or a large increase in sales as a result of the expansion. It is, of course, difficult to judge the success of an expansion programme of this size over such a short period of time.

**22.6** Ratios are likely to include:

	<i>A Ltd</i>	<i>B Ltd</i>
Return on equity	$\frac{180}{2,235} \times 100 = 8\%$	$\frac{110}{770} \times 100 = 14.3\%$
Return on assets	$\frac{300}{3,000} \times 100 = 10\%$	$\frac{230}{2,200} \times 100 = 10.45\%$
Gross profit %	$\frac{900}{3,600} \times 100 = 25\%$	$\frac{870}{4,350} \times 100 = 20\%$
Net profit %	$\frac{300}{3,600} \times 100 = 8.3\%$	$\frac{200}{4,350} \times 100 = 4.6\%$
Stock turnover	$\frac{2,700}{825} = 3.3 \text{ times}$	$\frac{3,480}{485} = 7.2 \text{ times}$
Total asset turnover	$\frac{3,600}{3,000} = 1.2 \text{ times}$	$\frac{4,350}{2,200} = 2.0 \text{ times}$
Current ratio	$\frac{1,800}{765} = 2.35$	$\frac{1,240}{1,130} = 1.1$
Quick ratio	$\frac{975}{765} = 1.3$	$\frac{755}{1,130} = 0.7$
Debtors' collection period	$\frac{900}{3,600} \times 365 = 91 \text{ days}$	$\frac{750}{4,350} \times 365 = 63 \text{ days}$

**22.7**

	<i>Hopwood Ltd</i>	
	20X2	20X3
Return on equity	$\frac{400}{5,920} \times 100 = 6.76\%$	$\frac{360}{5,880} \times 100 = 6.12\%$
Return on assets	$\frac{880}{10,360} \times 100 = 8.5\%$	$\frac{800}{10,480} \times 100 = 7.63\%$
Gross profit %	$\frac{2,360}{8,800} \times 100 = 26.82\%$	$\frac{2,440}{12,800} \times 100 = 19.06\%$
Net profit %	$\frac{560}{8,800} \times 100 = 6.36\%$	$\frac{480}{12,800} \times 100 = 3.75\%$
Stock turnover	$\frac{6,440}{3,360} = 1.92$ times	$\frac{10,360}{3,880} = 2.67$ times
Asset turnover	$\frac{8,800}{10,360} = 0.85$ times	$\frac{12,800}{10,480} = 1.22$ times
Current ratio	$\frac{6,440}{1,240} = 5.19$	$\frac{6,280}{1,400} = 4.49$
Quick ratio	$\frac{3,080}{1,240} = 2.48$	$\frac{2,400}{1,400} = 1.71$
Debtors' collection period	$\frac{2,600}{8,800} \times 52 = 15.4$ weeks	$\frac{2,240}{12,800} \times 52 = 9.1$ weeks

# Index

**Emboldened** pages indicate **glossary** and **key term** definitions. All references are to *accounting* and *United Kingdom*, unless otherwise stated.

- accelerated depreciation 85–6
- accounting
  - traditional historical cost concept 292
  - accounting *see* financial statements; nature of accounting
- Accounting Standards Board 12–13, 189, 213
  - and cash flow statements 327, 331, 338
- Accounting Standards Committee 12, 189
- accounting systems 48–54
  - computerised 47, 233, 388
  - discounts 53–4
  - routine transactions, treatment of 52
  - see also* books of prime entry; financial statements; ledger; trial balance
- accruals/accrual accounting 10, 63–74, 70, 388
  - expenses 66
  - financial statements including adjustments 70–74
  - matching convention 69
  - realisation convention 68–9
  - revenue 65
- accrued expenses/accruals 70, 388
- accumulated depreciation 58–9
- acquisition method of preparing consolidated accounts 208
- actual cost method of determining cost 124
- aged trade debtors 102, 277, 388
- allocate 293, 388
- amounts falling due after more than a year, creditors 192, 389
- analysed cash book 232–33
- analysis of financial statements 346–75
  - asset turnover rates 349–50
  - companies engaged in more than one industry 373
  - cross-sectional analysis 346–7, 347, 353–6
  - earnings per share 363
  - extended example 365–70
  - limitations 353–6, 373–4
  - liquidity 351–2
  - medium- and long-term measures *see under* solvency
  - profitability ratios 347–9
    - profit to sales 349
  - time series analysis 346–7, 347, 353–6
  - using ratio analysis 352–3
- analysis sheet 24–6, 29
- annuity, payment by partner for 162
- areas of uncertainty in income measurement
  - and valuation 294–5
  - doubts on realisation date 294
  - doubts whether an asset exists 294
  - doubts on the magnitude of historical cost 294–5
- arithmetic accuracy in trial balance 73
- Articles of Association 189
- ASB *see* Accounting Standards Board
- ASC *see* Accounting Standards Committee
- assets 20–1, 21, 192, 388
  - contra-asset account 89, 389
  - existence doubted 294
  - intangible 83, 300, 391
  - net 22, 65, 392
  - net current 192, 392
  - overstated 102
  - turnover rates 349–50
  - using up *see* expenses
  - valuation *see* replacement cost
  - see also* balance sheet; current assets; depreciation; fixed assets; tangible assets
- associated company 222–3, 222, 388
- associations *see* clubs and societies
- audit/auditor/auditing 234, 280–1, 281
  - advantages of having an audit 281
  - audit reports 281–3
    - qualified 282–3
  - audit trail 276, 388
    - disappearing audit trail 279, 284
- Auditing Practices Board 282
- environmental audit 285–6
- independence 283
- internal audit 284–5

- audit/auditor/auditing (*continued*)
  - internal control 284–5
  - management auditing 285
  - private and statutory audits 281
  - procedures 283
  - remuneration 190, 388
  - Statements of Auditing Standards 283
- average cost method of determining cost 124–5
- average profit and partnership 155
- average revenue and partnership 156
  
- bad and doubtful debts 101–4
  - calculation of provisions and accounting treatment 101–5
  - and creative accounting 299
  - credit control 100–1, 99, 389
  - financial statements including 105–6
  - recovered 105
  - writing off 101–4
  - see also* credit control
- balance sheet
  - and clubs and societies 252–253
  - consolidated accounts 206–12, 214–217
  - and equation, accounting 20–6
  - limited company 191–2
  - minority interest 214, 216, 214, 388
  - see also* assets; equity; liabilities; profit and loss account
- bank
  - reconciliation and statements 112–5
  - reference 101, 388
  - statement and cash book, differences between 112–3
  - statements 112
  - bankrupt debtors 102
  - banks in other countries 318–9, 323
- bases of
  - depreciation 84–7
    - accelerated 85, 87
    - comparison of methods 87
    - reducing balance 85
    - straight line 84–85, 87
  - provisions and bad and doubtful debts 101–104
- book value (amount), net 85, 392
- bookkeeping *see* double-entry
- books of prime entry 49–51
  - daybooks 109–110
  - and discounts 53–4
  - wages book 50–1
  - see also* cash book; journal
- borrowing *see* credit; debt; loans
  
- bought ledger 53
- branch accounting 263–71
  - branch 263
    - balance sheet: changes 263
    - current account 264
    - profit or loss 263
  - combined balance sheet 267–8
  - control systems 271
  - foreign branch accounts 270
  - head office current account 264
- business risk 362
  
- called-up share capital 186, 191, 388
- capital
  - account, partnership 147
  - allowance 197
  - called-up 186, 191, 388
  - expenditure 196
  - gains tax 196
  - interest on, in partnership 148
  - maintenance 185, 388
  - see also* funds; physical capital; share capital; working capital
- capital and reserves 191
- capitalisation of costs and interest 298–9
- cash
  - discount 53–4
  - importance of 326–7
  - and incomplete records 234–237
  - from operating activities 328–31, 334
  - paid 67, 234–7
  - and profit, distinction between 327
  - received 67
  - see also* cash book; cash flow statements
- cash book 51, 53
  - analysed 232–3
  - and bank statements, difference between 112–3
  - and control systems 113–5
  - see also* cash; petty cash book
- cash flow statements 67, 326–40
  - and creditors 328–30
  - and debtors 328–30
  - importance of cash 326–7
  - improvements to 338–9
  - investing activities 332, 335–6
  - operating activities 328–31, 334
  - preparation of 332–7
  - profit and cash, distinction between 327
  - returns on investment 332, 348
  - sources and applications other than operations 331–2
  - and taxation 332

- uses and limitations 337–8
- see also* under balance sheet
- chargeable (taxable) profit 196–7
- clubs, societies and charities 248–60
  - Charities Act 1993 254
  - Charity Commissioners 254–5
  - presentation 249–50
  - restricted, unrestricted and designated funds 256
  - SORPs *see* Statements of Recommended Practice
  - Statements of Recommended Practice 255
  - special funds 250
  - subscriptions 251
  - see also* receipts and payments account
- CNC *see* Conseil National de la Comptabilité
- code/coding 321, 388
- codified law 317
- collection period, debtors' 352
- COMA *see* cost or market value method of determining cost
- 'common law' 317
- companies
  - engaged in more than one industry 373
  - multinational 323, 391
  - quoted 185, 392
- see also* firm; group of companies; limited company; multinational company; subsidiary company
- Companies Acts 8, 9, 12, 189, 319
  - 1985 9, 12
  - not incorporated *see* clubs and societies
- comparability 291, 295, 373
- comparison between firms and income measurement 297
- computerised accounting, computerised accounting systems 274–9
  - aged trade debtors 277
  - audit trail 276, 388
    - disappearing audit trail 279, 284
  - back up/backing up 278, 278–9, 388
  - coding 275–6
    - validity 275–6
  - control accounts 277
  - garbage in garbage out (GIGO) 278
  - hardware 274, 391
  - software 274, 393
  - system breakdown 278
- Conseil National de la Comptabilité 321
- conservatism *see* prudence
- consistency 10
- consolidated accounts 204–23, 208, 389
  - associated companies 222–3
  - balance sheet 206–12, 214–7
  - goodwill on consolidation 208, 208–213, 215–217, 390
  - group structure, advantages of 205–6
  - methods 208
  - in other countries 322, 323
  - partly owned subsidiaries 213–4
  - preference shares in subsidiary companies 221
  - and profit and loss account 217–21
  - reasons for consolidation 206–7
  - see also* financial statements; subsidiary company *and also* under goodwill
- contra-asset ('minus-asset') account 89, 389
- control systems 107–15
  - bank reconciliation and statements 112–5
  - control accounts 107–15
  - internal control 111
  - problems and errors 107, 111
- conventions 9–12, 389
- consistency 10
- duality 11
- going concern 9
- matching 10, 69
- materiality 11
- objectivity 10, 12
- prudence 10, 12, 320–1, 293
- realisation 10, 68–9
- relevance 11
- stable money unit 11, 295
- time period 11
- unit of measure 11
- verifiability 10
- see also* in particular accruals; time period
- corporation tax *see under* taxation
- cost
  - average 124–5
  - capitalisation in creative accounting 298–9
  - expired 66, 390
  - or market value (COMA) method of determining cost 125–6
  - period 69, 392
  - product 69, 392
  - sale price minus (mark-up) 235, 391
  - spreading *see* depreciation
  - unexpired 66, 394
  - see also* actual cost; cost of goods sold; expenses; historical cost; overheads; replacement cost
  - conventional methods of determining 122–6
    - actual cost 124
    - average cost 124–5



- cost (*continued*)
  - first in first out 122, 124
  - last in first out 125
  - lower of cost or market value 125
- creative accounting 299–300
- financial statements including stock 128–31
- replacement cost basis 126–8
- cost of goods sold 121–31
- costs as assets rather than expenses 298
- cover 360, 389
- coverage ratios 359–360
- creative accounting 298–300
  - capitalisation of costs 298
  - cost of goods sold 299–300
  - depreciation 299
  - doubtful debts 299
  - intangible assets 300
  - provisions 300
  - ratios 300
- credit
  - agency 101, 389
  - analysts 4
  - control 100–1, 101, 389
  - on credit 21, 392
  - creditworthiness 291
  - giving 2, 390
  - see also* creditors, debit and credit
- creditors 4, 2, 389
  - amounts falling due after more than a year 192, 389
  - bought/purchases ledger 53
  - and cash flow statements 328–31
  - and debt to equity ratio 361
  - payment period 352
  - trade (liabilities) 26
  - see also* credit
- cross-sectional analysis 346–7, 367, 389
  - problems with 373–4
- cumulative preference shares 187–8
- current account and partnership 147
- current assets 83, 192, 389
  - and fixed assets, difference between 82–3
  - net 192, 392
- current corporation tax 192, 389
- current liabilities 192, 389
- current operating profit 303–4
- current ratio 351
- current value 124, 389
- current value accounting 301–2
  - bases of valuation 302
- currently insolvent 351, 389
- daybooks 49–50
- debenture 192, 361–2
  - interest 190, 361–2, 389
  - loans 192, 361–2, 389
- debit and credit 39–40, 54–6
- debt to equity ratio 360–3
- debtors 31, 389
  - bankrupt 102
  - and cash flow statements 328–30
  - collection period 352
  - sales ledger 53
  - see also* debt
- depreciation of fixed assets 82–95, 389
  - accelerated 85–6
  - accumulated 88–9
  - and cash flow statements 331
  - and creative accounting 299
  - defined 83–4
  - financial statements including 93–4
  - and limited company (taxation) 196
  - not valuing assets 91–3
  - in other countries 318
  - and profit 91–3
  - recording in books 88–90
  - reducing balance 85
  - straight line 84–5
  - sum of years' digits 86
  - and time period 83–4
  - see also* bases of depreciation
- direct derivation of cash generated by operations 331
- directors, emoluments 190, 389
- disclosure 207, 318–9
- discounts and accounting systems 53–4
- disposal of fixed assets account 89–90
- dividends 190, 389
  - limited company 186
  - proposed 192, 392
- double-entry bookkeeping 7, 11, 39, 390
  - control accounts outside 109–11
- doubtful debts *see* bad and doubtful debts
- drawings 31, 32, 390
  - and incomplete records 234
- duality 11
- earn/earned 68, 390
- earnings per share 363–4
- emoluments *see* remuneration
- employees 5
- entity 6, 6, 390
- entry fees and clubs 251
- equation, accounting 19–22
  - debit and credit 39–40

- firm 19–20
  - making loss 38
  - see also* balance sheet; ledger; profit and loss account; T account
- equity
  - and consolidated accounts 212
  - and accounting equation, 20
  - increase *see* profit
  - owners' 392
  - and partnership 147
  - and profit measurement 301
  - see also* balance sheet and under debt
- errors and control systems 111
- ETB *see* extended trial balance
- EU *see* European Union
- Europe 319–22
- European Union 315, 316, 317, 319–20
  - Directives 12, 316, 390
  - Fourth 315, 320, 322
  - Seventh 320, 322
- exceptional items 191, 390
- exchange *see* foreign exchange
- existing shareholders 4
- expected residual value 84, 390
- expenses/expenditure 66, 390
  - accruals/accrual accounting 67–9
  - accruals/accrual accounting, and revenue matched 69
  - accrued *see* accruals
  - capital expenditure 196
  - clubs and societies 249
  - period (period costs) 69, 392
  - prepaid (prepayments) 70, 392
  - product (product costs) 69, 392
  - and revenue, summary of *see* balance sheet
  - see also* cost; expenditure under income
- expired cost 66, 390
- extended trial balance 72–4
  
- fairness concept in other countries 315–7
  - Netherlands and Republic of Ireland 315
  - 'true and fair', 315–7, 320, 322
- FASB *see* Financial Accounting Standards Board, USA
- FIFO *see* first in first out
- financial accounting 6
  - for past activities 6
  - see also* account; financial statements
- Financial Accounting Standards Board (USA) 322
- financial ratios *see* analysis of financial statements; ratios
- Financial Reporting Exposure Drafts 12, 331
  
- Financial Reporting Standards 12, 189, 331–2, 338
- financial risk 362
- financial statements
  - and accruals/accrual accounting 70–74
  - analysing and understanding *see* analysis of financial statements; cash flow statements; consolidated accounts; limitations; other countries
  - depreciation of fixed assets 93–4
  - including stock and cost of goods sold 128–31
  - limited company 192–6
  - prepared from trial balance 56–8, 136–42
  - preparing *see* accounting systems; accruals; bad and doubtful debts; control systems; cost of goods sold; depreciation; equation, accounting; incomplete records; limited company; partnership
- firm 2, 390
  - and equation, accounting 19–20
  - stages in development of 3
  - see also* companies; limited company
- first in first out method of determining cost of goods sold 122–4
- fixed assets 83, 390
  - and current assets, difference between 82–3
  - disposal account 89–90
  - sale of 89, 197
  - see also* depreciation
- fixed capital 147
- flexibility advantage of group structure 205
- foreign exchange 294, 390
- France 321–2
- FREDS *see* Financial Reporting Exposure Drafts
- FRSs *see* Financial Reporting Standards
- funds
  - from outsiders *see* liabilities
  - ownership *see* equity
  - sources of 20
  - see also* capital
- future profit and partnership 156
  
- GAAP *see* Generally Accepted Accounting Principles (US)
- gains and replacement cost accounting 307–9
- gearing 360–3
- general rights: assets 21
- general/nominal ledger 53
- general price index 296

- Generally Accepted Accounting Principles 316, 322, 390
- Germany 320–1
- giving credit 2, 390
- going concern 9
- goodwill 154, 390
  - on consolidation 208–13, 208, 390
  - problems 212–3
  - and partnership 154
  - on admission of new partner 157–9
  - valuation of 155–6
- government 4
  - see also* law, legislation and rules
- gross profit 235–6, 390
  - percentage 390
  - ratio 349
  - see also* profit
- group of companies 205, 390
  - see also* consolidated accounts
  
- harmonisation with other countries 323–5
  - attempts 324–5
  - desirability 323
  - difficulties 324
- hidden reserve 321, 391
- hire purchase and profit 69
- historical cost
  - of asset 66
  - and income measurement 292–5
  - limitations of 290–1
  - and nature of accounting 9, 10, 12
  - profit, comparison with replacement cost accounting 304–6
  - and USA 316, 322
- history of accounting 7–8
- holding company 205
  - see also* consolidated accounts
- horizontal accounts 391
  
- IASB *see* International Accounting Standards Board
- IASC *see* International Accounting Standards Committee
- IASs *see* International Accounting Standards
- imputation system *see* corporation tax
- income
  - and expenditure account, receipts and payments account converted to 235–7
  - investment 190, 391
  - measurement and valuation and limitations of conventional accounting model 292–8
  - comparison between firms 297
  - distributable profit 297–8
  - equity and mixed figures 296
  - historical cost accounting concept 292–8
  - physical capacity 297
  - physical trends 295–6
  - price change 295–6
  - prudence 293
  - realisation 293–4
  - transactions basis 292–3
  - uncertainty, areas of 294–5
  - other operating 190, 392
- incomplete records 231–42
  - opening balance sheet 239
  - cash receipts and payments 234–7
  - drawings 234
  - totally incomplete records 237
  - unidentified payments 234
- incorporation 185
- incur 68, 391
- indirect derivation of cash generated by operations 331
- Inland Revenue 5
  - see also* taxation
- insolvency
  - currently insolvent 351, 389
  - see also* solvency
- instalments, payment to partner by 162
- institutional investors 318, 391
- insurance companies 318
- intangible assets 83, 300, 391
- interest
  - capitalising 298–9
  - debenture 190, 361–2, 389
  - on capital, in partnership 148
  - profit and interest cover 360
  - ‘times interest covered’ 360
- International Accounting Standards Board (IASB) 13, 324
- International Accounting Standards Committee (IASC) 324
- International Accounting Standards (IASs) 324–5
- international comparisons *see* other countries
- International Organization of Securities Commissions (IOSC) 324–5
- inventory (USA) *see* stock
- investigation of potential customers *see* reference
- investing activities 332
- investment
  - analysts 4
  - income 190, 391
  - institutional investors 318, 391

- market 292, 391
  - returns on, and cash flow statements 332
  - see also* shareholders
- invoice/invoicing 68, 391
- IOSC *see* International Organization of Securities Commissions
- Italy 7
- Japan 322–3
- joint venture 167–70, 167, 391
- journal 49
- junior (salaried) partners 148
- Keiretsu 323
- last in first out method of determining cost of goods sold 125
- law, legislation and rules 12–13
  - limited companies 185
  - nature of accounting 12–13
  - in other countries 317
  - Partnership Act 1890 145–6, 152, 163
  - see also* Companies Acts; conventions
- ledger and ledger accounts 52, 53
  - incomplete records 232
  - see also* personal accounts
- legislation *see* law, legislation and rules
- leverage (USA) 360
- liabilities 20, 21, 192, 391
  - current 192, 389
  - trade creditors 26
- liability
  - limited 8, 185
  - unlimited 185
  - see also* balance sheet; loans
- life assurance policy, payment for partner by 163
- life subscriptions in clubs 251
- LIFO *see* last in first out
- limitations of conventional accounting model 289–310
  - analysis of financial statements 353
  - comparability 291, 295
  - consumption decision 290
  - creditworthiness 291
  - current value accounting 301–2
  - income *see* measurement under income
  - objectives of accounting 290
  - stewardship 290
  - taxation 291
  - see also* creative accounting; replacement cost accounting
- limited company 2, 22, 184–97, 391
  - balance sheet 191–2
  - dividends 186, 197
  - financial statements 189–92
  - limited liability 8, 185
  - profit and loss account 190–1
  - public and private companies 188–9
  - share capital 186–8
  - structural and legal aspects 184–6
  - taxation 196–7
  - see also* firm
- limited partnerships and Limited Partnerships Act 1907, 2000 146
- liquidate 64, 391
- liquidator 64, 391
- liquidity 351, 391
  - ratios 351–2
    - creditors' payment period 352
    - current ratio 351
    - debtors' collection period 352
    - quick ratio 351
- listed (quoted) company 185, 392
- loans
  - debenture 192, 361–2, 389
  - loan accounts, partners' 151
  - and trade creditors 26
  - see also* creditors; debt; debtors; liabilities
- losses
  - limited company 196–7
  - making 38
- partnership 148
- see also* profit and loss account; writing off
- lower of cost or market value method of determining cost of goods sold (COMA) 125–6
- Massgeblichkeitsprinzip, 317, 320
- mail order companies, profit of 69
- management accounting 6
- manual accounting system 48, 391
- market value 125, 391
  - COMA method of determining cost 125–6
- marketing advantage of group structure 205
- mark-up 235, 391
- matching
  - convention 10, 69
  - problems *see* depreciation
- materiality 11
- memorandum of association 189
- memorandum joint venture account 168
- merger method of preparing consolidated accounts 208
- Ministry of Finance (Japan) 322
- minority interest, balance sheet 214, 214, 388

- 'minus-asset' (contra-asset) account 89, 389
- money unit, stable 11, 295
- multinational company 323, 391
- nature of accounting 1–13
  - financial accounting for past activities 6–7
  - financial and management accounting 6
  - history 7–8
  - planning and control 5–6
  - purposes of accounting 1–2
  - users of accounts 4–5
  - see also* conventions; law, legislation and rules
- net assets 22, 65, 392
- net book value (amount) 85, 392
- net current assets 192, 392
- net profit 392
  - ratio 349
  - see also* profit
- net realisable value 125–6, 302, 392
- nominal/general ledger 52
- non-cash
  - proceeds on dissolution of partnership 164–6
  - resources *see* physical capital; stock
- non-cumulative preference shares 187
- NRV *see* net realisable value
- objectives of accounting 290
- objectivity 10, 12
- OECD *see* Organization for Economic Co-operation and Development
- on credit 21, 392
- operating
  - activities, cash from 328–31, 334
  - advantage of group structure 205–6
  - gain, realised 307
  - income, other 190, 392
- ordinary shares 188
- Organization for Economic Co-operation and Development 324
- other countries, financial reporting in 315–25
  - major differences and causes 315–19
  - see also in particular:* fairness
  - see also* Europe; harmonisation; United States
- other income and other operating income 190, 392
- outsiders, funds from *see* liabilities
- overheads 295, 392
- owners' equity 392
- ownership of firms in other countries 318–9
- ownership of funds *see* equity
- Pacioli, Luca 7
- parent (holding) company 205
  - see also* consolidated accounts
- partly owned subsidiary 205, 205–6, 213–4, 392
- partnership 21, 145–70, 146, 392
  - agreement lack of 152
  - capital account 147
  - change of arrangements, absence of accounts at date of 164
  - current account 147
  - death or retirement of partner 160–1
  - defined 146
  - dissolution 164–7
  - drawings and drawings account 147
  - joint ventures 167–70
  - loan accounts, partners' 151
  - new partner, goodwill on admission of 152–9
  - Partnership Acts 1890 and 2000 146, 147, 152, 161
  - payments on death or retirement of partner 160–1
    - by annuity 162
    - immediate 161
    - by instalments 162
    - by life assurance policy 163
  - problems 152–3
  - profit-sharing ratio 159–60
  - see also* under goodwill
- past activities, financial accounting for 6–7
- past success and the future 290
- payables (USA) 53
- pension funds 318
- percentage, gross profit 390
- period expenses (period costs) 69, 392
- periodic stock systems 128–9
- perpetual stock systems 128–9
- personal accounts 53
  - large numbers of 107
- petty cash book 51–2
  - incomplete records 232–6
- physical capacity and income measurement 297
- physical capital 128, 392
  - see also* stock
- physical trends and income measurement 295–6
- plan comptable 321–2
- planning and control 5–6
- pooling (merger) method of preparing consolidated accounts 208
- potential customers investigated *see* reference

- potential shareholders 4
- preference shares 187–8
  - in subsidiary companies 221
- premium account, share 191, 393
- prepaid expenses/prepayments 70, 392
- price change
  - comparison between firms 297
  - distributable profit and physical capacity 297–8
  - general price change and trends 296
  - income measurement 295
  - index, general 296
  - index, specific 295–6
  - minus cost (mark-up) 235, 391
  - owners' equity and mixed figures 296
  - physical trends 295
- 'principles' of accounting 9
- see also* accruals; consistency; conventions; GAAP; going concern; prudence
- private companies 185
- product expenses (product costs) 69, 392
- profit
  - cash, distinction from 327
  - see also* under cash flow statements
  - chargeable (taxable) 196
  - delayed 69
  - depreciation 83–4, 92–3
  - distributable, income measurement and 297–8
  - financial statements *see under* analysis of financial statements
  - historical cost, comparison with replacement cost accounting 304–9
  - interest cover 359–60
  - mark-up 235, 391
  - measurement and equity 301
  - overstated 102
  - and partnership
    - appropriation of 147–50
    - average 155
    - future 156
    - profit-sharing ratio 147–8, 152, 159–60, 164
  - proportion of and accrual accounting 69
  - ratios *see under* ratios
  - unappropriated for year 191, 394
  - see also* gross profit; net profit; profit and loss account
- profit and loss account 192, 392
  - limited company 190–1
  - consolidated accounts 217–21
  - origins 8
- proposed dividends 192, 392
- provision 26, 101–4, 300, 392
- prudence 10, 12, 293, 320–1
- public companies 189–91, 316
  - see also* quoted (listed) company
- purchase (or acquisition) method of preparing consolidated accounts 208
- purchases
  - daybook/journal 49–50
  - ledger 49
  - returns (returns out) 392
- purposes of accounting 1–2
- quoted (listed) company 185, 392
- ratios
  - asset turnover 349–50
  - coverage 359–60
    - interest 299, 301
    - dividend 301
  - current 351
  - debt to equity 360–3
  - earnings per share (EPS) 363–4
  - gearing (leverage) 360–1
  - gross profit 349
  - liquidity and solvency 351
  - liquidity 351–2
  - creditors' payment period 352
  - debtors' collection period 352
  - quick 351
  - net profit 349
  - profitability 347–9
  - return on assets 348
  - return on capital employed (ROCE) 370–2
  - return on equity 348
  - solvency 351, 358
  - stock turnover 349–50
  - total asset turnover 350
  - see also* analysis of financial statements
- RC *see* replacement cost
- realisation 68–9
  - convention 10
  - and accruals/accrual accounting 68–9
  - and income measurement 292–7
  - and limitations of conventional accounting model 292–7
  - realisable value, net 124–5, 302, 392
  - realise 68, 398
  - realised holding gains 307
- receipts and payments account 67, 248
  - converted to income and expenditure account 251–4
- receivables (USA) 53
- recognise 68, 393

- recognition 68
- reconciliation *see under* bank
- recovered debts 105
- reducing balance method of depreciation
  - calculation 85
- reference 101, 388
  - bank 101, 388
  - trade 101, 393
- Registrar of Companies 146, 189
- relevance of conventions 12
- remuneration
  - of auditors 190, 388
  - directors, emoluments for 190, 389
  - see also* wages and salaries
- replacement cost 302, 393
- replacement cost accounting 302–10
  - arguments in favour of 309–10
  - cost of goods sold 126–8
  - gains 307–9
  - historical cost profit, comparison with 304–6
- reserve
  - hidden 321, 391
  - revaluation 191, 393
- residual value, expected 84, 390
- retained earnings 212
- returns 392
- purchase (returns out) 392
- revaluation reserve 191, 393
- revenue 10, 65, 393
  - and expenses matched 69
  - and expenses, summary of *see* balance sheet
  - recognition of 68–9
- RHG *see* Realised Holding Gains
- rights
  - general and specific 21
  - see also* assets
- risk
  - avoidance and group structure 205
  - and debt to equity ratio 361–3
- Roman Law 317
- rules *see* conventions; law, legislation and rules
  
- salaries *see* wages and salaries
- sales
  - of fixed assets 89–90
  - ledger 53
  - price minus cost (mark-up) 235, 291
  - see also* cost of goods sold
- SEC *see* Securities and Exchange Commission
- Securities Commissions, International
  - Organization of 324
- Securities and Exchange Commission 316, 322
- Securities and Exchange Law (Japan) 323
- SFASs *see* Statements of Financial Accounting Standards, (USA)
- share
  - earnings per 363–4
  - premium account 191, 393
- share capital
  - called-up 186, 191, 388
  - limited company 186–188
- shareholders 4, 393
  - and debt to equity ratio 360–3
  - in other countries 318–9
  - see also* investment
- short-term indicators *see* liquidity
- societies *see* clubs, societies & charities
- sole trader 6, 393
- see also* accounting systems; accruals; bad and doubtful debts; clubs and societies; control systems; cost of goods sold; depreciation; equation, accounting; incomplete records
- solvency 351, 393
  - analysis of financial statements 358–63
  - coverage ratios 359–60
  - debt to equity ratio 360–3
  - medium and long term measures 358–63
  - see also* insolvency
- special funds of clubs and societies 250–1
- specific price index 295–6
- specific rights 21
- SSAPs *see* Statements of Standard Accounting Practice
- stable money unit 11, 295
- stages in development of firm 3
- standardisation *see* harmonisation
- statements
  - of affairs and incomplete records 232
  - see also* cash flow statements
  - see also* reconciliation under bank
- Statements of Financial Accounting Standards (USA) 322
- Statements of Standard Accounting Practice 12, 189
- stewardship and steward 7, 393
- stock 23, 393
  - and cash flow statements 328–9
  - financial statements including 128–31
  - turnover ratio 349–50
- Stock Exchange 185
- straight-line depreciation 84–5
- subjectivity 12
- subsidiary company 205, 393
  - partly owned 205, 213–4, 392

- preference shares in 221
  - wholly owned 205
  - see also* consolidated accounts
- sum of years' digits method of depreciation
  - calculation 86
- T account 41, 41–3, 48, 52, 393
- tangible assets 83, 393
  - see also* depreciation
- taxation
  - and cash flow statements 328, 332
  - corporation tax 190, 389
  - and cost of goods sold 125
  - current 192, 389
  - Inland Revenue 5
  - limited company 196–7
  - in other countries 317–8, 332
- terminology, different *see under* United States
- till and till roll 236, 393
- time period 11
  - and accruals/accrual accounting 64–5
  - and depreciation 83–4
  - year as 64–5
- time series analysis 346–7, 347, 355–6, 393
  - problems with 374
- 'times interest covered' 359–60
- total asset turnover 350–1
- trade
  - creditors (liabilities) 21
  - reference 101, 393
- transactions basis 292–3
- trial balance 54–6
- trial balance, adjustments to
  - financial statements prepared from 54–6
- 'true and fair view' 190, 281–2, 315–7, 320, 322
- turnover 190, 393
- unappropriated profit for year 191, 394
- uncompleted transactions 191, 394
- unexpired cost 66, 394
- unidentified payments 234
- unit of measure 11
- United States 322
- accelerated depreciation 85
- GAAP *see* Generally Accepted Accounting Principles
- SEC *see* Securities and Exchange Commission
- terminology
  - inventory *see* stock
  - leverage 360–3
  - pooling 208
  - receivables and payables 53
- unlimited liability of sole traders 184
- unquoted (unlisted) companies 185
- unrealised holding gains 307–9
- users of accounts 2–5
- value
  - book, net 85, 392
  - COMA method of determining cost 125
  - current 124, 389
  - expected residual 84, 390
  - market 125, 391
  - net realisable 125–6, 302, 392
  - valuation of assets
    - depreciation not 91–3
    - see also* replacement cost
- verifiability 10
- vertical accounts 394
- voucher 232, 394
  - incomplete or lacking 232–3
- wages and salaries
  - book 50–1
  - see also* remuneration
- wind up 64, 394
- 'window dressing' 300
- work in progress 328
- working capital 328, 394
  - cycle 328–31
- writing off
  - bad debts 100–3
- year as time period 64
- Zaibatsu 323



