Sixth Edition

Financial Accounting

An International Introduction

David Alexander & Christopher Nobes



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Sixth edition

FINANCIAL ACCOUNTING

An International Introduction

David Alexander and
Christopher Nobes

with an appendix on Double-entry Bookkeeping
by Anne Ullathorne

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Foreword to the first edition

For many years Professor Christopher Nobes and I have worked together as the two British representatives on the Board of the International Accounting Standards Committee. He and I have argued in many fora for the notion that there should be one single set of high-quality worldwide standards so that a transaction occurring in Stuttgart, Sheffield, Seattle or Sydney should be treated in exactly the same way. That is not the case at present.

In a book published by Professor Christopher Nobes and David Cairns, *The Convergence Handbook* (ICA, 2000), they outlined the existing differences between British and International Accounting Standards. The intention of the book and the request by the UK's Accounting Standards Board for its production was to eliminate these differences. It is particularly important that this should be done over the next five years as the European Commission has stated its intention that all consolidated statements of listed companies in the European Union should comply with International Accounting Standards by 2005. Clearly British Standards will have to change, although as British Standards themselves are of high quality it is very likely that some International Standards will also change.

To meet this challenge and to ensure that all countries have the same accounting standards, the International Accounting Standards Committee has been reconstituted with effect from 2001 to form a virtually full-time International Accounting Standards Board, the main mission of which is to seek convergence of accounting standards throughout the world.

This book by my friends, David Alexander and Christopher Nobes, is therefore particularly timely. It is based on a background in the European Union. It is written extremely clearly. (The real mark of a teacher is not to complicate but to simplify and the authors have certainly done that.) It is unusual in that it takes as its base not one country's standards but International Accounting Standards, which I firmly believe are going to be the worldwide requirements of the future.

The book will be of interest not only to the beginner but also those who wish to understand the thrust of International Accounting Standards. The authors make clear that accounting is still in many ways a primitive subject and is in a period of change, removing the most irrelevant aspects of the historical cost model and replacing them with accounting for fair values. Those coming into accounting now are going to see huge changes in the first few years of their careers as many of the ideas promulgated by academics many years ago become professional practice and as each country's national standards are changed to converge with the international consensus.

I enjoyed reading this book and I am sure that its many readers will also. I congratulate the authors for their foresight in producing such an excellent book and wish them well.

SIR DAVID TWEEDIE

January 2001 *Chairman, International Accounting Standards Board*

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Preface

This is the sixth edition of our book that is designed as an introductory text in financial accounting. What sets it apart from many other books with the same basic aim is that this book is not set in any one national context. Consequently, instead of references to national laws, standards or practices, the main reference point is International Financial Reporting Standards (IFRS).

Nevertheless, real entities operate in real countries even where they follow IFRS, and so such entities also operate within national laws, tax systems, financial cultures, etc. One of the backgrounds chosen in this book is the European Union (EU) and the wider European Economic Area (EEA). Where useful, we refer to the rules or practices of particular European countries or companies. However, we also take examples from elsewhere, e.g. Australia and South Africa.

This book is intended for those with little or no previous knowledge of financial accounting. It might be particularly appropriate for the following types of financial accounting courses taught in English at the undergraduate or postgraduate (e.g. MBA) level:

- courses in any country in the EU (or EEA), given the increasing use of IFRS by companies including the compulsory use for listed companies' consolidated statements;
- courses outside the EU where IFRS is the basis of the accounting standards, e.g. in Australia, Canada, New Zealand, Singapore, South Africa and other parts of the (British) Commonwealth;
- courses in China, Japan or other countries where some companies use IFRS and where national standards have been converged with IFRS;
- courses anywhere in the world with a mixture of students from several different countries.

Depending on the objectives of teachers and students, stress (or lack of it) might be placed on particular parts of this book. For example, it would be possible to precede or accompany a course based on this book with an extensive examination of double-entry bookkeeping, such that Appendix A is unnecessary. Or, on some courses, there might not be space or appetite for double entry at all, such that Appendix A is again unnecessary. Coverage of some complex issues such as foreign currency translation (Chapter 15) might not be needed, but it is easy to leave a chapter out.

This edition is updated to include the extensive changes that have occurred in the three years since writing the fifth edition. We have also done the following, compared to the fifth edition:

- moved the section on types of entities from Chapter 4 to Chapter 1;
- included reference to accounting by SMEs and partnerships (Chapter 4);
- added material on integrated reporting and sustainability (Chapter 6);

- expanded the discussion of revenue recognition, including reference to IFRS 15 (Chapter 8);
- deleted the chapter on price change accounting, which is no longer topical and was not much used; but added a discussion on capital maintenance (Chapter 8).

In writing this book we have, of course, made use of our experience over many years of writing and teaching in an international context. Thus, in some parts of this book, we have adapted and updated material that we have used elsewhere in more specialist books to which the intended readers of this text would not have easy access. We have tried to remove British biases, but we may not have been fully successful and we apologize to readers who can still detect some.

There are five appendices, which we hope readers will find useful during and after a course based on this book. Appendix A is a substantial treatment of double-entry bookkeeping. Appendices B and C summarize the requirements of IFRS and the EU accounting Directive respectively. Appendix D gives the answers to the end-of-chapter multiple choice questions. Appendix E provides outline feedback to about half of each chapter's closing exercises. Feedback on the other exercises is given in an Instructor's Manual that is available electronically via the Companion Website at www.pearsoned.co.uk/alexander. The manual also contains other material to assist lecturers. This book ends with a glossary and an index.

Suggestions from many colleagues and users of the book have been very helpful. We are also grateful for much help from colleagues at Pearson. Despite all this help, there may be errors and omissions in our book, and for this we must be debited (in your books).

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Figures
Figures 6.1, 6.2, 6.3, 6.4, 6.5 and 13.6 adapted from *Bayer's Annual Report 2014*; Figure 7.5 adapted from *Marks & Spencer PLC Annual Report 2014*; Figure 8.2 from Published company financial statements; Figure 8.3 from *Volkswagen Annual Report2001*; Figure 11.5 from Authors' own work based on *published company accounts of Nokia*; Figures 17.1, 17.2 from *GlaxoSmithKline PLC Annual Report 2005*.

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Text
Case Study 9.1 and 11.2 *Extracted from BASF SE's Annual Report 2014*.

Abbreviations

ABC	activity-based costing
AE	anonymos etairia (public company, Greece – transliteration of Greek equivalent)
AG	*Aktiengesellschaft* (public company, Austria, Germany and Switzerland)
AktG	*Aktiengesetz* (German Stock Corporation Law)
AMF	*Autorité des Marchés Financiers* (France)
ApS	*anspartsselskab* (private company, Denmark)
ARC	Accounting Regulatory Committee (EU)
AS	*aktieselskab* (public company, Denmark)
	aksjeselskap (private company, Norway)
ASA	*almennaksjeselskap* (public company, Norway)
ASB	Accounting Standards Board (former UK body)
BV	*besloten vennootschap* (private company, Belgium and the Netherlands)
CESR	Committee of European Securities Regulators (now replaced by ESMA)
COB	*Commission des Opérations de Bourse* (former Commission for Stock Exchange Operations, France)
CONSOB	*Commissione Nazionale per le Società e la Borsa* (National Commission for Companies and the Stock Exchange, Italy)
CPP	current purchasing power
CRC	current replacement cost
CV	current value
DCF	discounted cash flow
DRSC	*Deutches Rechnungslegungs Standards Committee* (German Regulatory Standards Committee)
DV	deprival value
EBIT	earnings before interest and tax
EEA	European Economic Area
EFRAG	European Financial Reporting Advisory Group
EPE	etairia periorismenis efthynis (private company, Greece – transliteration of Greek equivalent)
EPS	earnings per share
ESMA	European Securities and Markets Authority
EU	European Union
EV	economic value
FAR	*Föreningen Auktorisade Revisorer* (a national accountancy body, Sweden)

FASB	Financial Accounting Standards Board (USA)
FIFO	first in, first out
FRC	Financial Reporting Council (UK)
FRRP	Financial Reporting Review Panel (UK)
GAAP	generally accepted accounting principles
GmbH	*Gesellschaft mit beschränkter Haftung* (private company, Austria, Germany and Switzerland)
GPLA	general price level-adjusted systems
HC	historical cost
HGB	*Handelsgesetzbuch* (Commercial Code, Germany)
IAS	International Accounting Standard
IASB	International Accounting Standards Board
IASC	International Accounting Standards Committee
IFAC	International Federation of Accountants
IIRC	International Integrated Reporting Council
IFRIC	International Financial Reporting Interpretations Committee (now the IFRS Interpretations Committee)
IFRS	International Financial Reporting Standard(s)
IOSCO	International Organization of Securities Commissions
JV	joint venture
Lda	*sociedade por quotas* (private company, Portugal)
LIFO	last in, first out
Ltd	private limited company (United Kingdom)
NBV	net book value
NRV	net realizable value
NV	*naamloze vennootschap* (public company, Belgium and the Netherlands)
NYSE	New York Stock Exchange
OCI	other comprehensive income
Oy	*Osakeyhtiö-yksityinen* (private company, Finland)
Oyj	*Osakeyhtiö julkinen* (public company, Finland)
PE	price/earnings
PCG	*plan comptable général* (general accounting plan, France)
PLC	public limited company (United Kingdom)
PPE	property, plant and equipment
RJ	*Raad voor de Jaarverslaggeving* (Council for Annual Reporting, the Netherlands)
ROCE	return on capital employed
ROE	return on equity
ROOE	return on ordinary owners' equity

SA	*sociedade anónima* (public company, Portugal)
	sociedad anónima (public company, Spain)
	société anonyme (public company, Belgium, France and Luxembourg)
Sarl	*société à responsabilité limitée* (private limited company, Belgium, France and Luxembourg)
SEC	Securities and Exchange Commission (USA)
SIC	Standing Interpretations Committee (former IASC body)
SMEs	small and medium-sized entities
SOX	Sarbanes–Oxley Act (USA)
SpA	*società per azioni* (public company, Italy)
SRL	*società à responsabilità limitata* (private company, Italy)
	sociedad de responsabilidad limitada (private company, Spain)
SRS	*Svenska Revisorssamfundet* (a Swedish accountancy body)
TFV	true and fair view
UK	United Kingdom
US	United States



Part 1

THE CONTEXT OF ACCOUNTING

1 Introduction

2 Some fundamentals

3 Frameworks and concepts

4 The regulation of accounting

5 International differences and harmonization

6 The contents of financial statements

7 Financial statement analysis

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Chapter 1

Introduction

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Objectives

After studying this chapter carefully, you should be able to:

- explain the scope and uses of accounting;
- explain different ways in which entities can be legally organized;
- outline the role of national and international regulators;
- give some examples of the usages of accounting terms in different varieties of English.

1.1 Purposes and users of accounting

Accounting began as a practical activity in response to perceived needs, and for most of its development it has progressed in the same way, adapting to meet changes in the demands made on it. Where the needs differed in different countries or environments, accounting tended to develop in different ways as a response to a particular environment, essentially on the Darwinian principle: useful accounting survived. Because accounting developed in different ways, it is likely that definitions suggested in different surroundings will vary.

At a general level, accounting exists to provide a service. In the box below there are three definitions. These have all been taken from the same economic and cultural source (the United States) because that country has the longest history of attempting explicit definitions of this type. Note that each suggested definition seems broader than the previous one, and the third definition does not restrict accounting to *financially* quantifiable information. As will be explored in this book, attitudes to accounting and its role differ substantially around the world and certainly between European countries.

Some definitions of accounting

Accounting is the art of recording, classifying and summarizing in a significant manner and in terms of money, transactions and events which are, in part at least, of a financial character, and interpreting the results thereof.

('Review and resume', *Accounting Terminology Bulletin No. 1,* New York: American Institute of Certified Public Accountants, 1953, paragraph 5)

Accounting is the process of identifying, measuring and communicating economic information to permit informed judgements and decisions by users of the information.

(American Accounting Association, *A Statement of Basic Accounting Theory*, Evanston, IL: American Accounting Association, 1966, p. 1)

Accounting is a service activity. Its function is to provide quantitative information, primarily financial in nature, about economic entities that is intended to be useful in making economic decisions, in making resolved choices among alternative courses of action.

(Accounting Principles Board, Statement No. 4, 'Basic Concepts and Accounting Principles Underlying Financial Statements or Business Enterprises', New York: American Institute of Certified Public Accountants, 1970, paragraph 40)

If information is to be useful, then some obvious questions arise: useful to whom and for what purposes? A number of different types of people are likely to be dealing with business entities.

1. *Managers.* These are the people who have to make decisions, both day-to-day and strategically, about how the scarce resources within their control are to be used. They need information that will enable them to predict the likely outcomes of alternative courses of action. As part of this process, they need feedback on the results of their previous decisions in order to extend successful aspects of the decisions, and to adapt and improve the unsuccessful aspects.

2. *Investors.* A large entity may have many investors who are not the managers of the entity. Some investors are owners (the shareholders); others provide long-term debt capital. These providers of capital are concerned with the risk inherent in, and return provided by, their investments. They need to determine whether they should buy, hold or sell their investments. Shareholders are also interested in information to assess the ability of the entity to pay them a return (known as a dividend). Potential investors have similar interests.
3. *Other lenders.* Lenders (such as banks) are interested in whether loans, and the interest attaching to them, will be paid when due.
4. *Employees.* Employees and their representative groups are interested in the profitability of their employers. They also want to assess the ability of the entity to continue to provide remuneration, retirement benefits and employment opportunities.
5. *Suppliers.* These want to be able to assess whether amounts owing will be paid when due. Suppliers are likely to be interested in an entity over a shorter period than lenders, unless they depend upon the entity as a major continuing customer.
6. *Customers.* Customers need information about the continuance of an entity, especially when they have a long-term involvement with the entity.
7. *Governments.* Governments and their agencies need information in order to regulate the activities of entities and to collect taxation, and as the basis for national income and similar statistics.
8. *The public.* Entities affect members of the public in a variety of ways; for example, entities pollute the atmosphere or despoil the countryside. Accounting statements (generally called 'financial statements') may give the public information about the trends and recent developments of the entity and the range of its activities. Environmental information, broadly defined, has become much more important in recent years.

This list leads to a very important distinction, namely that between *management accounting* and *financial accounting*. Management accounting is that branch of accounting concerned with the provision of information intended to be useful to management within the business. Financial accounting is the branch of accounting intended for users outside the business itself, i.e. groups 2–8 above. The above description of these groups is closely based on a document now called *The Conceptual Framework for Financial Reporting* of the International Accounting Standards Board (IASB), discussed further in Chapter 3.

It is clear from the previous paragraphs that the needs of users to whom financial accounting is addressed are very diverse, and so the same information will not necessarily be valid for all their purposes. The IASB is mainly concerned with groups 2 and 3 above. However, the Framework (paragraph OB 10 of the 2010 version) suggests that:

> Other parties, such as regulators and members of the public other than investors, lenders and other creditors, may also find general purpose financial reports useful.

Accepting, however, that the needs of different users are likely to be different and that different users may predominate in different countries, it is clear that different national environments (cultural, political and economic) are likely to lead to different accounting practices. Indeed, financial reporting to various users (as

opposed to the mere recording of transactions, which is known as bookkeeping) reflects the biases and norms of the societies in which it is embedded. This relationship is developed later in Chapter 5.

Activity 1.A

In what various ways can and should financial reporting (the end product of financial accounting) be different from reporting to management? Think about the different purposes of these two types of accounting, and how these purposes might affect their operation.

Feedback

Management accounting can be carried out on the basis that no information need be kept secret for commercial reasons and that the preparers will have no incentive to disguise the truth. This is because the management is giving information to itself. It also follows that the information does not need to be externally checked. It can be more detailed and more frequent than financial reporting because there is no expense of external checking or publication. Also, the management will not want any biases, whereas some outside users may prefer a tendency to understate profits and values where there is uncertainty. Management may be happy for many estimates about the future to be made, which might be too subjective for external reporting. Indeed, some management accounting involves forecasting all the important figures for the *next* year, whereas financial reporting concentrates on the immediate past.

Another point is that there is no need for any rules to be imposed on management accounting, because management can trust itself. By contrast, financial reporting probably works best with some clear rules from outside the entity in order to control the management and help towards comparability of one entity with another.

Having distinguished financial accounting from management accounting, there are some further issues to address. The function of external *auditing* is separate from financial accounting. Auditing is a control mechanism designed to provide an external and independent check on the financial statements and reports published by those entities. Financial reports on the state of affairs and the past results of entities are prepared by accountants under the control of the managers of the entities, and then the validity of the statements is assessed by auditors. The wording used by auditors in their reports on financial statements varies considerably between countries, and the meaning and significance of the words that they use varies even more. There is inevitably some conflict between the necessity for an auditor to work with the management, and the necessity for provision of an independent check. A study of auditing is outside the scope of this book, but the reader from any particular country should note that the role, objectives and effectiveness of the audit function in other countries may differ from those of his or her experience. For example, in Japan, the statutory auditors of most companies are not required to be either expert or independent; in contrast, in some other countries, statutory auditors have to comply with stringent technical and independence requirements.

Another set of distinctions that must be made clear are those between *finance*, *financial management* and *financial accounting*. Very broadly, finance is concerned with the optimal means of *raising* money or investing it in financial assets,

financial management is concerned with the optimal means of *using* it inside the company, and financial accounting is the reporting on the results from having used it.

Finally, financial accounting must be carefully distinguished from bookkeeping. *Bookkeeping* underlies all the other types of accounting. It is about recording the data – about keeping records of money and financially related transactions. These raw data are used by financial accounting (and management accounting), which then chooses and presents them as appropriate for various purposes. Financial accounting acts as the *communicating* process to those outside the entity.

1.2 Entities

This book generally refers to business being conducted by 'entities', which is the word used by the International Accounting Standards Board (IASB). It is a word designed to cover all ways of organizing business operations. At one extreme, a business can be run by a single person with no other owners and no organization that is legally separate from the person. This business might be called a 'sole trader'.

The sole trader has unlimited liability for the debts of the business and pays personal income tax on the profits. If the business is to be sold, then the trader must sell the individual assets and liabilities because there is no separate legal entity to sell. Nevertheless, the trader keeps the accounts for the business distinct from other personal activities, in accordance with the 'business entity' convention, which will be discussed in Chapter 3. Otherwise, the success of the business and the basis for calculating tax will be unclear.

As the business becomes larger, it may be useful to have some joint owners (partners) who can contribute skills and money. The business then becomes a partnership, which is formalized by a contract between the partners that specifies their rights and duties. In common law countries, such as the United States and England (though not Scotland), a partnership does not have separate legal existence for most purposes. So, the partners are legally responsible for its assets and liabilities and they pay tax on their share of the profits. Nevertheless, it is possible to set up a 'limited liability partnership' (LLP) and, for example, many accountancy firms have done so. The purpose of this is to seek to protect the partners from some part of the liabilities of the business if there are large legal cases. In Roman law countries, some forms of partnership do have separate legal status, although generally the partners still pay the business' tax.

The complete legal separation of owners from their business is achieved by setting up a company, usually with limited liability for the owners, but private companies, the owners of which have unlimited liability, can and do exist. The ownership of the company is denoted by shares, which can be transferred from one owner (a shareholder) to another without affecting the company's existence. A company is a separate legal entity from its owners. The company can buy and sell assets and it pays tax on its own profit.

In many jurisdictions, including the whole of the EU and South Africa, companies can be either private or public. A private company is not allowed to create a public market in its shares, so they have to be exchanged by private agreement

between the owners and the company. Many small businesses are set up as private companies. Table 1.1 shows some designations of such companies in the EU.

Table 1.1 Some EU (and EEA) company names

	Private	*Public*
Belgium, France, Luxembourg	Société à responsabilité limitée (Sarl)	Société anonyme (SA)
Denmark	Anpartsselskab (ApS)	Aktieselskab (AS)
Finland	Osakeyhtiö-yksityinen (Oy)	Osakeyhtiö julkinen (Oyj)
Germany, Austria	Gesellschaft mit beschränkter Haftung (GmbH)	Aktiengesellschaft (AG)
Greece	Etairia periorismenis efthynis (EPE)	Anonymos etairia (AE)
Italy	Società a responsabilità limitata (SRL)	Società per azioni (SpA)
Netherlands, Belgium	Besloten vennootschap (BV)	Naamloze vennootschap (NV)
Norway	Aksjeselskap (AS)	Almennaksjeselskap (ASA)
Portugal	Sociedade por quotas (Lda)	Sociedade anónima (SA)
Spain	Sociedad de responsabilidad limitada (SRL)	Sociedad anónima (SA)
Sweden	Aktiebolag-privat	Aktiebolag-publikt
United Kingdom, Ireland	Private limited company (Ltd)	Public limited company (PLC)

Public companies are allowed to have their shares traded on markets. Some designations of public companies are also shown in Table 1.1. Public companies have to comply with some extra rules because they can offer shares to the public but these rules vary by country and are of no importance for your accounting studies at this stage. Figure 1.1 shows the four types of enterprise discussed so far. Size and complexity tend to increase towards the right.

Figure 1.1 Four types of entity

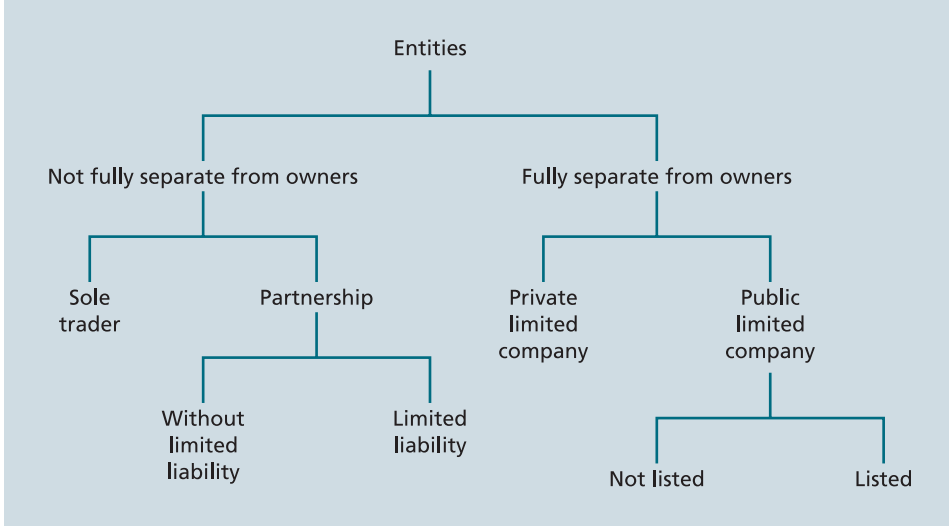


The biggest form of market for shares is a stock exchange. Companies that are listed (quoted) on a stock exchange have extra rules to obey coming from stock exchanges, regulators of stock exchanges or other sources.

There are some linguistic problems here. First, the English word ‘company’ has no exact equivalent in some other languages. For example, the French *société* and the German *Gesellschaft* are broader terms also covering partnerships. Another

problem is that the term 'public company' tends to be used, particularly in the United States, to mean *listed* company. It is true that only public limited companies in the UK (and their equivalents elsewhere in Europe) are *allowed* to be listed, but most such companies choose not to be. So, most UK public companies are not listed. Figure 1.2 expresses some forms of entities in more detail than Figure 1.1.

Figure 1.2 Entities in more detail



Activity 1.B

For your own country, try to allocate legal designations (such as those in Table 1.1) to each of the types of entity identified in Figure 1.2.

Feedback

Let us take the example of France. Some designations are clear:

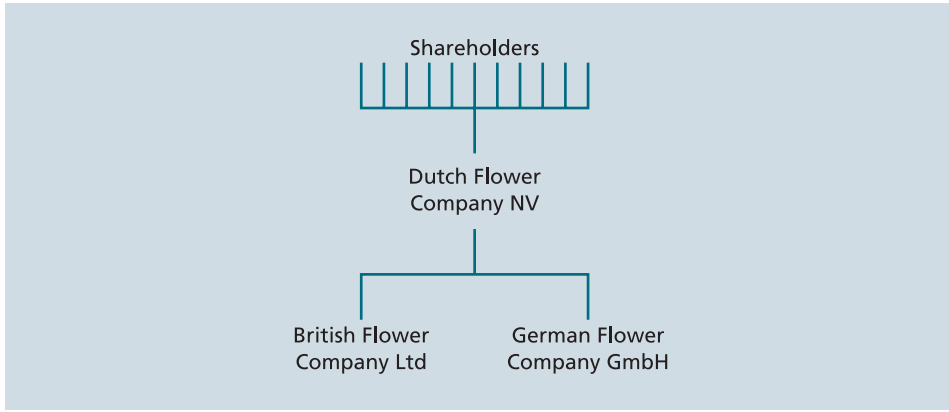
- partnerships can come in several forms, such as 'snc' (*société en nom collectif*);
- private limited companies are designated as 'Sarl' and public limited companies as 'SA'.

As another example, in the UK:

- partnerships have no designation, except that the limited liability partnership would be labelled 'LLP';
- private companies have 'Ltd' after their names and public have 'PLC'.

As a business continues to increase in size and complexity, it may find it useful to arrange its affairs as a group of companies. This is particularly the case when it operates in more than one country, because it has to deal with different laws and taxes. Figure 1.3 illustrates a possible group. In this example, the Dutch Flower Company is a public limited company with many shareholders. It owns all the shares in private companies in the United Kingdom and Germany. The Dutch company can be called the parent and the other two companies are subsidiaries.

Figure 1.3 An international group



The managers of the parent control all the decisions of the three companies, which therefore act together economically and managerially (but not legally) as a group. For many purposes it is useful to look at the total operations of the three companies added together. Financial statements that do this are called group statements or consolidated statements. The process of preparing them is examined in detail in Chapter 14.

1.3 Accounting regulation and the accountancy profession

Activity 1.C

How should the provision of accounting information to users outside the entity be controlled? Think of as many regulators and ways of regulating as you can.

Feedback

Accounting could be regulated in many ways, for example by:

- the market;
- the government, through ministries;
- parliament, through laws or codes;
- a stock exchange;
- a governmental regulator of stock exchanges;
- the accountancy profession;
- a committee of members from large companies; or
- an independent foundation or trust.

Two extreme answers to the question of regulation can be envisaged. The first is that it should be determined purely by market forces. A potential supplier of finance to a company will be more willing to supply it if the company gives relevant and reliable information about how and by whom the finance will be used. So, a company

which provides a good quality and quantity of financial information will obtain more and cheaper finance. Therefore, entities have their own market-induced incentive to provide accounting information that meets the needs of users. The second extreme answer is that the process should be regulated entirely by the 'state', and some legal or bureaucratic body should specify what is to be reported and should provide an enforcement mechanism.

Neither extreme is consistent with modern capitalist-based economies, but the balance adopted between the two varies around the world. The points mentioned so far in this section only consider the market and the state, but there is a third important force to consider, namely the private sector, including the accountancy profession.

The profession is organized into associations under national jurisdictions. For example, the European Union requires two types of organization: qualifying bodies (which set accountancy exams and might set technical rules for accounting and auditing) and regulatory bodies (which are under government control and which supervise statutory audits). In some countries, such as the United Kingdom, various accountancy bodies are allowed to fulfil both roles, and many members of the profession do not work as auditors. In some other countries, such as France and Germany, the two roles are fulfilled by separate bodies of 'accountants' and 'auditors', e.g. in France by *experts comptables* and *commissaires aux comptes*, respectively. Professional bodies are responsible for monitoring the activities of their members and for standards of both general ethics and professional competence. However, in some countries, the profession also takes on much of the role of *creating* the auditing rules under which its members will operate. In some countries (e.g. Australia, Denmark, the Netherlands, the United Kingdom and the United States), the rules that govern how entities perform their financial reporting are also set by professional bodies or by independent private-sector committees of accountants and others (as standard-setters).

The coordinating organization for the accountancy profession around the world is the International Federation of Accountants (IFAC). Its stated purpose is 'to develop and enhance a coordinated worldwide accountancy profession with harmonized standards'. International auditing standards are produced by the International Auditing and Assurance Standards Board, which is an independent body related to IFAC.

There is now widespread agreement within EU member states, and others elsewhere, of the need for carefully thought-out comprehensive regulation of both auditing and financial reporting. This statement leaves open two important points. The first is the extent to which regulation needs to be flexible in detailed application. The second is the relative position and importance of state regulation (e.g. Companies Acts or Commercial Codes) compared with private-sector regulation (e.g. accounting standards). As will be seen later (particularly in Chapter 4), differences in attitudes to both these questions can be significant in their effects on accounting practice in different jurisdictions.

An important aspect of IFAC was its relationship with the International Accounting Standards Committee (IASC). The latter was created in 1973 and, until

2001, all member bodies of IFAC were automatically members of IASC. However, as discussed in more detail in Chapter 5, with effect from 2001 the IASC and the organizations surrounding it were completely restructured. The old IASC disappeared and was replaced by an independent Foundation, the main operating arm of which is the International Accounting Standards Board (IASB). The IASC's International Accounting Standards (IASs) were adopted by the IASB but new standards are called International Financial Reporting Standards (IFRSs). Taken together, IASs and IFRSs are generically called IFRSs.

The IASB is independent and has total autonomy in the setting of international standards. The objectives of the IASB are as follows:

(a) to develop, in the public interest, a single set of high-quality, understandable, enforceable and globally accepted financial reporting standards based on clearly articulated principles. These standards should require high-quality, transparent and comparable information in financial statements and other financial reporting to help investors, other participants in the various capital markets of the world and other users of financial information to make economic decisions;
(b) to promote the use and rigorous application of those standards;
(c) in fulfilling (a) and (b), to take account of, as appropriate, the needs of a range of sizes and types of entities in diverse economic settings;
(d) to promote and facilitate the adoption of IFRSs, being the standards and interpretations issued by the IASB, through the convergence of national accounting standards and IFRSs.

The implications of diverse national backgrounds and attitudes, of diverse regulatory groupings, and of diverse attitudes to such factors as the role of law, professional independence and so on are a major underlying theme of this book.

1.4 Language

Many readers of this book will be trying not only to master a subject new to them but also doing so in a language that is not their first. For them, and even for native English-speakers, an added difficulty is that there are several forms of the English language, particularly for accounting terms. UK terms and US terms are extensively different. Some examples are shown in the first two columns of Table 1.2. At this stage, you are not expected to understand all of these terms; they will be introduced later, as they are needed.

The International Accounting Standards Board operates and publishes its standards in English, although there are approved translations in several languages. The IASB uses a mixture of UK and US terms, as shown in the third column of Table 1.2. On the whole, this book uses IASB terms.

Table 1.2 Some examples of UK, US and IASB terms

UK	*US*	*IASB*
Stock	Inventory	Inventory
Shares	Stock	Shares
Own shares	Treasury stock	Treasury shares
Debtors	Receivables	Receivables
Creditors	Payables	Payables
Finance lease	Capital lease	Finance lease
Turnover	Sales (or revenue)	Revenue
Fixed assets	Non-current assets	Non-current assets
Balance sheet	Balance sheet	Statement of financial position
Associate	Equity accounted affiliate	Associate

1.5 Excitement in accounting

Accounting is not universally regarded as an exciting and exhilarating area of activity or study, but it can be fascinating, in several ways:

- in itself, because it is an incomplete and rapidly evolving discipline and its study contains uncertainty and discovery;
- in application, because the theoretical ideas become intimately bound up with human attitude and human nature;
- in effects, because it has a major impact on financial decisions, share prices, taxes, etc.;
- in the international sphere, because of its integration with cultural, economic and political change.

At present, a further element exists that increases the interest of accounting. In this millennium there has been enormous change in several factors connected with accounting. Business is increasingly being carried out electronically; old types of industry are giving way to new; markets have become global; accounting information can travel faster and more cheaply. In Europe in particular, closer cooperation is underway. A common currency (the euro) operates in much of Europe and expansion of the European Union continues.

The final reason why accounting can be interesting – one that particularly relates to the authors – is that we are seeking to communicate the importance of accounting in a genuinely international rather than a national context. We hope that our work leads to greater understanding by readers (and between readers), whatever their backgrounds and starting points.

1.6 The path ahead

The structure of the remainder of this book is as follows. Part 1 continues by investigating the fundamental principles and conventions that form the basis of accounting thought and practice. Chapter 2 outlines the basic financial statements and their relationships. There is also a related appendix to the book to introduce double-entry bookkeeping. Chapter 3 looks at the main conventions underlying accounting, particularly at the framework of concepts used by the IASB. For the reader with no accounting background, it is essential to understand the thinking that underlies what accountants do. For the reader with previous accounting or possibly bookkeeping experience, the two chapters should still be regarded as essential reading, for they bring out the interrelationships between the various ideas and techniques. Depending on the nature of the students and the course, a study of the double-entry material in Appendix A might be suitable before, after or alongside Chapter 3.

Chapter 4 then looks at ways in which financial reporting *can* be regulated, and how it *is* regulated in several countries. Chapter 5 introduces the influences on, and the nature of, international differences in accounting. Chapter 6 outlines the normal contents of the annual reports of large commercial entities. The standards of the IASB are used as the main point of reference. Finally in Part 1, Chapter 7 introduces the topic of analysis: how to interpret financial statements and how to compare one entity with another.

Part 2 (comprising Chapters 8–15) explores the major topics of financial reporting in some detail. In many cases a variety of theoretical conclusions are possible, and a variety of different practices can be found in different countries. These are explored both for themselves and for their causes and implications. Again, the main context for the discussions is the standards of the IASB.

Finally, in Part 3 (Chapters 16 and 17) the techniques of analysing financial statements that were introduced in Part 1 are taken further and the valuation of entities is examined. This Part can be seen as the culmination of what has gone before. Financial accounting is about communication, and study of the various influences on accounting in Part 1 and of the ways of tackling the problem issues in Part 2 should help in appreciating the real information content of accounting numbers – both what they mean and, just as importantly, what they do not mean.

Summary

- Accounting is designed to give financial information to particular groups of users. Different users may need different information.
- This book is especially concerned with financial reporting by business entities to outside investors.
- Because the managers of an entity are often different people from the investors, the reports prepared by managers for those investors and other users need to be checked by auditors.

- As entities become larger and more complex, they often move from a sole trader format to a partnership to a private limited company to a public limited company. Some of the last of these have their securities traded on stock exchanges.
- The state and the accountancy profession may both play roles in the regulation of financial reporting.
- The International Accounting Standards Board (IASB) is an independent body that sets standards for financial reporting.
- The use of accounting terms differs considerably between UK, US and IASB practice.

? MULTIPLE CHOICE QUESTIONS

Answers to these questions are given in Appendix D.

1a. Which of the following are *not* foreseen as users of an entity's financial accounting:

A. Managers of the entity.
B. Shareholders of the entity.
C. Bankers to the entity.
D. Unpaid suppliers to the entity.

1b. According to the IASB, the main purpose of financial reporting is to enable:

A. The calculation of taxable income.
B. Decisions by investors.
C. Decisions by managers.
D. Control by governments.

1c. Which one of the following is correct?

A. All partnerships have limited liability.
B. Some partnerships have limited liability.
C. Partnerships never have limited liability.

1d. Which one of the following is correct?

A. All public companies have limited liability.
B. Some public companies have limited liability.
C. Public companies never have limited liability.

1e. The IASB is:

A. Controlled by the accountancy professional bodies.
B. Controlled by governments.
C. Controlled by stock exchanges.
D. Part of an independent private-sector foundation.

1f. The terminology used by the IASB is:

A. The same as US terminology.
B. The same as UK terminology.
C. Entirely different from US and UK terminology.
D. A mixture of US, UK and special IASB terms.

? EXERCISES

Feedback on the first three of these exercises is given in Appendix E.

1.1. Is financial accounting really necessary?

1.2. At least eight different groups of users of accounting information can be distinguished:

- Managers
- Investors
- Lenders
- Employees
- Suppliers and other creditors
- Customers
- Governments and their agencies
- Public

Suggest the information that each is likely to need from accounting statements and reports. Are there likely to be difficulties in satisfying the needs of all the groups you have considered with one common set of information?

1.3. Outline the relative benefits to users of financial reports of:

a. information about the past;
b. information about the present;
c. information about the future.

1.4. Do you think that users know what to ask for from their accountants or financial advisers? Explain your answer.

1.5. In the context of your own national background, rank the seven 'external' user groups suggested in the text (i.e. omitting managers), in order of the priority that you think should be given to their needs. Explain your reasons.

1.6. If at all possible, compare your answer to Exercise 1.5 with the answers of students from different national backgrounds. Try to explore likely causes of any major differences that emerge, in terms of legal, economic and cultural environments.

1.7. Explain the various possible advantages that a number of sole traders might obtain by joining together as a partnership.

1.8. Explain the various advantages and disadvantages of moving to a corporate form of business instead of operating as a partnership.

Chapter 2

Some fundamentals

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Objectives

After studying this chapter carefully, you should be able to:

- describe the principles underlying the recording of financial data;
- outline the form and properties of income statements and balance sheets;
- explain the relationships between assets, liabilities, equity, income and expense;
- prepare simple financial statements from details of transactions.

2.1 Introduction

The first chapter of this book looked at the role of accounting: what accounting is and why it exists. This chapter explores the basic ideas of financial accounting: the way accounting actually works, the logic behind the double-entry recording system, and the basic financial statements (balance sheet, income statement and cash flow statement). As suggested in Chapter 1, it is essential to understand the thinking that underlies accounting practice, but for this it is not necessary to master all the detailed techniques of bookkeeping. However, an introduction to the double-entry methodology will be needed for those who have not studied it before. Such an introduction is contained in Appendix A.

2.2 The balance sheet

A balance sheet is a document designed to show the state of affairs of an entity at a particular date. Students and practitioners of bookkeeping regard the balance sheet as the culmination of a long and complex recording process. If it does not balance, mistakes have definitely been made during the preparation process; they will have to be found. The public tends to regard the balance sheet, which contains lots of big numbers and yet apparently magically arrives at the same figure twice, as proof of both the complicated nature of accountancy and of the technical competence and reliability of the accountants and auditors involved.

However, reduced to its simplest, a balance sheet consists of two lists. The first is a list of the *resources* that are under the control of the entity – it is a list of *assets*. This English word derives from the Latin *ad satis* (to sufficient), in the sense that such items could be used to pay debts. One modern definition of 'asset' is that used by the International Accounting Standards Board (IASB) in the 2010 version of its conceptual framework:

> An asset is a resource controlled by the entity as a result of past events and from which future economic benefits are expected to flow to the entity.

The reference to a past event is so that accountants can identify the asset. It also helps them to attribute a monetary value to it.

The second list shows where the assets came from, i.e. the monetary amounts of the *sources* from which the entity obtained its present stock of *resources*. Since those sources will require repayment or recompense in some way, it follows that this second list can also be regarded as a list of *claims* against the resources. The entity will have to settle these claims at some time, and this second list can therefore be regarded as amounts due to others.

The first list could also be regarded as the ways in which those sources have been applied at this point in time, i.e. as a list of *applications*. These terms can be summarized as in Table 2.1.

A balance sheet is often defined as a statement of financial position at a point in time. Indeed, the IASB in 2007 replaced the term 'balance sheet' with the term 'statement of financial position'. It is a list of sources, of where everything came from, and a list of resources, of everything valuable that the business controls. Since

both lists relate to the same business at the same point in time, the totals of each list must be equal and the balance sheet must balance. It is defined and constructed so that it has to balance. It represents two ways of looking at the same situation.

Table 2.1 The contents of a balance sheet

First list	*Second list*
Resources controlled	Sources
Assets	Where they came from
Applications	Claims

2.2.1 Simple balance sheets

When a new business entity is created, the starting position is that there is no balance sheet because there is no entity. The new business will have to be owned by someone. This outside person or other body will put some cash (a resource) into the entity as *equity capital*. Equity is the source of the cash that the entity now owns. So, after this first transaction, we can prepare the balance sheet – our two lists of resources and claims – as in Table 2.2.

Table 2.2 The balance sheet

Resources/Applications	*Claims/Sources*
Cash	Capital (or equity)

Why it matters *The separation of the entity from the owner is implied by showing the owner's contribution as a claim/source. Without this separation, the affairs of the owner and the business would become tangled up, so that the success of the entity would be unclear.*

Notice that the cash is an asset, i.e. a resource, whereas the equity capital is a claim on the business by the owner. In a sense, the capital is 'owed' by the entity to the owner. Suppose that capital of €100,000 had been put in to begin the operation. This gives the balance sheet as in Table 2.3.

Table 2.3 Balance sheet of a new entity

Resources (€)		*Claims (€)*	
Cash	100,000	Capital	100,000
	100,000		100,000

Suppose the entity runs a retail shop that undertakes the following transactions after the initial input of capital of €100,000:

1. borrows €50,000 from the bank;
2. buys property for €50,000;
3. buys inventory (goods to be sold again) costing €45,000, paying cash;

4. sells one-third of the quantity of this inventory for €35,000, on credit (i.e. with the customer agreeing to pay later);
5. pays wages for the period, in cash, of €4,000;
6. €16,000 of the money due from the customer is received;
7. buys inventory costing €25,000, on credit (i.e. the entity pays later).

Transaction 1 creates an additional source, and therefore claim, of €50,000 in the form of a loan from the bank. In return, the business has an asset or resource of an extra €50,000 of cash.

Activity 2.A

All the transactions can be analysed in this way, as shown in Table 2.4. Look at Transactions 1–3 and make sure that you understand the changes in resources and claims (of matching size) for each.

Table 2.4 An analysis of the transactions

	Resources (€000)			*Claims (€000)*	
Transaction	*Cash*	*Receivables*	*Other assets*	*Outsiders: liabilities*	*Owner: capital and profit*
1. Original capital	+100				+100
2. Borrowing	+50			+50	
3. Buy property	−50		+50		
4. Buy inventory for cash	−45		+45		
5. Sell some inventory		+35	−15		+20 (i.e. 35 − 15)
6. Pay wages	−4				−4
7. Customer pays	+16	−16			
8. Buy inventory on credit			+25	+25	
Totals	+67	+19	+105	+75	+116

It is possible to prepare new balance sheets after each transaction. After Transaction 2, the balance sheet looks as in Table 2.5. The order of items in a balance sheet in many countries (e.g. those in the European Union) is traditionally that longer-term items are shown first.

Table 2.5 Balance sheet after loan

Resources (€)		*Claims (€)*	
Cash	150,000	Capital	100,000
		Loan	50,000
	150,000		150,000

Transaction 3 involves using some of the cash to buy a long-term asset, a property from which to operate the business (see Table 2.6). One resource (part of the cash) is turned into another resource (property), so that the total resources and claims remain the same.

Table 2.6 The balance sheet after buying property

Resources (€)		*Claims (€)*	
Property	50,000	Capital	100,000
Cash	100,000	Loan	50,000
	150,000		150,000

Activity 2.B

It is now time for you to try out a transaction to check that the topic is clear to you. Refer back to Transaction 4 in the earlier list. Which new resources or claims result from this transaction?

Feedback

Like Transaction 3, Transaction 4 does not involve any new or additional resources, only a change in application of them: €45,000 which had previously been part of the store of cash has now been changed to a different application, i.e. inventory. Total resources and total claims remain constant (see Table 2.7).

Table 2.7 The balance sheet after buying inventory

Resources (€)		*Claims (€)*	
Property	50,000	Capital	100,000
Inventory	45,000	Loan	50,000
Cash	55,000		
	150,000		150,000

Transaction 5 is rather more complicated. There are some easy aspects. First, one-third of the inventory has disappeared and so the inventory figure must be reduced from €45,000 to €30,000. Second, the customer has agreed to pay the entity €35,000. This does not mean that the entity has the cash; it does, however, have the *right* to receive the cash. This is an additional resource of the business, an additional asset. The business has something extra, namely the valuable and useful right to receive this cash. The €35,000 represents the receivable (or debtor; i.e. the customer who has an obligation to pay and from whom the business has a right to receive the additional asset). The conclusion as regards Transaction 5 is that one resource has fallen by €15,000, and a new resource has appeared in the amount of €35,000. This means that total resources have risen by €20,000. However, we cannot have a resource without a claim. What is the origin of this increase in resources of €20,000?

In intuitive terms it should be fairly clear what has happened. The business has sold something for more than it had originally paid for it. It has turned an asset recorded as €15,000 (i.e. the cost of one-third of the physical amount of inventory) into an asset of €35,000 (i.e. the receivable) through its business operations. The business has made a profit. Numerically, in order to make the balance sheet balance, it is necessary to put this profit of €20,000 on to the opposite side of the balance sheet, i.e. as a claim (see Table 2.8). Would this make sense in logical as well as numerical terms?

Table 2.8 The balance sheet after selling some inventory

Resources (€)		*Claims (€)*	
Property	50,000	Capital	100,000
Inventory	30,000	Profit	20,000
Receivables	35,000	Loan	50,000
Cash	55,000		
	170,000		170,000

The answer is 'yes', as can be seen by looking back at the second list in Table 2.1. Extra 'assets' have come from the profitable trading of the enterprise. The profits made by the business are made for the ultimate benefit of the owner, and therefore can be said to belong to the owner of the business. Since these profits have been made within the business and are still within the business, but belong to the owner, it follows that they can be regarded as claims against the business by the owner. The profit can be seen as an extra amount belonging to the owners. Finally, it was mentioned earlier that claims can also be seen as sources. What is the source of these extra resources? The answer is that the source is the successful result of the trading operation. Profits *are* a source. At its simplest, the profit can be measured numerically as an increase in the assets.

So the balance sheet shown in Table 2.8 follows from this accounting. The extra resources of €20,000 are represented by extra sources of €20,000, namely the profit that is an additional ownership claim on the business. The profit change shown in the transition from Table 2.7 to Table 2.8 is not accompanied by a change in the amount of cash, because cash has not yet been received from the customer.

It should be obvious by now that each transaction has at least two effects on the financial position. This should also be clear from the analysis in Table 2.4. Note how Transaction 5 has been recorded there.

Why it matters *Without good records of the receivables (debtors) and loans and other payables (creditors), the business might forget to demand its money from debtors, and would not know whether a creditor's claim for money should be paid. Financial disaster would follow.*

Moving on to Transaction 6, what two numerical alterations need to be made to the balance sheet in order to incorporate the new event?

First, the amount of cash that the entity controls as asset, resource or application goes down by €4,000. This sum of money has physically been paid out by the entity, so the amount remaining must be €4,000 less than it was before. Has this €4,000 been applied by being turned into some other asset, some other resource available to the entity to do things with? The answer seems to be 'no'. The wages relate to the past, and therefore they represent the reward given by the entity for work, for labour hours that *have already been used*.

The wages represent services provided and already totally consumed by the business as part of the process of generating profit in the trading period, which we had previously recorded at €20,000. This needs to be taken into account in calculating

the overall profit or gain made by the entity through the operations over this trading period. Thus €4,000 needs to be deducted from the profit figure of €20,000 in order to show the correct profit from the operations of the entity made for the benefit of the owner (see Table 2.9). The wages involved a reduction in assets (cash fell) and the recognition of a reduced claim by the owners (profits fell). This reduction in the measure of profit can also be called an *expense*.

Table 2.9 The balance sheet after paying wages

Resources (€)		*Claims (€)*	
Property	50,000	Capital	100,000
Inventory	30,000	Profit	16,000
Receivables	35,000	Loan	50,000
Cash	51,000		
	166,000		166,000

Transaction 7 is straightforward. The starting position is that there was a receivable – an asset, an amount owed to the business – of €35,000. Some of this money is now received by the business. This tells us two things: first, the cash figure must increase by the amount of this cash received, i.e. by €16,000; second, the business is no longer owed the €16,000 because it has already received it. The receivable therefore needs to be reduced by €16,000 (see Table 2.10). In summary, we have an increase in the asset 'cash' and a decrease in the asset 'receivable', both by the same amount. Total applications remain the same, and therefore total sources remain the same too. The business has not borrowed money through this transaction and, equally clearly, there has been no effect on profit – all that has happened is that an earlier transaction has moved further towards completion.

Table 2.10 The balance sheet after receipt from receivable

Resources (€)		*Claims (€)*	
Property	50,000	Capital	100,000
Inventory	30,000	Profit	16,000
Receivables	19,000	Loan	50,000
Cash	67,000		
	166,000		166,000

Activity 2.C

Look back to the earlier list of transactions to find the details of Transaction 8. In this final transaction of our example, the business buys more inventory for €25,000, and so the inventory figure in the balance sheet – the resource or asset of inventory – rises by €25,000. This has not yet been paid for and so there is no corresponding reduction in any of the other resources. The total of resources therefore rises by €25,000 – and so, of course, does the total claims. What is the particular claim on the business that increases by €25,000?

Feedback

The business owes the supplier some cash for the extra inventory and therefore there is an extra claim, known as a payable (or a creditor). This is shown in Table 2.11. Also,

you can now check the analysis of all the transactions in Table 2.4 and the totals in that table.

Table 2.11 The balance sheet after further purchase

Resources (€)		*Claims (€)*	
Property	50,000	Capital	100,000
Inventory	55,000	Profit	16,000
Receivables	19,000	Loan	50,000
Cash	67,000	Payables	25,000
	191,000		191,000

The claims from third parties (outsiders other than the owner), such as the payable from Transaction 8 and the loan from Transaction 2, are obligations that can be called *liabilities*. This English word derives from the word 'liable', meaning tied or bound or obliged by law. The IASB defines a liability (in the 2010 framework) as:

> a present obligation of the entity arising from past events, the settlement of which is expected to result in an outflow from the entity of resources embodying economic benefits.

This definition portrays a liability as a negative version of an asset. Both definitions are taken further, particularly in Part 2. Claims by the owners are not called liabilities but owner's *equity* (or various similar expressions). This is because the entity generally has no legal obligation to pay particular amounts to the owners at any particular date. The English word 'equity' has a number of meanings, but in the accounting context it means the owner's stake in the entity. In Table 2.11, the equity is €116,000 (the sum of the first two items: the original capital plus the profit), whereas the liabilities to the third parties are €75,000 (the sum of the last two items).

The right-hand side of the balance sheet of Table 2.11 could be redrawn to show the two types of claims, as shown in Table 2.12. Notice how this fits with the totals of the claims in Table 2.4.

Table 2.12 The claims side of the balance sheet showing the two types

Equity		
Capital	100,000	
Profit	16,000	
		116,000
Liabilities		
Loan	50,000	
Payables	25,000	
		75,000
Total		191,000

This example has been explored at considerable length because it is useful to keep thinking in terms of resources and claims. Is a transaction changing one resource

into another? Or is it getting more resources from somewhere and therefore increasing both lists, namely both sides of the balance sheet? And if total claims increase, is it through operating successfully and making a profit or is it through borrowing money or simply not yet paying for resources acquired? Try Exercises 2.1 and 2.2 from the end of this chapter now in order to reinforce the lessons learned here.

2.3 The income statement

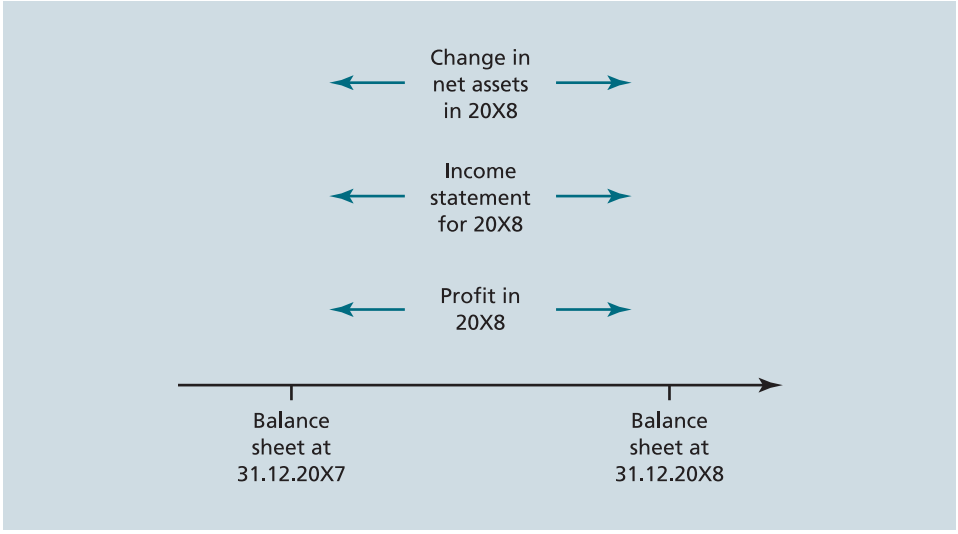
It has been shown that any transaction, event or adjustment can be recorded in a given balance sheet to produce a new and updated balance sheet. Also, provided that one follows the logic of the resources-and-claims idea, the new balance sheet must inevitably balance.

It would be possible to carry on this process in the same way for ever, producing an endless series of balance sheets after each transaction. This would not be very practicable. Instead, users of accounting information may wish to see balance sheets monthly, half-yearly or yearly. They may also require current information about the results of the operating activities of the business. In order to provide this, it is necessary to collect together and summarize those items that are part of the calculation of the profit figure for the particular period.

The transaction that led to profit in the example in Section 2.2 (the sale of inventory) was expressed as an increase in assets. The transaction that led to a reduction in the profit (the wages) was expressed as a fall in assets. The calculation of profit will generally consist of these positive and negative elements. On the one hand, when the business makes a sale, then the proceeds of the sale are a positive part of the profit calculation, which is referred to as an *income*. On the other hand, the operating process involves the consumption of some business resources, an *expense*, which is the negative part. In the example explored in detail earlier, there were two such items. First, the resource of inventory was used, and so the original cost of the used inventory was included as a negative component of the profit calculation. Second, some of the resource of cash was used to pay the wages that had necessarily been incurred in the process of the business' operations. The cost of these wages is also a negative component of the profit calculation. The two components can be seen in the 'owner' column of Table 2.4.

The income statement (called the profit and loss account in UK law) reports on flows of income and expenses of a period, whereas a balance sheet reports on the financial position (i.e. the stock of resources and claims) at the balance sheet date. Figure 2.1 shows this diagrammatically. From time to time (at least yearly), the balance sheet is drawn up to show the financial position at that particular time. For example, in Figure 2.1, the balance sheet is drawn up at 31 December 20X7 and again at 31 December 20X8. During the year 20X8, assuming that the owners have not introduced or withdrawn capital, the explanation for the changing balance sheet is the operations of the company. Overall, the assets of the company will have grown in 20X8 if there is an excess of income over expenses. The balance of the assets over the liabilities is called the net assets. This profit can also be seen as the size of (and the cause of) the increase in equity in year 20X8.

Figure 2.1 The balance sheet reports on stocks of things; the income statement reports on flows



2.3.1 Preparing the income statement

The logic of the income statement in relation to the balance sheet can be explored by reworking the transactions we used earlier, and by segregating out the expenses and the income from the other aspects of the transactions.

First, let us examine all the resources. Some of these have been used up in the period under consideration; some continue to be valuable because they will provide benefits in the future. The resources that the entity had fall into two types:

- those used up in the period (expenses);
- those remaining (assets).

The claims can be seen to fall into three types:

- those arising from operations in the period (income);
- those contributed by the owners (equity capital);
- those due to outsiders (liabilities).

We can set up a simple layout for recording our transactions under this five-way split, as shown in Table 2.13. On the left, the assets and expenses are what has happened to the sources of the entity's finance. On the right, the sources are shown. The equity capital and the liabilities are shown together, because they are both outstanding claims at the balance sheet date.

Table 2.13 Applications and sources

Applications	*Sources*
Assets	Capital and liabilities
Expenses	Income

Activity 2.D

Take a large sheet of paper and divide it into four, with the appropriate four headings (see Table 2.13). We can refer to this as the quadrant format. Then record the effects of the seven transactions shown in Table 2.4 from before (after the initial injection of capital):

2. borrows €50,000 from the bank;
3. buys property for €50,000;
4. buys inventory costing €45,000, paying cash;
5. sells one-third of the quantity of this inventory for €35,000, on credit (i.e. with the customer agreeing to pay later);
6. pays wages for the period, in cash, of €4,000;
7. €16,000 of the money owed by the customer is received;
8. buys inventory costing €25,000, on credit.

Record these transactions one at a time, as adjustments to the previous position, on the same sheet of paper. The starting position (stage 1 in our earlier list) will be a simple repeat of Table 2.3, as shown again in Table 2.14.

Table 2.14 The introduction of capital

Applications		*Sources*	
Assets		*Capital and liabilities*	
Cash	100,000	Capital	100,000
Expenses		*Income*	
	0		0
	100,000		100,000

Feedback

Transactions 2–4 are very straightforward, as they do not involve the creation of any profit and therefore do not give rise to the existence of any income or expenses. The position after incorporating Transactions 2, 3 and 4 is shown in Table 2.15.

Table 2.15 The position after Transaction 4

Applications		*Sources*	
Assets		*Capital and liabilities*	
Property	50,000	Capital	100,000
Inventory	45,000	Loan	50,000
Cash	55,000		
	150,000		150,000
Expenses		*Income*	
	0		0
	150,000		150,000

Compare this with Table 2.7. Totals have been put in on each of these tables, both for each of the four quarters and for each of the two sides. This is just to prove at each stage that the system is working properly both logically and

numerically. There is no need for you to add the totals on your large sheet of paper and, indeed, since you are recording the adjustments cumulatively you would find it messy to do so. Your sheet of paper should at this point look like Table 2.16.

Table 2.16 Working paper after Transaction 4

Applications		*Sources*	
Assets		*Capital and liabilities*	
Property	50,000	Capital	100,000
Inventory	45,000	Loan	50,000
Cash	55,000		
Expenses		*Income*	

Transaction 5 is more interesting. This gives rise to an income because some inventory has been sold for €35,000 and therefore puts a €35,000 sales figure into the income section of the table. On the one hand, as some of the resources have now been used, i.e. some of the assets have become expenses, an amount of €15,000 needs to be removed from the inventory asset and added to the expenses figure. We might call it the cost of goods sold. On the other hand, an extra resource has been created – an extra asset. The business is now owed €35,000, which it was not owed before, and this new item – this receivable of €35,000 – needs to be added to the assets section. When you have incorporated these adjustments on to your sheet of paper, in terms of pluses and minuses, you should arrive at the position shown in Table 2.17.

Table 2.17 The position after Transaction 5

Applications		*Sources*	
Assets		*Capital and liabilities*	
Property	50,000	Capital	100,000
Inventory	30,000	Loan	50,000
Receivables	35,000		
Cash	55,000		
	170,000		150,000
Expenses		*Income*	
Cost of goods sold	15,000	Sales	35,000
	185,000		185,000

Transaction 6 involves the payment of the wages bill for the period. Two points need to be recognized here: (a) the asset or resource of cash has gone down by €4,000; and (b) €4,000 of resources have been used in the operating process of the business, i.e. €4,000 has now become an expense. This €4,000 expense needs to be matched against the sales proceeds as part of the overall profit calculation for the operating period. This thinking leads to the position shown in Table 2.18.

Table 2.18 After wages have been paid

Applications			*Sources*	
Assets			*Capital and liabilities*	
Property		50,000	Capital	100,000
Inventory		30,000	Loan	50,000
Receivables		35,000		
Cash		51,000		
		166,000		150,000
Expenses			*Income*	
Cost of goods sold	15,000		Sales	35,000
Wages	4,000			
		19,000		
		185,000		185,000

The expenses (of €15,000 and €4,000) are shown indented to the left merely so that the total of assets (€166,000) and expenses (€19,000) can clearly be seen to be €185,000.

Neither Transaction 7 nor Transaction 8 involves the creation of any additional income or expenses. Transaction 7 increases the asset of cash and reduces the asset of receivables by the same amount. Cash is now being *received*, but it arises from an earlier income. The cash now received was earned at an earlier date and it is the act of earning, not the act of receiving, that determines the income. With Transaction 8 there is an additional source into the business, from the granting of credit to the business by the supplier. The application of this extra amount is the extra inventory. Incorporation of Transaction 7 and then Transaction 8 leads to the positions in Tables 2.19 and 2.20, respectively.

Table 2.19 Incorporating Transaction 7

Applications			*Sources*	
Assets			*Capital and liabilities*	
Property		50,000	Capital	100,000
Inventory		30,000	Loan	50,000
Receivables		19,000		
Cash		67,000		
		166,000		150,000
Expenses			*Income*	
Cost of goods sold	15,000		Sales	35,000
Wages	4,000			
		19,000		
		185,000		185,000

When you work out all the pluses and minuses on your sheet of paper, you should arrive at the final position as shown in Table 2.20 – but what does it mean? The bottom half of Table 2.20, the income and expenses, is an income statement. It contains all the positive parts of the profit calculation (the income) and all the negative parts of the profit calculation (the expenses). One can extract the

bottom half from Table 2.20 and present this as the detailed profit calculation – a detailed statement of the result of trading for the period. In total, the income is €35,000 and the expenses are €19,000. The profit is the difference between the two, i.e. €16,000.

Table 2.20 After Transaction 8

Applications			*Sources*	
Assets			*Capital and liabilities*	
Property		50,000	Capital	100,000
Inventory		55,000	Loan	50,000
Receivables		19,000	Payables	25,000
Cash		67,000		
		191,000		175,000
Expenses			*Income*	
Cost of goods sold	15,000		Sales	35,000
Wages	4,000			
		19,000		
		210,000		210,000

Table 2.20 may be interpreted in two ways. First, the profit (the excess of income over expenses) is clearly a *source*. Since at all times the sources into the business must equal the applications by the business, it follows that the income statement (the whole of the bottom half of Table 2.20) can be replaced by the single profit number of €16,000 on the sources side in the top half of the table. This half of the table is, of course, the balance sheet. Replacing the income and expenses parts of Table 2.20 with the single profit figure in the balance sheet as a claim leads us exactly to Table 2.11 (check back for yourself). This profit, as shown earlier, represents an additional ownership claim on the business.

Second, one could look at Table 2.20 and think purely *numerically*. The bottom half, the income statement half, has an excess of €16,000 on the right-hand side. The top half (the balance sheet half) has an excess of €16,000 on the left-hand side. How can each part balance? The answer, in purely numerical terms, is that €16,000 can be put into the left-hand side of the bottom half, and be called profit. Then €16,000 can be put into the right-hand side of the top half, and be called profit. The bottom half can now be dropped away altogether (as it consists of an equal number of pluses and minuses), leaving a balance sheet that balances. The logical interrelationship can be summarized as follows:

$$\begin{aligned} \text{Applications} &= \text{Sources} \\ \therefore \text{Assets} + \text{Expenses} &= \text{Capital} + \text{Liabilities} + \text{Income} \\ \therefore \text{Assets} &= \text{Capital} + \text{Liabilities} + \text{Income} - \text{Expenses} \\ \therefore \text{Assets} &= \text{Capital} + \text{Liabilities} + \text{Profit} \end{aligned}$$

2.4 Two simple equations

As explained above, at the end of the period the profit figure is recorded in the balance sheet to show the total claim that the owners now have on the entity. This claim is the owner's equity: the original capital plus the profit. Tables 2.11 and 2.12 showed the balance sheet in terms of assets, equity and liabilities.

This balance sheet structure could be expressed as 'the balance sheet equation':

$$\text{Assets} = \text{Owner's equity} + \text{Liabilities}$$

Rearranged, this becomes:

$$\text{Owner's equity} = \text{Assets} - \text{Liabilities} = \text{Net assets}$$

That is, the claims of the owner at a point in time (e.g. Point 1) are equal to the net assets of the entity. It will be useful to abbreviate this equation to:

$$OE_1 = A_1 - L_1$$

In this model, there are only two factors that can affect capital and cause it to change over time. These are, first, that the entity will operate and make a profit (or it could, of course, make a loss); and, second, that the owner will take some profit out of the business (by way of cash drawings) or the owner could invest extra capital in the business. Thus, if profit for period 2 $= P_2$ and drawings $= D_2$, then the increase in capital is $P_2 - D_2$. So, if OE_2 is the owner's equity at the end of period 2, then:

$$OE_2 - OE_1 = P_2 - D_2$$

and

$$OE_1 + P_2 - D_2 = OE_2$$

This is our second simple equation.

We also know that P_2 equals the income (I_2) less the expenses (E_2) of the period:

$$P_2 = I_2 - E_2$$

The important point about these equations is the generality of their truth and application. To illustrate this generality, consider the classic schoolroom problem of the tank of water containing a given number of litres. A tap is pouring water in at the top at a given rate per hour, and water is leaking out of the bottom at a given rate per hour. Clearly, (opening water) + (water in) − (water out) = (closing water). If we know any three of these items, we can find the fourth. Further, it does not matter how the water is measured, provided it is measured in the same way all the time; consistency must be applied.

The idea of using equations can be carried further by combining these equations, as follows (ignoring transactions with owners, such as drawings):

$$\begin{aligned} A_1 - L_1 &= OE_1 \\ \therefore A_1 - L_1 &= OE_0 + P_1 \\ \therefore A_1 - L_1 &= OE_0 + I_1 + E_1 \\ \therefore A_1 + E_1 &= OE_0 + I_1 + L_1 \end{aligned}$$

This, of course, is a rephrasing of Tables 2.13 to Tables 2.20, which showed assets and expenses on the left, and the other items on the right. The equation links together the five 'elements' of the financial statements. As explained in Appendix A, the items on the left (the applications) are called *debits* in the double-entry system, and the items on the right (the sources) are called *credits*.

Why it matters

- *The self-balancing nature of the accounting system shows up certain types of errors very efficiently.*
- *The equations are needed in computer systems that run the accounting of businesses.*

There is one further implication of all this, concerning the exact definitions of the five elements of financial statements. The term 'equity' needs no separate definition because it rests on differences in the other four. However, there is a practical problem with the definitions of the other four elements, as will now be explained. Let us take the resources given in our examples. In principle, as explained before, there should be no contradiction here, because:

(a) assets = the resources with remaining future benefits at the period end;
(b) expenses = the resources used up in the period.

It is time-consuming to have to measure both. Judgement is required in the measurement of either because there will be doubt about which category to put some resources into. Consequently, in practice, two methods are available:

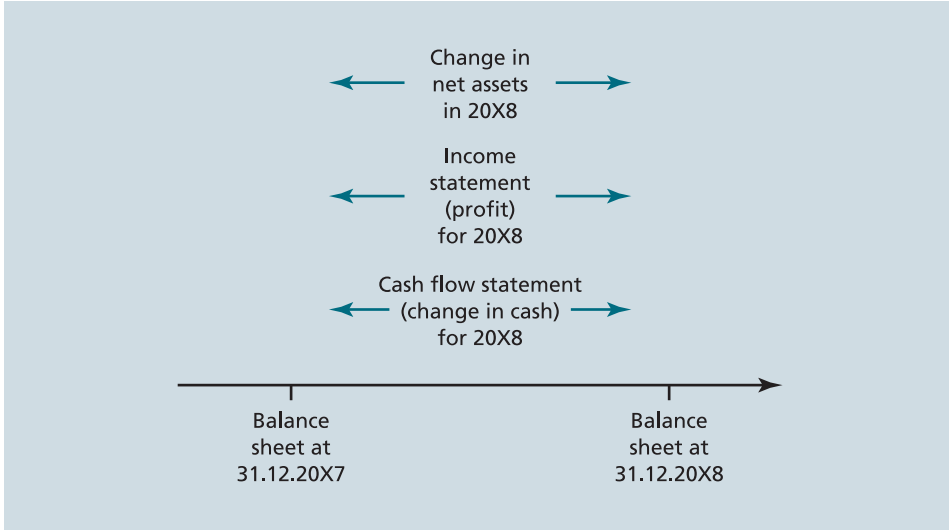
1. Expenses = resources used up in the period. Therefore
   Assets = the rest of the resources.
2. Assets = resources with remaining future benefits at the period end. Therefore
   Expenses = the rest of the resources.

Method 1 above, giving primacy to the definition of 'expense' (and 'income'), was the traditional way of doing accounting. It concentrates on transactions in a period. It leaves assets (and changes in their values) as a secondary consideration. However, from the 1970s onwards there have been moves towards Method 2, giving primacy to the definition of 'asset' (and 'liability'). This is now the IASB's approach when setting accounting standards. This major point affects many issues and will be taken further in later chapters.

2.5 How cash flows fit in

In order to understand the operations of an enterprise and to predict its future, it is useful to examine its flows of cash as well as its flows of profit. These two sets of flows are different. For example, in terms of the eight transactions of Section 2.2, the first four (receiving a capital input, borrowing money, and buying property and inventory) led to inflows and outflows of cash but no profits. The fifth transaction (selling the inventory for later payment by the customer) led to profit but no immediate cash flow.

Figure 2.2 Flows during an example accounting period



As examined later in more detail (see Chapters 6 and 13), a statement of cash flows is drawn up for the accounting period. It shows how cash has come in and out in the period, as an explanation of the change in total cash in the balance sheet from the beginning to the end of the period.

A restatement of the earlier Figure 2.1 to include cash flows is shown as Figure 2.2. In terms of the earlier example, the first column of numbers in Table 2.4 shows all the transactions involving cash flows. They could be summarized in three types, as in Table 2.21.

Table 2.21 A summary of the cash flows in Table 2.4

	€000
Operating flows (inventory −45, wages −4, customers +16)	−33
Investing flows (property −50)	−50
Financing flows (owner +100, bank +50)	+150
Cash change (starting from no cash)	+67

Mastering the fundamentals

It is important that you are able to follow and to apply the logic behind the system outlined in this chapter. Self-assessment questions are available on the Companion Website. Appendix A contains a detailed introduction to double-entry bookkeeping. Some readers will already be familiar with the techniques involved, but nevertheless a revision of them might be useful. For any reader, some familiarity with double entry will be necessary. A number of numerical exercises are given at the end of this chapter and for some of these there are suggested solutions and discussion of the adjustments required given in Appendix E. The exercises will be easier once the material in Appendix A has been mastered.

Summary

- A balance sheet is a periodic statement of the state of affairs or financial position of an entity. It contains a list of resources/applications and a list of claims/sources. The totals of the two lists are equal.
- Resources/applications are assets, and claims/sources are equity capital and liabilities. Transactions have equal-sized effects on both resources and claims. So the balance sheet balances.
- Making a profit leads to extra resources and increases the claims on the business from the owners.
- The income statement brings together all the income and expenses that cumulate to profit.
- Applications/resources can be used up in a period as expenses. What remains is assets.
- Sources/claims can be due to outsiders (liabilities) or can arise from this year's income or from the owners' contributions.
- Assets plus expenses equal opening owner's equity plus income plus liabilities. In terms of Appendix A, debits equal credits.

? MULTIPLE CHOICE QUESTIONS

Answers to these questions are in Appendix D.

2a. A company buys inventory for €1,000, on defined terms for later payment. The effect is to:

A. Increase total assets and increase total ownership claims.
B. Leave total assets and total claims unchanged.
C. Increase total assets and increase total non-ownership claims.
D. Increase inventory and reduce cash.

2b. The same company as in Question 2a then sells half the inventory for €1,200, received immediately in cash. The effect is to:

A. Increase total assets and increase total ownership claims.
B. Leave total assets and total claims unchanged.
C. Increase total assets and increase total non-ownership claims.
D. Reduce inventory and reduce total non-ownership claims.

2c. A balance sheet (statement of financial position) shows:

A. The assets used during the period.
B. The assets available for use in the next period.
C. The cash generated in the period.
D. The total assets generated in the period.

2d. Which of the following is correct?

A. A balance sheet shows stocks and an income statement shows flows.
B. A balance sheet shows flows and an income statement shows stocks.
C. A balance sheet shows stocks and an income statement shows stocks.
D. A balance sheet shows flows and an income statement shows flows.

2e. Which one of the following is NOT correct?

A. Assets − Liabilities = Owner's equity
B. Assets + Expenses = Owner's equity brought forward + Income + Liabilities.
C. Assets + Expenses = Owner's equity carried forward + Income − Liabilities.
D. Assets − Liabilities = Owner's equity brought forward + Income − Expenses.

? EXERCISES

Feedback on the first two of these exercises is given in Appendix E.

2.1. The information in Table 2.22 relates to entity F, which started business on 1 January 20X1 when €150,000 was paid in as capital.

(a) Convert this information into balance sheets at the end of the two years shown. What is then revealed as the missing item?
(b) What conclusion can you draw about the performance of F during 20X1 and 20X2?
(c) Would your conclusion be affected if you knew that the entity had paid €15,000 to the owner during 20X1?
(d) Does the figure for delivery vans at 31 December 20X2 surprise you? If so, why?

Table 2.22 Financial data for F

	31 Dec. 20X1 (€)	*31 Dec. 20X2 (€)*
Cash at bank	19,000	36,000
Inventory of goods	32,000	29,000
Shop	135,000	135,000
Wages owed to staff	800	750
Amounts owed to supplier	26,500	21,250
Amounts owed by customers	35,000	34,000
Loan to F from bank	50,000	50,000
Cash	500	2,000
Delivery vans	10,000	10,000

2.2. Company G has a hardware business. The balance sheet at the beginning of the financial year showed the position in Table 2.23.

Table 2.23 Balance sheet for G

		(a)	*(b)*	*(c)*	*(d)*	*(e)*	*(f)*	*(g)*
Shares	50,000							
Profit	7,000							
Payables	12,000							
	69,000							
Premises	20,000							
Equipment	9,000							
Vehicle	7,000							
Inventory	15,500							
Receivables	2,500							
Bank	14,700							
Cash	300							
	69,000							

Show the adjustments, in the columns provided, for each of the following transactions.

(a) Goods were sold for €4,000 (cash sales €3,000, credit sales €1,000), which had originally been included in the inventory at €2,800.
(b) An invoice for van-running expenses of €400 was received and paid immediately by cheque.
(c) Cheques of €8,000 were written and sent to creditors (payables). The €3,000 received from the cash sales was paid into the bank.
(d) The vehicle was sold at net book value for €7,000 cash, which was paid into the bank immediately.
(e) Cash €500 and cheques €2,000 were received from debtors (receivables).
(f) Office equipment (recorded in the books at €400) was sold for €700 cash.
(g) Company G then announced that it would pay €1,000 to the owners in one month's time, after the balance sheet for the year had been finalized.

2.3. Kings Cross Co.

	€		€
Land and buildings	110,000	Share capital	150,000
Machinery	50,000	Retained profits	5,000
Vehicles	25,000	Loans (10%)	20,000
Inventory at end of the year	30,000	Payables	50,000
Receivables	35,000		
Cash at bank	10,000		
	260,000		225,000
Cost of goods sold	90,000	Sales	160,000
Wages	20,000		
Rent, insurance, sundry expenses	15,000		
	125,000		160,000

The above information has been taken from the company's books as at 31 December 20X1, but the following have not yet been allowed for.

(a) Rent owing but not yet paid amounting to €1,000.
(b) Insurance paid includes €3,000 which relates to next year.
(c) Audit fees not yet included and not yet paid are €1,500.
(d) Machinery and vehicles are to be depreciated by 10%.
(e) Land and buildings have been revalued at €150,000.
(f) Interest on the loans has not yet been paid.

Record the appropriate adjustments on the quadrant (see Activity 2.D) and draw up the balance sheet and income statement.

2.4. Kings Happy Co.

	€
Sales	147,500
Land and buildings	60,000
Plant and machinery	40,000
Purchases	50,000
Wages and salaries	41,000
Commission to sales staff	6,000
Vehicles	30,000
Share capital	150,000
Inventory at start of year	20,000
Receivables	20,000
Rent, insurances, sundry expenses	8,500
Cash discounts allowed	1,500
Shares in listed company	40,000
Cash at bank and in hand	25,500
Payables	37,000
Retained profits	6,000
Dividends received from listed investment	2,000

The above information has been taken from the company's books as at 31 December 20X1, but the following has not been allowed for.

(a) Inventory at the end of the year is €25,000.
(b) Audit fees owing amounted to €500.
(c) Machinery and vehicles are to be depreciated by 10% and 20%, respectively.

Satisfy yourself that total sources equal total applications before making necessary adjustments for (a)–(c). Then draw up the balance sheet and income statement.

2.5. Kingsad Co.

	€
Land and buildings	100,000
Share capital	100,000
Plant and machinery	50,000
Retained profits at 1 January 20X1	46,000
Purchases	70,000
Sales	150,000
Inventory at 1 January 20X1	30,000
Wages and salaries	40,000
Sales returned by customers as unacceptable	1,000
General expenses	10,000
Receivables	25,000
Payables	30,000

This information has been taken from the company's books as at 31 December 20X1, but the information below has not been allowed for.

(a) Inventory at 31 December 20X1 is €20,000.
(b) Plant and machinery is to be depreciated by 10%.
(c) Land and buildings is to be revalued to €150,000.
(d) General expenses includes an insurance charge of €1,000 covering the period 1 July 20X1 to 30 June 20X2.
(e) A receivable for €1,000 has gone bankrupt.

Using the quadrant format (see Activity 2.D), incorporate the additional information and prepare the closing balance sheet and income statement.

Chapter 3

Frameworks and concepts

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Objectives

After studying this chapter carefully, you should be able to:

- describe the links between the fundamentals of Chapter 2 and the financial reporting system used under IFRS;
- explain the main purposes of financial reporting under IFRS;
- outline some fundamental concepts underlying all financial reporting;
- define the concepts to be found in the IASB's Framework;
- explain the various levels of concepts, their interrelationship and some inconsistencies.

3.1 Introduction

Activity 3.A

Before you start reading this chapter, try to think of all the different types of people who might use balance sheets, income statements and cash flow statements, and why. Draw up a list. The work that we did in Chapter 1 will come in useful here.

Feedback

Financial statements might be used for various purposes by many users, including:

- managers of the enterprise (to assess performance and to make financial decisions);
- the owners of an enterprise (to assess the success of their investment and of the managers);
- potential investors who are thinking of becoming owners (to decide whether to invest or not);
- lenders, including the bank (to decide whether to lend or not);
- suppliers (to assess whether they will be paid or not);
- customers (to assess whether the company will continue or not);
- tax authorities (as a basis for the calculation of taxable profits);
- employees (to assess the stability and prospects of their employer);
- governments (for economic and social planning);
- competitors (to assess the strength of their competition).

Accounting has evolved over thousands of years without (until recently) any clearly articulated purpose, or at least without any single purpose. Accounting has been used to record debts due from customers, calculate taxable income, calculate the split of profit among owners, help management to decide where to expand business and so on. For different users and uses, different types and amounts and frequencies of accounting might be useful.

In Chapter 2, some fundamentals of accounting were examined, including the recording of transactions and the preparation of periodic financial statements. These fundamentals are relevant for any of the above purposes. However, this book is particularly concerned with financial reporting published by commercial entities for users who are external to the entity, particularly investors. Although there are several variations around the world, one general type of accounting has gradually come to be accepted internationally for this purpose, particularly for large commercial companies. This dominant type of accounting is that set out in International Financial Reporting Standards (IFRS). The rules of this type of accounting are based on a published 'conceptual framework' of concepts, which can be summarized as follows:

- the main users of financial statements are investors (existing and potential);
- the investors' main objective is to make economic decisions;
- this means that they need to predict an entity's future cash flows;
- so, financial reporting should provide relevant information that faithfully represents the underlying economic events.

The IASB's conceptual framework makes it clear that the *primary* purpose of financial reporting under this system is *not*:

- to help management to make decisions or to calculate taxable income; or
- to calculate what is legally and prudently distributable to the owners; or
- to check up on what the managers have done with the owners' money.

All these uses for accounting are perfectly reasonable and some systems of accounting are particularly designed to achieve these purposes. In certain countries the bias *is* towards some of these uses, as explained in Chapter 5. For example, if the main purpose of accounting were to calculate prudently distributable income, great emphasis would be placed on never overstating any assets or income (see 'Prudence or conservatism' in Section 3.3.4 below). Or, if the main purpose of accounting were to check up on the stewardship of managers, then some emphasis would be placed on recording assets at what had been paid for them. There are plenty of examples of such influences on current accounting practices.

Even in IFRSs, many hints of other objectives of accounting can be detected, particularly the stewardship objective. Also, accounting information prepared specifically for one purpose could nevertheless be used for others. However, the main purpose of assisting economic decisions (see particularly Chapter 1 of the IASB's Framework, as amended in 2010), as outlined above, is now assumed in the development of IFRSs.

Such a framework of ideas was first published in final form by the US standard-setter (the Financial Accounting Standards Board, FASB) from the late 1970s and was followed in most respects by the then International Accounting Standards Committee (IASC) in 1989. The framework was somewhat amended, jointly with the FASB, in 2010. In 2015, an Exposure Draft (ED) was issued on proposed further amendments.

Several other English-speaking countries have very similar frameworks. In most countries other than these, there is no explicit detailed framework, particularly where accounting rules are largely confined to laws. This book will concentrate on the IASB's version of the conceptual framework, including the amendments proposed in 2015.

Why it matters

- *Unless the standard-setters decide on the intended users and uses of accounting, it is unlikely that the accounting system will be designed to be useful.*
- *In most countries, there is no explicit framework. In many countries, other purposes than helping investors to make economic decisions seem to be the main focus of accounting. For these reasons, accounting is performed differently from place to place, and financial statements cannot be easily compared internationally unless all the companies are using IFRS.*

The IASB's and other frameworks also contain an examination of the five 'elements' of financial statements: assets, liabilities, equity, income and expenses. These were looked at in Chapter 2, where it was noted that primacy is given to the definitions of 'asset' and 'liability'.

Activity 3.B Consider who is expected to make direct use of a conceptual framework.

Feedback A framework is not itself an accounting standard, as its main purpose is to guide the standard-setters when they are writing or revising accounting standards. However, it should also be used as general guidance by those preparing or auditing financial statements, especially when an accounting policy is changed or when one has to be created for a transaction not directly covered by IFRS. Of more direct general effect is International Accounting Standard No. 1 (IAS 1, Presentation of Financial Statements). This applies some of the Framework's ideas for use by accountants when preparing financial statements.

3.2 Underlying concepts

Before we get to the IASB's main qualities of good accounting, we must discuss four other concepts that underlie financial reporting.

3.2.1 Business entity

This convention holds that an entity has an identity and existence distinct from its owners. To the accountant, whatever the legal position, the business and its owner(s) are considered completely separately. Thus the accountant can speak of the owner having claims against the entity. Think of the basic balance sheet, as in Table 3.1.

Table 3.1 The basic balance sheet

Assets	Equity Liabilities
Total	Total

A properly prepared balance sheet can always be relied upon to balance. This is because equity is the balancing figure, as discussed in Chapter 2. The equity is equal to the amount of wealth invested in the entity by the owner or the amount of money obtained by the entity from the owner or the amount the entity 'owes' the owner. None of these three statements can be made unless the accountant is treating the entity as separate from the owner. Strictly speaking, the entity does not usually 'owe' the owner because, generally, share capital cannot be paid back to shareholders unless the company is closed down. A completely different balance sheet could be drawn up for the owner as an individual. This would contain a record of the owner's investment in the entity, shown as one of the owner's personal assets.

In Section 3.5 below, we note that often several entities act together as groups. Accountants can view a group as an entity to report on.

3.2.2 Accounting period

This very simple convention recognizes that profit and cash flow occur over time and we cannot usefully speak of profit or cash flow until we define the length of the period. The maximum length normally used is one year. This does not, of

course, preclude the preparation of statements for shorter periods as well. Large businesses report externally on a half-yearly or quarterly interim basis and they may be reporting internally on a monthly basis.

Why it matters *The activities of most businesses are designed to carry on indefinitely. However, users of accounting information need regular reports on progress. So, accountants have to make cut-offs at annual or more frequent intervals. Many accounting problems arise from trying to give an account of unfinished operations.*

3.2.3 Accrual basis, including matching

The accrual basis was invented as part of trying to measure performance for a period. The essence of the convention is that transactions should be recognized when they occur, not by reference to the date of the *receipt* or *payment* of cash. Also, the process of profit calculation consists of relating together (matching) the revenues with the expenses; it is not concerned with relating together cash receipts and cash payments. Both ways of calculating may be relevant for prediction of the future. The balance sheet and the income statement are based on the accrual convention, but the cash flow statement is not.

Let us take some simple examples of the application of the accrual basis to income and expenses. First, in some cases, cash receipts of last year may be income of this year. If a business rents out some premises and asks for rent in advance, there may be some rent paid to the business last year on behalf of this year. Also, a social club may have received some of this year's subscriptions during last year. In cases like this, cash is received in the accounting year before the one in which it is recognized as income. At the time of its receipt there were the effects shown in Figure 3.1.

Figure 3.1 Effects of accruals (1)

During last year	
+ Cash	+ Revenues received early (shown as payables/creditors)
This year	
	+ Profit (revenue) – Revenues received early

There may be examples of reverse situations to those above. That is, at the end of the year there may be rents not yet received that relate to the year or credit sales not yet paid for by customers. When these amounts are received during the following year, the cash receipts of that later year will result from the income of this year. At the end of this year there will be cash due, as in Figure 3.2.

Similarly, payments of last year may be expenses of this year. Examples of this are rents or insurance premiums paid last year by a business to cover part of this year. This gives rise to effects as shown in Figure 3.3.

Figure 3.2 Effects of accruals (2)

This year	
+ Receipts due (shown as receivables/debtors)	+ Profit (revenue)
During next year	
– Receipts due + Cash	

Figure 3.3 Effects of accruals (3)

During last year	
+ Prepayments – Cash	
This year	
– Prepayments	– Profit (expense)

The reverse of this is where expenses of this year are not paid until next year. This gives rise to accrued expenses, shown as a credit balance in this year's balance sheet. These points are illustrated in a double-entry context in Appendix A.

As noted above, the relating together of income and expenses is called 'matching'. For example, let us look at the treatment of the purchase of an asset, such as a machine, which lasts for more than one accounting period. It might be paid for immediately but be used in production to earn income for 10 years. In order to match the expense with the income, the expense of the asset is charged over the 10 years. This expense is called 'depreciation'; it is a charge for the wearing out of the asset. There is further examination of the recognition of income and of depreciation in Chapters 8 and 9.

IAS 1 (paragraph 27) describes the accrual basis of accounting, but notes that 'the application of the matching concept does not allow the recognition of items in the balance sheet which do not meet the definition of assets or liabilities'. This confirms the point made in Chapter 2 that the IASB's Framework gives primacy to the definition of asset/liability rather than income/expense.

3.2.4 Going concern

This important convention states that, in the absence of evidence to the contrary, it is assumed the business will continue for the foreseeable future. This convention has a major influence on evaluating particular items in the balance sheet. It allows the assumption that inventory will eventually be sold in the normal course of business, i.e. at normal selling prices. It allows for the idea of depreciation. If the entity depreciates an item of plant over 10 years, then it is assuming that the plant will have

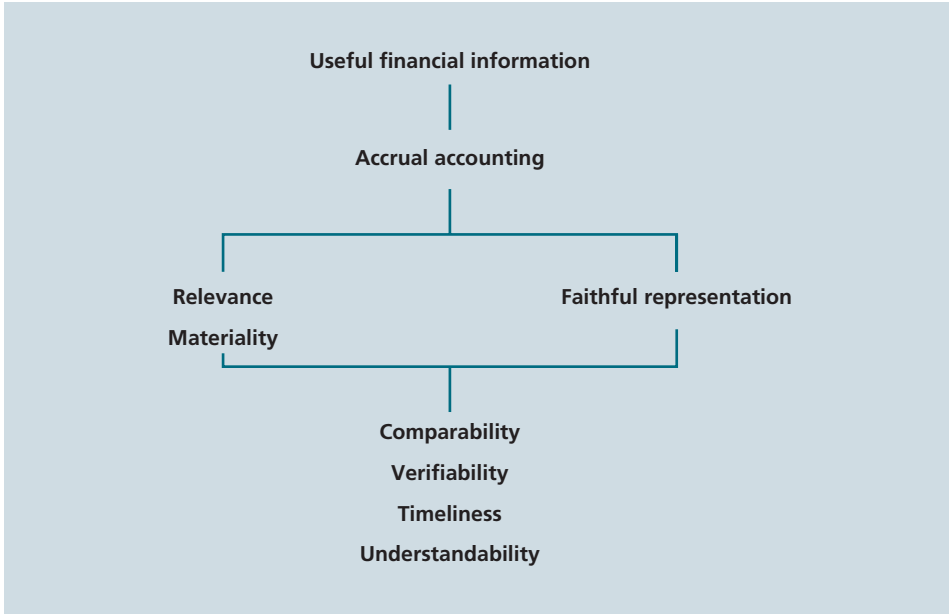
a useful life *to the entity* of 10 years. This assumption can only be made by first assuming that the entity will continue in operation for at least 10 years. The accountants and the auditors need to check that this assumption is valid for the entity.

3.3 The IASB's list of qualitative characteristics

3.3.1 Overall objective

A large number of concepts, assumptions, etc. can be found in the IASB's Framework and in IAS 1, but they could be summarized as in Figure 3.4. The overall objective is to give a fair presentation of the state of affairs and performance of a business, so that users of financial statements can make good decisions (IAS 1, paragraph 9). Fair presentation could also be referred to as giving 'a true and fair view', which is the fundamental requirement in the European Union and a number of countries formerly under British influence. Chapter 5 deals with this in more detail. In order to achieve a fair presentation, it is important that the information presented is relevant and faithfully represents the underlying economic events.

Figure 3.4 **IASB's concepts**



3.3.2 Relevance

It is clear that, in order to be useful, information must be relevant to its purpose, which is economic decision-making. This requires predictions of future cash flows by the investors and others, which can be based partly on relevant past and present information in statements such as the balance sheet and income statement.

Connected with this is the concept of materiality, which implies that insignificant items should not be given the same emphasis as significant items. The

insignificant items are by definition unlikely to influence decisions or provide useful information to decision-makers, but they may well cause complication and confusion to the user of financial statements. Immaterial items do not deserve separate disclosure and may not need to be accounted for strictly correctly. What is 'immaterial' in any particular context may be a highly subjective decision.

3.3.3 Faithful representation

The readers of financial statements should not be misled by the contents of the statements. Transactions, assets and liabilities should be shown in such a way as to represent as well as possible what underlies them. For example, a balance sheet should not show an item under the heading 'assets' unless it meets the definition of an asset. This assumes that readers have a good grasp of the concepts used. Faithful representation also implies a lack of errors that would affect the interpretation of the accounting numbers.

Economic substance

This concept is part of faithful representation. It is sometimes expressed as showing the economic substance of transactions rather than their legal form. However, this is too simple. The exact economic substance will rest on the exact legal arrangements. The issue here is to see through any superficial legal or other arrangements to the real economic effects.

To take an example, suppose that an enterprise signs a lease that commits it to paying rentals to use a machine for the whole of the expected life of the machine. This is very similar to borrowing money and buying a machine, in the sense that the enterprise (under either arrangement) has control over the operational use of the asset and has an obligation to pay money. The legal form is that the enterprise does not own the machine or have any outstanding unpaid debt owing, but the substance is that it has an asset and a liability (see the definitions in Chapter 2).

Similarly, if an enterprise sold a machine to a financial company and immediately leased it back for most of its life, the legal form is that there has been a sale but the substance is that the enterprise still has the asset.

Neutrality and prudence

To be faithful, information needs to be free from bias, otherwise the prediction of the future will be warped. However, accounting is famous for having a bias: prudence or conservatism. Full-blown conservatism can still be found in some countries in order to protect certain users (including creditors) from the risk of making financial statements look too good, particularly given the excessive optimism of some businesspeople. Recognizing that a number of estimates are involved in accounting, an accountant, according to this convention, should ensure the avoidance of overstatement by deliberately setting out to achieve a degree of understatement. This requires that similar items, some of which are positive and some of which are negative, should not be treated symmetrically.

In the IASB's Framework before 2010, prudence was included but not supposed to be this overridingly strong. It was instead the exercise of a degree of caution in the context of uncertainty. In the 2010 version of the Framework, prudence was deleted because it implied a lack of neutrality. After complaints, particularly in Europe, the 2015 ED

proposed to re-insert prudence with its original meaning. This included a suggestion that there was no conflict with neutrality, which seems to be counter-intuitive.

Why it matters *The natural enthusiasm of entrepreneurs might lead to assets or profits being overstated, thereby misleading lenders and others about how strong the business is. If, instead, accountants try to be prudent, they might understate assets and profits, leading investors to make the wrong decisions by selling shares too soon or by not buying enough.*

Completeness

Information needs to be as complete as possible within the constraints of materiality. Any important omissions would cause the financial statements to be misleading. However, the rule-makers (in this case, the IASB) should bear in mind that some demands for information may be too costly to the enterprise. The benefits of the information should outweigh the costs of producing it.

3.3.4 Enhancing characteristics

Comparability, including consistency

Financial information is unlikely to be relevant unless it can be compared across periods and across companies. This requires as much consistency as possible in the use of methods of measuring and presenting numbers; it also requires that any changes in these methods should be disclosed.

Verifiability

This means that different observers should be able to come to approximately the same view about whether or not a faithful representation is being given by the information. So, information must be capable of being checked in various ways.

Timeliness

Relevance is increased if information is up to date. This raises a common problem that there may be an inconsistency between concepts. For example, the need to ensure reliability of information may slow down its publication. The regulators of financial reporting in many countries set time limits for the publication of financial statements and require reporting more than once a year.

Understandability

Clearly, information cannot be relevant unless it can be understood. However, in a complex world, information may have to be complex to achieve a fair presentation. The rule-makers and preparers assume that the important users are educated and intelligent.

3.4 A hierarchy of concepts and some inconsistencies

There are several levels of concept. These could be summarized as follows:

- ***Level A.*** The ultimate purpose of accounting, according to the IASB: to give a fair presentation of information in order to help users to make economic decisions.
- ***Level B.*** A series of derivative concepts and conventions related to relevance and faithful representation.

- ***Level C.*** Detailed technical rules about how to recognize, measure and present assets, liabilities, equity, income, expenses, cash flows and various related disclosures. For example, a Level C rule could be that the valuation of land and buildings must be based on their original cost not on their current value.

One problem with Level B has already been noted when examining the various concepts. That is, there are inconsistencies such as the following:

1. ***Timeliness, completeness and faithfulness.*** Timeliness increases the relevance of information. Reports which are published six months after a period ends might be of little use for making decisions. However, fast reporting is difficult if it is supposed to contain all the necessary and relevant facts. Also, fast reporting is difficult if the information needs to be checked. Unless it is checked, we cannot be sure it is accurate, in which case, it might not represent the situation faithfully.
2. ***Relevance and verifiability.*** Investigate this conflict by trying Activity 3.C.

Activity 3.C

Consider the best way to arrive at a balance sheet value for assets, such as land and buildings. Which methods of measurement might be most relevant and which most verifiable?

Feedback

Some form of current value (e.g. today's selling price or replacement cost) would provide more relevant information than the cost of several years ago. However, all these values are estimates, so original cost might be more verifiable.

Since the detailed rules at Level C are based on somewhat vague and potentially inconsistent concepts at Levels A and B, there is plenty of scope for different rules in different countries and at different times. Of course, this diversity is even more likely where different frameworks are in use or where there is no explicit framework. In many systems, including IFRS, some of the detailed rules were made before the frameworks were agreed upon. As a result, some IASB standards are not consistent with the IASB's Framework (e.g. see Section 9.4 on leasing).

In IFRSs, the Level A objective (fair presentation) is to be used for the following purposes:

- to guide standard-setters when making Level C rules in individual accounting standards;
- to guide preparers and auditors of financial statements in interpreting the Level B concepts and the Level C rules;
- to guide preparers and auditors in creating accounting policies in the absence of a relevant Level C rule;
- to require preparers sometimes to make extra disclosures in order to achieve a fair presentation;
- in exceptional circumstances, to require preparers to depart from Level C rules in order to achieve a fair presentation.

The last of these (the 'override') is controversial. Philosophically, it makes sense to be able to override detailed rules in pursuit of the ultimate objective. However,

given that that objective is vague, it might allow preparers to evade rules they do not like. This issue is taken further in Chapter 5.

In member states of the EU and in some other European countries, laws are based on an EU Directive, revised in 2013 (see Chapter 5). This contains a similar Level A objective to that in IFRS, including an override. It also contains somewhat similar Level B concepts, though with a greater emphasis on prudence, and several Level C rules, many of which contain options.

3.5 The reporting entity

One topic not currently covered by the IASB's Framework is 'the reporting entity', i.e. what is the boundary or scope of the entity that is reporting. The IASB issued an Exposure Draft on this in 2010, and it forms the basis of Chapter 3 in the Framework ED of 2015.

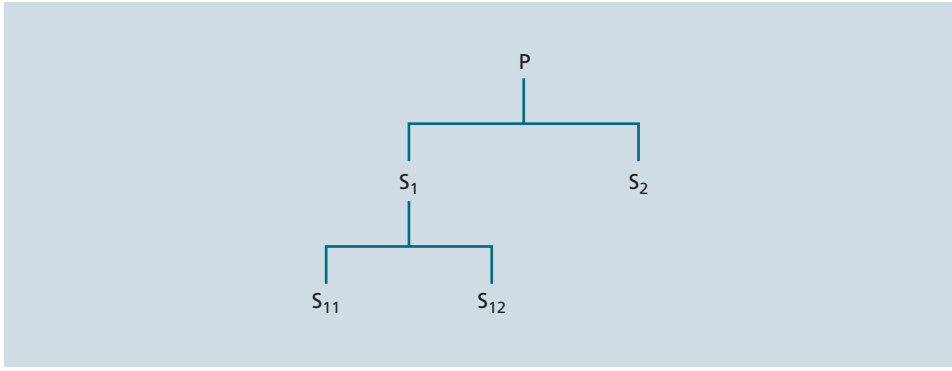
The key issue relates to the concept of a group of entities. In practice, nearly all the world's important companies are groups of entities that operate together. Let us take the example of Nokia, the Finnish telephone company. The public can buy shares in a company called Nokia. It is a legal entity and it transacts business in its own right. However, much of the activity goes on in subsidiary legal entities in Finland and many other countries. For example, there are major manufacturing subsidiaries in seven countries. These subsidiaries are legal entities. They pay taxes locally. They pay dividends up to the top parent company.

A simplified example is shown as Figure 3.5. There are five legal entities: one parent (P), two direct subsidiaries (S_1 and S_2) and two subsidiaries of subsidiary S_1.

Just as accountants have created a definition of 'asset' based on control, so they have created a definition of 'subsidiary' based on control. So, a subsidiary entity is one controlled by a parent entity. The parent and the subsidiaries therefore act together as a group.

Accountants prepare 'consolidated' financial statements for the group as a whole. Approximately speaking, this involves adding together the financial statements of all the group members, e.g. the five companies in Figure 3.5. Chapter 14

Figure 3.5 A simple group



examines this in some detail. The accountants would also prepare, in this case, five sets of 'unconsolidated' financial statements. Whether or not these are published depends on the national regulations.

Summary

- This chapter has pointed out that the fundamentals of accounting could be applied in a number of ways, depending on the purposes of the accounting. This book is concerned with *external* financial reporting, not that for management, but even then various users and uses are possible. The type of accounting examined here is now the predominant sort used by most large companies in the world. Its main purpose can be seen in the IASB's Framework: to enable investors to predict cash flows in order to make economic decisions.
- Present accounting (even that designed for investors) contains vestiges of other purposes, such as creditor protection or accountability of management.
- Some underlying concepts are common to most reporting: separating the entity from the owner; recording two aspects of each transaction; splitting up operations into regular periods and generally assuming that an entity will continue for the foreseeable future.
- The IFRS system has several levels of concepts:
  — the overall objective of fair presentation;
  — a second level of concepts, which could be summarized as the need for relevance and faithful representation;
  — a third level of detailed rules, which are generally found in individual accounting standards but are based on the IASB's Framework.
- The first two levels are somewhat vague and contain inconsistencies. In particular, there is often a need to trade some verifiability in order to gain some extra relevance or vice versa.
- The overall objective should override the other levels of concepts and rules. This certainly applies to the standard-setters, although it may be dangerous to allow individual companies to use such a vague excuse to break the rules.



References and research

The most relevant IASB literature on the issues of this chapter is:

- The Framework (revised 2010, and an Exposure Draft of 2015).
- IAS 1, *Presentation of Financial Statements*.

Some research papers, by the authors, of particular relevance are:

- D. Alexander, 'A benchmark for the adequacy of published financial statements', *Accounting and Business Research*, Vol. 29, No. 3, 1999.
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- C. Nobes, 'Is true and fair of over-riding importance? A comment on Alexander's benchmark', *Accounting and Business Research*, Vol. 30, No. 4, 2000.

- C. Nobes, 'Rules-based standards and the lack of principles in accounting', *Accounting Horizons*, Vol. 19, No. 1, 2005.
- C. Nobes, 'The importance of being fair: an analysis of IFRS regulation and practice', *Accounting and Business Research*, Vol. 39, No. 4, 2009.

? MULTIPLE CHOICE QUESTIONS

Answers to these questions are in Appendix D.

3a. The IASB's conceptual framework is loosely based on the earlier framework of:

A. The US standard-setter.
B. The European Union.
C. The UK standard-setter.
D. The Chinese standard-setter.

3b. On the issue of 'going concern' in the context of IAS 1:

A. Entities must be assumed to last no longer than 12 months.
B. Entities can be assumed to last for 12 months, but accountants must not assume any longer life.
C. Entities can be assumed to have indefinitely long lives.
D. Accountants should assess whether the entity will continue for the foreseeable future.

3c. The accrual basis is that:

A. Cash transactions should not be accounted for.
B. Only cash transactions should be accounted for.
C. Income and expenses should be accounted for as cash inflows and outflows arise.
D. Income and expenses should be accounted for in the periods to which they relate.

3d. The two key qualities of accounting information are (according to the IASB):

A. Prudence and verifiability.
B. Representational faithfulness and reliability.
C. Representational faithfulness and relevance.
D. Relevance and prudence.

3e. The overall objective of IFRS financial statements is to:

A. Comply with the law.
B. Be accurate.
C. Give the most optimistic view of the entity.
D. Give a fair presentation.

? EXERCISES

Feedback on the first three of these exercises is given in Appendix E.

3.1. (a) Which accounting conventions/concepts do you regard as most important in helping preparers and auditors of financial statements to do their work and why?
(b) Which accounting conventions do you regard as most useful from the viewpoint of the readers of financial statements and why?
(c) Explain any differences between your answers to (a) and (b) above.

3.2. 'Substance over form is a recipe for failing to achieve comparability between accounting statements for different businesses'. Discuss.

3.3. What various purposes might there be for accounting? Which does the IASB focus particularly on?

3.4. Equity investors are major users of financial statements. Identify the general nature of the 'information needs' of this group of users. Describe the likely specific uses of company financial information by investors and give examples of information that may be relevant to each of these uses.

3.5. 'Neutrality is about freedom from bias. Prudence is a bias. It is not possible to embrace both conventions in one coherent framework'. Discuss.

3.6. To what extent is the search for relevance of financial information hampered by the need for reliability?

3.7. On 21 December 20X7, your client paid €10,000 for an advertising campaign. The advertisements will be heard on local radio stations between 1 January and 31 January 20X8. Your client believes that, as a result, sales will increase by 60 per cent in 20X8 (over 20X7 levels) and by 40 per cent in 20X9 (over 20X7 levels). There will be no further benefits.

Write a memorandum to your client explaining your views on how this item should be treated in the year-end financial statements for each of the three years. Your answer should include explicit reference to relevant traditional accounting conventions and to the requirements of users of published financial statements.

Chapter 4

The regulation of accounting

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Objectives

After studying the chapter carefully, you should be able to:

- describe the various sources from which accounting rules can come;
- outline the two main types of legal system to be found in much of the world and how this affects accounting;
- give examples of the ways in which the regulation of accounting is arranged in various countries.

4.1 Introduction: various ways to regulate accounting

This chapter is about how accounting can be regulated and about how it is regulated in particular countries. Regulation of financial reporting comprises two parts: making the rules and monitoring/enforcing the rules. This chapter mainly concerns the first of these. The other part (monitoring/enforcement) is carried out in each country, not at an international level even if 'international standards' are being used as the rules.

The context here is mainly the regulation of the financial reports designed for those users who are outside the entity. On the whole, no regulation is necessary for management accounting information; entities choose what is most useful for themselves. Of course, the calculation of taxable profit for the tax authorities has to be regulated, but that is not considered in this book unless it directly affects financial reporting to other users, such as investors (see Chapter 12).

In most countries, it is not thought appropriate to regulate bookkeeping in any detail, although there are generally requirements that orderly books should be kept so that auditors and tax authorities could investigate them where this seems necessary in order to confirm the contents of financial reports. However, in a few countries, such as Belgium and France, bookkeeping is regulated in detail, as is noted below.

Financial reporting could be regulated in a number of ways, including:

- legislation, such as companies acts and commercial codes;
- other rules issued by departments of government (such as a ministry of finance) or by committees operating under their control;
- rules of stock exchanges;
- rules from governmental regulators of stock exchanges;
- accounting guidelines or standards issued by committees of the accountancy profession;
- accounting guidelines or standards issued by independent private-sector bodies acting in the public interest.

Note that there is an important difference between a stock exchange and a regulator. The first is a profit-making company; the second is an agency of the state which is supposed to protect investors. The expression 'accounting standard' is used here to mean a document containing a series of instructions on a particular topic of financial reporting (e.g. how to value inventories), where the standard is written in the private (non-governmental) sector and is intended to be obeyed in full before an entity or an auditor can claim compliance with the system of rules of which the standards form part.

Section 4.2 looks at how legal systems differ around the world. As noted above, it is important to separate the creation of rules from their enforcement. For example, in the United States most accounting rules are found in accounting standards but the enforcement, for certain companies, comes from the stock exchange regulator. This example and others are examined in more detail in Section 4.3; the regulation of International Financial Reporting Standards (IFRS) is considered in Section 4.4; and there is a note on smaller entities and partnerships in Section 4.5.

4.2 Legal systems

One of the reasons why accounting is regulated in different ways in different countries is that the whole nature of the legal system differs internationally. Two main systems can be identified: codified law and common law. Most countries in continental Western Europe have codified law that derives from the Roman *jus civile*, as compiled by Justinian in the sixth century AD and developed by European universities from the twelfth century. In such countries, commercial codes establish rules in detail for accounting and financial reporting. Both the nature of regulation and the type of detailed rules to be found in a country are affected. For example, in Germany, company accounting is to a large extent considered as a branch of company law. However, with the introduction of IFRS for the consolidated financial statements of listed entities within the European Union, the relationship between financial reporting, at least at the consolidated level, and national legal systems is becoming less strong. These changes are discussed in Chapter 5.

In France, Belgium, Spain, Portugal and Greece (all code law countries), much of the detail of accounting rules is found in 'accounting plans' (e.g. the French *plan comptable général*), which are documents under the control of government committees. One feature of most accounting plans is a chart of accounts, which contains a detailed structure of account codes for use in the double-entry bookkeeping systems of entities. The chart covers the origination of entries and leads through to financial statements. Such uniform (or standardized) accounting was invented in Germany in the early years of the twentieth century and it has been used in several Western European countries. For example, the chart within the French plan is compulsory for tax purposes for French entities. Charts have also been used extensively in Eastern Europe. They are also found in countries with a French colonial influence, e.g. many African countries.

In Italy, Germany and several of the other countries already mentioned, commercial codes contain many legal instructions on accounting. In many such countries, the codes date back to Napoleon, who adopted and adapted the Roman legal system. Japan introduced a commercial legal system similar to that of Germany in the second half of the nineteenth century. China, too, has a similar system. Systems of commercial law in Nordic countries bear a relationship to the Roman legal system.

By contrast to these codified systems, many other countries use a version of the English legal system, which relies upon a limited amount of statute law. This is then interpreted by courts, which build up large amounts of case law to supplement the statutes. Such a 'common law' system was formed in England primarily after the Norman Conquest (1066) by judges acting on the king's behalf. The common law is less abstract than codified law; a common law rule seeks to provide an answer to a specific case rather than to formulate a general rule for the future. This common law system may be found in similar forms in many countries influenced by England. Thus, the federal law of the United States, the laws of Ireland, India, Australia and so on are to a greater or lesser extent modelled on English common law. Many African countries have inherited the English legal system. This naturally

influences company law, which traditionally does not prescribe a large number of detailed all-embracing rules to cover the behaviour of companies and how they should publish their financial statements. To a large extent (at least up until the British Companies Act 1981, which came from the EU), accounting within such a context is not dependent upon law but is an independent discipline.

Why it matters

The way in which accounting is regulated has a great effect on how it works. In Roman law countries, accounting tends to be in the control of governments and lawyers. In common law countries, accountants are more important in the setting and interpretation of accounting rules. This means that accounting rules can be changed more easily in common law countries and are changed more often. In such countries, the rules are more likely to be designed to be commercially useful. However, in Roman law countries there can arguably be more democratic control over accounting.

Activity 4.A

For your own country, describe the balance between the regulatory influences on accounting. For example, how important are elements of law compared with guidance written by accountants?

Feedback

You should try to find out (or remember) whether or not in your country there are any of the following elements:

- companies acts;
- commercial codes;
- accounting plans;
- mandatory accounting standards;
- professional guidelines;
- stock exchange requirements;
- requirements of a stock exchange regulator;
- other.

You may discover that some of these relate to only certain types of enterprises.

Having recorded your own answer, now read Section 4.3 to see whether or not it would improve your answer.

4.3 Examples of regulation

4.3.1 Germany

Except for any financial reporting under IFRS, the basic source of accounting rules in Germany is the Commercial Code (*Handelsgesetzbuch*, abbreviated to HGB, and literally meaning the 'commercial law book'). The HGB is amended from time to time, most fundamentally in 1985 as a result of implementation of EU Directives (see Chapter 5). More recently, amendments have been more frequent, in order to keep pace with the implications of increasing international convergence. The HGB covers all types of enterprise in Germany, but limited companies have special rules and larger companies must be audited.

The close links between tax and accounting in Germany (see Section 5.2) mean that the rules of tax law and the decisions of tax courts are also important for financial reporting. The links have been reduced in recent years (especially in 2009) but still affect how financial reporting works, particularly in unconsolidated statements. For listed companies, there are some additional disclosure requirements in a special law.

Compliance with the rules is the responsibility of the management of an entity. Auditors will check certain features of compliance. The tax authorities will check matters of concern to them. However, the consolidated financial statements of groups are generally not relevant for tax, even though parents and certain subsidiaries can sometimes be treated together for tax purposes (see Section 12.2). Therefore, there was no fully effective enforcement mechanism for consolidated statements until a private-sector 'review panel' was set up in 2005.

From 1998 to 2008 in Germany, consolidated statements of listed companies were allowed to depart from the normal requirements of the HGB if they followed 'internationally recognized rules' instead. There were other conditions, but US rules and international standards were accepted. A number of large German companies took advantage of this permission. From financial years beginning in 2005, however, this nationally inspired flexibility has been replaced by the EU-wide requirements relating to IFRS adoption. From 2007, even those groups that used US GAAP for such purposes from 1998 had to change to IFRS.

Also in 1998, a private-sector standard-setter was established: the *Deutsches Rechnungslegungs Standards Committee* (DRSC). The fact that the German for 'standards committee' is 'Standards Committee' tells us that it is an imported concept. The DRSC can recommend to the Ministry of Justice rules designed for listed companies in their consolidated statements, but the 'standards' can only be formally issued by the Ministry. In 2009 a new law, the *Bilanzrechts-Modernisierungsgesetz,* introduced requirements for other entities that moved part-way towards introducing IASB-type requirements at the national level.

4.3.2 France

Except for companies using IFRS, the most detailed source of accounting instructions in France is the *plan comptable général* (PCG, general accounting plan). As explained in Section 4.2, the PCG is a large document within the control of a governmental committee. Part of the PCG is a chart of accounts that regulates how double entries should be made; another part specifies the formats that financial statements should follow. The tax system uses the output in PCG format, so that there is detailed enforcement.

An outline of the chart of accounts in the French PCG, as amended in 2014, is shown as Table 4.1. The table shows only two digits, whereas the full plan has detailed account codes down to four (and sometimes five) digits. The recording of each type of transaction can be specified in great detail, so that it can be standardized throughout France. For example, an increase in depreciation on plant and machinery is recorded as:

Debit:	Account 68112 (Depreciation expense on tangible fixed (non-current) assets)
Credit:	Account 2815 (Cumulative depreciation on plant and machinery).

Table 4.1 Outline of French chart of accounts

Balance sheet					Operating	
Class 1	**Class 2**	**Class 3**	**Class 4**	**Class 5**	**Class 6**	**Class 7**
Owner equity, loans and similar liabilities	*Fixed assets*	*Inventory and work in progress*	*Debtors and creditors*	*Financial*	*Charges*	*Income*
10 Capital and reserves	20 Intangible assets	30 –	40 Suppliers and related accounts	50 Investment securities	60 Purchases (except 603). 603: Change in inventory (supplies and goods for resale)	70 Sales of manufactured goods, services, goods for resale
11 Profit or loss carried forward	21 Tangible assets	31 Raw materials (and consumables)	41 Customers and related accounts	51 Banks and credit institutions	61 External services	71 Change in inventory of finished goods and work in progress
12 Profit or loss for the financial year	22 Assets in concession	32 Other consumables	42 Staff and related accounts	52 –	62 Other external services	72 Own work capitalized
13 Investment grants	23 Assets in course of construction	33 Work in progress (goods)	43 Social security and other social agencies	53 Cash in hand	63 Taxes, levies and similar payments	73 –
14 Tax-regulated provisions	24 –	34 Work in progress (services)	44 Government and other public authorities	54 Expenditure authorizations and letters of credit	64 Staff costs	74 Operating grants
15 Provision for liabilities and charges	25 –	35 Finished goods	45 Group and associates	55 –	65 Other current operating charges	75 Other current operating income
16 Loans and similar liabilities	26 Participating interests and related amounts owned	36 –	46 Sundry debtors and creditors	56 –	66 Financial charges	76 Financial income
17 Debts related to participating interests	27 Other financial assets	37 Goods for resale	47 Provisional and suspense accounts	57 –	67 Extraordinary charges	77 Extraordinary income
18 Reciprocal branch and joint venture accounts	28 Cumulative depreciation on fixed assets	38 –	48 Accruals	58 Internal transfers	68 Appropriations to depreciation and provisions	78 Depreciation and provisions written back
19 –	29 Provisions for diminution in value of fixed assets	39 Provisions for diminution in value of stocks and work in progress	49 Provisions for doubtful debts	59 Provisions for diminution in value of financial assets	69 Employee profit share – income and similar taxes	79 Charges transferred

Notes: '–' = code not used.
Source: Adapted and translated from the *plan comptable général*, Autorité des Norms Comptables.

France also has a civil code and several companies acts. All larger companies must be audited. For listed companies, there is a stock exchange regulator that exercises some enforcement powers.

4.3.3 The Netherlands

The Netherlands has a civil code but no history of great detail in its accounting regulations. Like the United Kingdom, the Netherlands implemented the relevant EU Directives by including many of the directives' options. 'Guidelines' for financial reporting are prepared by a private-sector body: the *Raad voor de Jaarverslaggeving* (RJ; Council for Annual Reporting). The members of the RJ include preparers, users and auditors; and the auditing profession provides most of the technical support for the RJ. However, the guidelines cannot be enforced and companies and auditors do not have to disclose non-compliance.

There is also an Enterprise Chamber of the High Court, which can hear cases concerning alleged poor financial reporting. However, it hears few cases and has not tried to enforce the guidelines.

This situation has in the past given Dutch companies considerable flexibility, but from 2007 (for most companies, from 2005) full IFRS is compulsory for consolidated financial statements of all Dutch listed entities.

4.3.4 The United Kingdom

There have been companies acts in the United Kingdom since 1844, but the accounting content was not detailed until the relevant EU Directives were implemented in the 1980s. All companies are covered and audits are required in all cases except small companies.

There are also accounting standards, which are more detailed than the present Companies Act (of 2006) on many issues. The standards were set by a committee of the accountancy profession until 1990 but are now set by an independent private-sector body, the Financial Reporting Council. The overriding requirement of the Companies Act is that financial statements must give a true and fair view. This requirement is given more substance in the United Kingdom than elsewhere because the standard-setters make requirements that remove some of the options in law and sometimes even contradict the detail of the law.

Enforcement of the rules (either national or IFRS) is achieved because companies and auditors can be taken to court (by the Financial Reporting Review Panel (FRRP), another private-sector body) for 'defective accounts' and legal opinion is that financial statements that break accounting standards are likely to be defective, although this would ultimately be subject to the court's interpretation of the implications of the true and fair override.

IFRSs are now compulsory for the consolidated financial statements of all listed companies. From 2015, the old national accounting rules are replaced by Financial Reporting Standard 102, which is an adaptation of the IASB's 'IFRS for SMEs'.

4.3.5 The United States

There are no general companies acts or codes in the United States, and so most companies have little regulation and no audit requirement although the detail varies state by state. However, for listed companies there is the world's most active regulator: the Securities and Exchange Commission (SEC). This was founded in 1934 as a reaction to the free-for-all in accounting that contributed to the Wall Street Crash of 1929. The SEC requires the use of 'generally accepted accounting principles' (GAAP) and also requires an audit. The SEC imposes serious penalties on auditors and companies that break the rules.

The SEC makes some of the content of GAAP but mostly chooses to rely upon the private sector to do this. Since 1973, the chosen body is the Financial Accounting Standards Board (FASB), which was set up to act in the public interest. The FASB is nominally independent but is influenced by the fact that it can be overruled by the SEC.

4.3.6 Australia

Australia for several decades developed a tradition of accounting standards, written by the Australian Accounting Standards Board (AASB). Since 1998, the monitoring and enforcement of compliance with accounting standards by listed companies has been a function of the Australian Securities and Investments Commission (ASIC). The ASIC takes a proactive role, with its own surveillance programme. Like the FRRP in the UK the ASIC has the power to take companies to court and, unlike the FRRP up until the time of writing, has actually done so on a number of occasions, though more consensual procedures are in train.

For 2005 onwards, Australia has largely adopted IFRSs. This process is sometimes referred to as adoption, but minor adaptation would be a more accurate description because the AASB turns international standards into Australian ones. Nevertheless, auditors report on compliance with IFRS as well as with the Australian version of IFRS.

4.3.7 China

Following decades of central planning after the introduction of communism, Western ideas have, especially since the early 1990s, had a major influence on financial reporting in China. Several stock exchanges were opened, there is a professional body, the Chinese Institute of Certified Accountants (CICPA); and a large number of Chinese Accounting Standards have been issued, 33 at the time of writing, which are closely modelled on IFRS.

Practical government influence remains strong by Western standards. For example, the CICPA is under the control of the Ministry of Finance.

4.3.8 Some other countries

Many other countries are similar to one or more of the above. For example, the Nordic countries have bookkeeping acts and companies acts that have incorporated the EU Directives. They also have various forms of accounting standards, set

by committees involving representatives of various bodies, such as the accountancy profession and stock exchanges. Like all the other EU countries, IFRS is required for the consolidated statements of listed companies. This includes Norway, which is part of the European Economic Area (a grouping wider than the EU).

Strictly speaking, none of the above countries has adopted IFRS, because they all put the content of IFRS through some national (or EU) legal process that introduces delays, translations and amendments. Despite this, in many cases, companies still comply with IFRS when they comply with the national version of it. However, a few countries require IFRS exactly as it is issued by the IASB. One example is South Africa. One way or another, over 100 countries now use IFRS for consolidated financial reporting of listed companies.

4.3.9 Islamic accounting

An increasingly important phenomenon of recent years is the rise of Islamic accounting and of financial institutions that operate consistently with Sharia Law. This system of laws stems from the Quoran and subsequent (often controversial) interpretations of it. It includes bans on the payment (and indeed the concept) of interest and on pure monetary speculations. Many institutions, particularly banks of various kinds, claim full compliance with the implications of this, both in their operations and in the resulting financial reports. Specifically constructed types of contract are created and certified as 'Sharia-compliant' by some ostensibly expert body or individual.

A formal body exists, the Accounting and Auditing Organization for Islamic Financial Institutions (AAOIFI), based in Bahrain, that among other actions has issued its own versions of many IFRSs. These are adapted for Sharia compliance and the usage of suitably constructed financial contracts. Since the financial contracts are often constructed differently from those of other entities, the reported accounting numbers, and the regulations leading to these numbers, are likely to be different, too. Almost inevitably, issues of legitimacy, enforcement and consistency of interpretation arise.

4.3.10 Generally accepted accounting principles (GAAP)

The term 'GAAP' is of US origin but is commonly used to describe accounting requirements and so the term 'Swedish GAAP' might also be used, for example. In the United States, in the absence of company law, the term first meant the practices of large and respected companies, as recommended by textbooks and accepted by auditors. By the 1930s in the United States, GAAP began to be codified, so that there is now also a very large written (or promulgated) GAAP including accounting standards. The SEC requires companies registered with it to comply with US GAAP.

In other countries, 'GAAP' is generally an unofficial term with no exact meaning, although there is a similar term, namely 'good accounting practice', in the laws of some countries, such as Denmark. For example, if one sees the term 'Swedish GAAP' it presumably includes Swedish law, Swedish accounting standards and the practices of respected companies and auditors.

4.4 The regulation of International Standards

The IASB and the content of its standards are examined in more detail in Chapter 5, but it is appropriate here to look briefly at regulation. IAS 1 requires that financial statements described as complying with International Financial Reporting Standards should comply with all requirements of all the IFRSs. If national rules require compliance with IFRSs, then domestic mechanisms can cover their enforcement. For example, in some countries (e.g. Malaysia), the national standard-setter adopts IFRSs.

In the EU (and EEA), listed companies are required to use IFRSs (as adopted in the EU) for their consolidated statements. For unlisted companies and for unconsolidated statements, the position varies around Europe. IFRSs can either be compulsory, optional or not allowed. In 2009, IASB issued a separate 'IFRS for SMEs', i.e. for small and medium-sized enterprises. This is a comparatively simple document of 230 pages, as well as some 100 plus pages of explanation and comment (compared with 3,000 pages for the full IFRS). It aims to provide a rigorous and common set of accounting standards for SMEs that is much simpler than the full IFRS. Its usage is entirely separate from full IFRS and is a matter for individual jurisdictions. Many countries have adopted IFRS for SMEs for reporting by unlisted companies (see http://www.ifrs.org/use-around-the-world/pages/jurisdiction-profiles.aspx). Where IFRSs or IFRS for SMEs are not used, the national systems continue.

All this implies that IFRS statements fall within the scope of national legal and enforcement systems. This means, for example, that the FRRP in the UK and the stock exchange regulator in France carry out the monitoring.

This book explains and examines financial reporting using IFRSs as the main regulatory reference but also bearing in mind the need for all EU companies (and those in other European Economic Area countries, such as Norway) to comply with EU rules.

Why it matters

If national rules cannot be enforced, then the rule-makers are likely to set weak rules with many options in them. Even then, the rules might not be strictly complied with. The result will be a set of rules and financial statements that are not well regarded domestically or internationally.

The IASB's predecessor spent most of the 1990s improving its standards, as explained in the next chapter, but the IFRS system is presently somewhat undermined by a lack of consistent enforcement, which remains a national issue.

4.5 SMEs and partnerships

Much of this book concerns financial reporting by large listed companies which use IFRS. These comprise a large proportion of the world's economic output. However, they are a tiny fraction of the number of business entities in operation. In Chapter 1, the different types of business entity were discussed. The various sections of this chapter have mentioned the different accounting regulations for different types of entity.

The expression 'small and medium-sized entities' (SMEs) was once particularly associated with the EU. The consensus was that SMEs should be relieved of some of the rules for reporting. They should have more flexible accounting requirements and fewer disclosures. The EU Directive contains four types of company by size: large, medium, small and micro. These are measured in terms of sales, assets and employees. In terms of employees, the thresholds are 250 (below which a company is medium), 50 (small) and 10 (micro). Thus, in EU national laws, accounting rules vary by size of company.

However, it is not entirely clear why the users of financial statements should be given less information by companies that are smaller. When the IASB examined the issue, it concluded that the key issue is whether or not an entity raises money from the public. Consequently, its IFRS for SMEs is really designed for unlisted companies rather than for smaller companies. Some very large companies are not listed, such as the Virgin Group in the UK. Some small companies are listed. As far as the IASB is concerned, any listed company should be required to use full IFRS.

The EU copes with this general issue by imposing extra requirements on listed companies, notably the use of IFRS for consolidated statements. The national regulators also impose other reporting requirements on listed companies. In the USA, the SEC is only interested in listed companies, as explained above. In some countries, such as Australia, some entities are allowed to use IFRS with reduced disclosure requirements. In other countries, such as South Africa, listed companies use IFRS but non-listed use IFRS for SMEs.

The position for partnerships varies by legal system. In Roman law countries, some or all types of partnerships are legal entities, and some or all are covered by the accounting rules found in law. For example, the German HGB and the French *plan comptable* cover partnerships. However, in English law partnerships are not legal entities, most of them are not covered by company law and so have no reporting requirements at all.

Summary

- This chapter examines the various ways in which accounting (and particularly financial reporting) can be regulated, such as by legislation, stock exchange regulations or accounting standards.
- Most countries of direct concern in this book can be neatly divided into two types with respect to the predominant legal system: codified law countries (Roman in origin) and common law countries (English in origin).
- Germany illustrates regulation by commercial code; France by accounting plan; the United States by stock exchange regulator and private independent standard-setter; the United Kingdom by companies act and private independent standard-setter; and the Netherlands by civil code and by guidelines under the main influence of the accountancy profession.
- International Financial Reporting Standards have no built-in regulatory mechanism of their own but can be imposed by national regulator and enforced at the national level.

References and research

The IASB document particularly relevant to this chapter is IAS 1, *Presentation of Financial Statements*.

The following are examples of research papers in the English language that take the issues of this chapter further:

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? MULTIPLE CHOICE QUESTIONS

Answers to these questions are in Appendix D.

4a. Which one of the following is correct?

A. France and Germany have compulsory charts of accounts.
B. France has a compulsory chart of accounts but Germany does not have a compulsory chart of accounts.
C. France does not have a compulsory chart of accounts but Germany does have a compulsory chart of accounts.
D. Neither France nor Germany have a compulsory chart of accounts.

4b. 'Generally accepted accounting principles' (GAAP) means:

A. A set of unwritten principles based on company practices.
B. The content of laws on accounting, as imposed by government regulatory agencies.
C. The written and unwritten requirements of financial reporting that are imposed on some entities.
D. The accounting rules that most companies in practice choose.

4c. Which one of the following is correct about monitoring and enforcement of IFRS?

A. The IASB has a monitoring and enforcement unit.
B. It is a national issue.
C. The United Nations controls this.
D. There is none.

4d. In the EU, which one of the following is correct for financial reporting by unlisted individual companies?

A. It must use IFRS.
B. It must use EU-adopted IFRS.
C. The position varies by country.
D. It must use national GAAP.

? EXERCISES

Feedback on the first three of these exercises is given in Appendix E.

4.1. Do you think Roman law or common law provides a better context in which financial reporting can achieve its objectives? Explain the reasons for your choice.

4.2. What are the advantages and disadvantages of making accounting rules by law as opposed to private-sector standards?

4.3. Contrast the degree to which the state is involved in the regulation of accounting in Germany, the United Kingdom, the United States and (if not one of those three) your own country.

4.4. Who is supposed to obey accounting standards in the United States? Are they followed in practice?

Chapter 5

International differences and harmonization

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Objectives

After studying this chapter carefully, you should be able to:

- outline the international nature of accounting developments;
- suggest the major causes of international differences in accounting;
- explain why it might be useful to group countries by accounting similarities;
- appraise some suggested international classifications of countries;
- distinguish between EU and international harmonization efforts;
- assess the success of these harmonization efforts.

5.1 Introduction: the international nature of the development of accounting

Different countries have contributed to the development of accounting over the centuries. When archaeologists uncover ancient remains in the Middle East, almost anything with writing or numbers on it is a form of accounting: expenses of wars, feasts or constructions; or lists of taxes due or paid. It is now fairly well documented that the origins of written numbers and written words are closely associated with the need to keep account and to render account.

The Romans developed sophisticated forms of single-entry accounting from which, for example, farm profits could be calculated. Later, India and the Arab world had sophisticated accounting, but it is probably in northern Italy in the thirteenth century that the double-entry system was invented, driven by the increasing complexity of business. Later still, in seventeenth-century Holland, the existence of a wealthy merchant class and the need for large investment for major projects led to public subscription of share capital. Next, the growing separation of ownership from management raised the need for audits in nineteenth-century Britain. Many European countries have contributed to the development of accounting: France led in legal control over accounting; Scotland pioneered the accountancy profession; Germany gave us standardized formats for financial statements.

From the late nineteenth century onwards, the United States has given us consolidation of financial statements (see Chapter 14), management accounting, capitalization of leases (see Chapter 9) and deferred tax accounting (see Chapter 12). The United Kingdom contributed the 'true and fair view' (see Section 5.4), which has been rounded out with the US 'substance over form'. In the late twentieth century, Japan contributed greatly to managerial accounting and control.

The common feature of all these international influences on accounting is that commercial developments led to accounting advances. Not surprisingly, leading commercial nations in any period are the innovators in accounting. However, although international influences and similarities are clear, there are also great international differences, particularly within Europe. An indication of the scale of international difference can be seen in those cases where companies publish two sets of accounting figures based on different rules. Comparisons of accounting under domestic rules with that under US rules were commonly published until 2006 by foreign companies that were listed on US stock exchanges. Table 5.1 shows some interesting examples for earnings. Daimler-Benz was the first German

Table 5.1 Reconciliations of earnings

		Domestic	*US-adjusted*	*Difference*
Daimler-Benz	1993	DM615m	DM(1.839m)	−399%
(Germany)	1994	DM895m	DM1.052m	+18%
	1995	DM(5.734m)	DM(5.729m)	+1%
British Airways	2003	£72m	£(128m)	−278%
(UK)	2006	£451m	£148m	−67%

Source: Authors' own work based on published company financial accounts.

company to provide this data, in 1993. The large differences (and the variation from year to year) between German and US profit figures were a surprise to many accountants and users of financial statements.

The figures for British Airways, too, show that profits can need adjustment either up or down. The supply of these interesting reconciliations to US accounting dried up after 2006 because, from 2007, the US authorities accepted IFRS accounting without reconciliation.

As part of the introduction of IFRS for consolidated statements in many countries in 2005, companies had to publish two versions of their 2004 financial statements: (i) as originally published under the previous national system and (ii) as republished as comparative figures under IFRS in 2005. A particularly interesting example of the comparison was provided by Fiat, the Italian motor company. The financial statements for the year ended 31 December 2005 contained a reconciliation between the consolidated balance sheet at 1 January 2004 (i.e. the same as 31 December 2003), as published under Italian regulations, with what it would have been at 1 January 2004 under IFRS requirements. This reconciliation is reproduced as Figure 5.1.

At this stage, do not concern yourself with the details. The point to emphasize is the sheer size of the figures in the 'Reclassifications' and 'Adjustment' columns. Notice for example that 'Long-term financial payables' rose from just over 15 million euros under Italian GAAP to over 36 million euros under IFRS, an increase of some 240 per cent.

This chapter tries to put countries into groups based on similarities of accounting (Section 5.2) and then investigates the causes of the international accounting differences (Section 5.3). After that, Section 5.4 examines the attempts in the EU and by the IASB to reduce the differences.

5.2 Classification

5.2.1 Introduction

Although no two countries have identical accounting practices, some countries seem to form pairs or larger groupings with reasonably similar accounting. If this is so, it may be possible to establish a classification. Such an activity is a basic step in many disciplines. As examples, classification is one of the tools of a scientist – the Mendeleev table of elements and the Linnaean system of classification are fundamental to chemistry and biology. Classification should sharpen description and analysis. It should reveal underlying structures and enable prediction of the properties of an element based on its place in a classification.

One set of authors, while classifying legal systems, has supplied practical criteria for determining if two systems are in the same group. Systems are said to be in the same group if 'someone educated in ... one law will then be capable, without much difficulty, of handling [the other]' (David and Brierley, 1985). Also, the two systems must not be 'founded on opposed philosophical, political or economic principles'. The second criterion ensures that systems in the same group not only have similar superficial characteristics but also have similar fundamental structures and are likely to react to new circumstances in similar ways. Using these criteria

Figure 5.1 Effects of transition to IFRS on the consolidated balance sheet at 1 January 2004

(In millions of euros)	*Italian GAAP*	*Reclassifications*	*Adjustments*	*IAS/IFRS*	
Intangible fixed assets:	3,724	–	1,774	5,498	Intangible assets
Goodwill	*2,402*	–	–	*2,402*	*Goodwill*
Other intangible fixed assets	*1,322*	–	1,774	*3,096*	*Other intangible assets*
Property, plant and equipment	9,675	(945)	817	9,547	Property, plant and equipment
Property, plant and equipment	*8,761*	(31)	–	–	
Operating leases	*914*	(914)	–	–	
	–	31	–	31	Investment property
Financial fixed assets	3,950	70	(121)	3,899	Investment and other financial assets
Financial receivables held as fixed assets	29	(29)	–	–	
	–	914	(50)	864	Leased assets
Deferred tax assets	1,879	–	266	2,145	Deferred tax assets
Total non-current assets	19,257	41	2,686	21,984	Non-current assets
Net inventories	6,484	–	1,113	7,597	Inventories
Trade receivables	4,553	(682)	2,678	6,549	Trade receivables
	–	12,890	7,937	20,827	Receivables from financing activities
Other receivables	3,081	(148)	541	3,474	Other receivables
		407	10	417	Accrued income and prepaid expenses
				2,129	Current financial assets:
	–	32	–	*32*	*Current equity investments*
	–	515	260	*775*	*Current securities*
	–	430	892	*1,322*	*Other financial assets*
Financial assets not held as fixed assets	120	(120)	–	–	
Financial lease contracts receivable	1,797	(1,797)	–	–	
Financial receivables	10,750	(10,750)	–	–	
Securities	3,789	(3,789)	–	–	
Cash	3,211	3,214	420	6,845	Cash and cash equivalents
Total current assets	33,785	202	13,851	47,838	Current assets
Trade accruals and deferrals	407	(407)	–	–	
Financial accruals and deferrals	386	(386)	–	–	
	–		21	21	Assets held for sale
TOTAL ASSETS	53,835	(550)	16,558	69,843	TOTAL ASSETS
Stockholders' equity	7,494		(934)	6,560	Stockholders' equity
	–	–	–	7,455	Provisions:
Reserves for employee severance indemnities	1,313	1,503	1,224	*4,040*	*Employee benefits*
Reserves for risks and charges	5,168	(1,550)	(203)	*3,415*	*Other provisions*
Deferred income tax reserves	211	(211)	–	–	
Long-term financial payables	15,418	6,501	14,790	36,709	Debt:
				10,581	*Asset-backed financing*
				26,128	*Other debt*
Total non-current liabilities	22,110	6,243			
	–	568	(223)	345	Other financial liabilities
Trade payables	12,588	–	(297)	12,291	Trade payables
Others payables	2,742	–	1,948	4,690	Other payables
Short-term financial payables	6,616	(6,616)	–	–	
Total current liabilities	21,946	(6,048)	–	–	
	–	211	274	485	Deferred tax liabilities
Trade accruals and deferrals	1,329	–	(21)	1,308	Accrued expenses and deferred income
Financial accruals and deferrals	956	(956)	–	–	
	–	–	–	–	Liabilities held for sale
TOTAL LIABILITIES AND STOCKHOLDERS' EQUITY	53,835	(550)	16,558	69,843	TOTAL STOCKHOLDERS' EQUITY AND LIABILITIES

Source: Fiat's financial statements, as at 31 December 2005.

a four-group legal classification was obtained: Romano–Germanic, common law, socialist and philosophical–religious.

In accounting, classification should facilitate a study of the logic of, and the difficulties facing, international harmonization. Classification should also assist in the training of accountants and auditors who operate internationally. Further, the authorities in a developing country might be better able to understand the available types of financial reporting and which one would be most appropriate for it, by seeing which other countries use particular systems. Also, it should be possible for a country to predict the problems that it is about to face and the solutions that might work by looking at other countries in its group.

5.2.2 Classifications using survey data

Some researchers have used surveys of accounting practices as data. Classification is achieved by the use of computer programs designed to put countries into groups by similarities of practices. For example, one set of researchers (Nair and Frank, 1980) divided financial reporting characteristics into those relating to measurement and those relating to disclosure. Table 5.2 represents a classification using measurement characteristics from 1973. The overall results seem very plausible and to fit well with the analysis in this chapter. The suggestion was that much of continental Europe was using similar systems but that the United Kingdom, Ireland and the Netherlands were noticeably different from them.

Table 5.2 Classification based on 1973 measurement practices

British Commonwealth model	*Latin American model*	*Continental European model*	*United States model*
Australia	Argentina	Belgium	Canada
Bahamas	Bolivia	France	Japan
Eire	Brazil	Germany	Mexico
Fiji	Chile	Italy	Panama
Jamaica	Columbia	Spain	Philippines
Kenya	Ethiopia	Sweden	United States
Netherlands	India	Switzerland	
New Zealand	Paraguay	Venezuela	
Pakistan	Peru		
Singapore	Uruguay		
South Africa			
Trinidad and Tobago			
United Kingdom			
Zimbabwe			

Source: Nair and Frank (1980 © American Accounting Association).

5.2.3 Nobes' classification

It would be possible to criticize the classifications discussed above for:

(a) lack of precision in the definition of what is to be classified;
(b) lack of a model with which to compare the statistical results;

(c) lack of hierarchy that would add more subtlety to the portrayal of the size of differences between countries;
(d) lack of judgement in the choice of 'important' discriminating features.

Can these problems be remedied? One of the authors of this book attempted to solve them in the following ways (see Nobes, 1983). The scope of the exercise was defined as the classification of some Western countries by the financial reporting practices of their *listed companies* and it was carried out in the early 1980s. The reporting practices were those concerned with *measurement and valuation*. It is listed companies whose financial statements are generally available and whose practices can most easily be discovered. It is the international differences in reporting between such companies that are of main interest to shareholders, creditors, auditing firms, taxation authorities, management and harmonizing agencies. Measurement and valuation practices were chosen because these determine the size of the figures for profit, capital, total assets, liquidity and so on. The result is shown in Figure 5.2.

This figure suggests that there were two main types of financial reporting 'system' in Europe at the time: the micro/professional and the macro/uniform. The first of these involved accountants in individual companies striving to present fair information to outside users, without detailed constraint of law or tax rules but with standards written by accountants. The macro/uniform type had accounting mainly as a servant of the state, particularly for taxation purposes.

The micro/professional side contained the Netherlands, the United Kingdom, Ireland, Denmark, the United States, Australia, Canada, New Zealand and South Africa. The Netherlands had (and has) fewer rules than the other countries, and another distinguishing feature is that the influence of microeconomic theory led to the use of replacement cost information to varying degrees. Denmark rearranged its accounting system after the Second World War and it now looks somewhat like the United Kingdom's or the United States'.

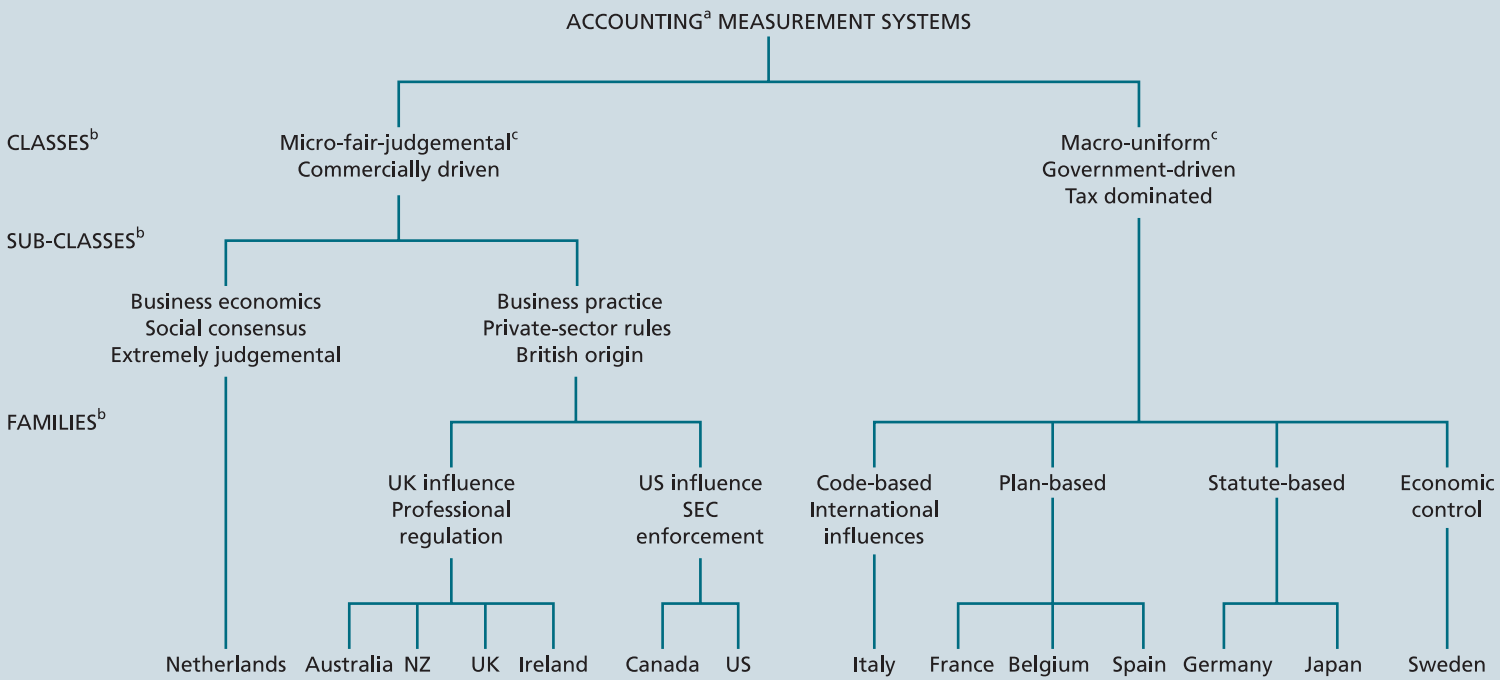
The macro/uniform side contained all other sample European countries and Japan. However, they were divided into subgroups. For example, accounting plans were (and are) the predominant source of detailed rules in France, Belgium, Spain and Greece. In Germany the commercial code was (and is) the major authority and there was (and is) much stricter observance of historical cost values. In Sweden, the predominant influence seems to have been the government as economic planner and tax collector.

Table 5.3 summarizes some of the typical differences between countries on a two-group basis. A number of the 'specific accounting features' are examined in Part 2.

5.2.4 An updated classification

The classification of Figure 5.2 was originally drawn up in the early 1980s, before the EU harmonization programme and before extensive globalization of capital markets. The fall of communism also means that many more countries, such as China and Russia, have financial reporting systems that could be added to the 1983 classification. Some countries, such as Sweden have moved to the left of the chart since the early 1980s, as has Norway, which was not in the chart.

Figure 5.2 **Groupings of some major countries in 1980**



Notes:
a. This is an abbreviated term for corporate financial reporting.
b. These terms, while borrowed from biology, should be interpreted merely as loose labels.
c. The terms at these and other branching points are merely labels to be used as shorthand to try to capture some of the attributes of the members of the accounting systems below them. This classification has been prepared by a UK researcher and may contain usage of terms that will mislead those from other cultures.
Source: Adapted from Nobes (1983).

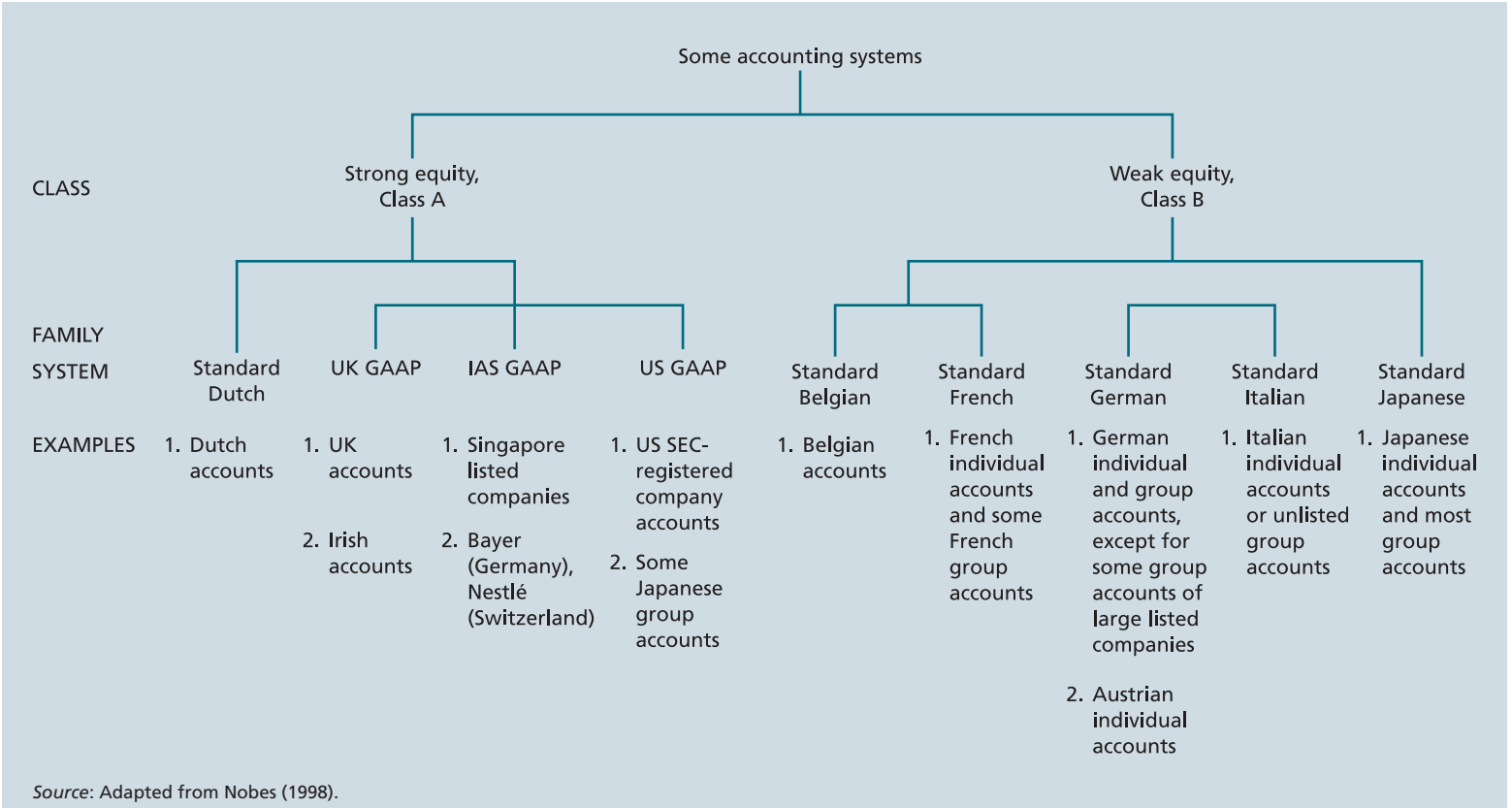
Table 5.3 A two-group classification (traditional practices*)

Micro	*Macro*
	Background
'English' common law	Roman law
Large, old, strong profession	Small, young, weak profession
Large stock exchange	Small stock exchange
	General accounting features
Fair	Legal
Shareholder orientation	Creditor orientation
Disclosure	Secrecy
Tax rules separate	Tax-dominated
Substance over form	Form over substance
Professional standards	Government rules
	Specific accounting features
Percentage-of-completion method	Completed-contract method
Depreciation over useful lives	Depreciation by tax rules
No legal reserves	Legal reserves
Finance leases capitalized	No lease capitalization
Funds flow statements	No funds flow statements
Earnings per share disclosed	No disclosures on earnings per share
No secret reserves	Secret reserves
No tax-induced provisions	Tax-induced provisions
Preliminary expenses expensed	Preliminary expenses capitalizable
Taking gains on unsettled foreign currency monetary items	Deferring gains on unsettled foreign currency monetary items
	Some examples of countries
Australia	Austria
Canada	Belgium
Denmark	Finland
Hong Kong	France
Ireland	Germany
Singapore	Greece
Netherlands	Italy
United Kingdom	Japan
United States	Sweden

*From the late 1980s in particular, accounting practices in several countries made significant shifts to the left.

A further complication is that, particularly from the middle 1990s and in certain countries, large companies chose to follow internationally recognized practices rather than domestic practices. For example, by 2000 most of the 50 largest German companies were using US GAAP or IFRS for their group accounting statements. In a sense, then, several 'systems' were being used in Germany. In 1998, Nobes published a revised classification to try to take account of some of these problems; this is shown in Figure 5.3. To repeat a point from earlier, the fact that the United Kingdom and the United States are both on the left of Table 5.3 does not

Figure 5.3 **Proposed scheme for classification**



Source: Adapted from Nobes (1998).

imply that they are the same. For example, their regulatory systems are noticeably different. However, when compared to French or German accounting practices, UK and US practices look relatively similar.

The use of two systems within a country has increased greatly since IFRS was required in the EU for the consolidated reporting of listed companies. This is a major example of the fact that practices vary between companies within a country. It is also clear that different national versions of IFRS practice have emerged. In 2011, Nobes published a paper which used a survey of IFRS policy choices to show that the classification of 1983 was largely still in place after nearly 30 years of attempts at harmonization in Europe.

Why it matters *The purpose of Figures 5.2 and 5.3 is to organize countries into groups by similarities of financial reporting measurement* practices*. This means that a knowledge of one country enables inferences to be drawn about others. The 'distance' between two countries is suggested by how far back up the classification it is necessary to go to reach a common point. This should be useful for those accountants and auditors who have to deal with financial reports from several countries or who have to work in more than one country.*

Such a classification can be borne in mind while studying the detailed accounting practices set out in Part 2.

5.3 Influences on differences

5.3.1 Introduction

It is not possible to be sure that the factors discussed below cause the financial reporting differences, but relationships can be established and reasonable deductions about the directions of causality can be made. Factors that have been seen as affecting accounting development include colonial and other outside influences, the prevalent providers of finance, the nature of the legal system, the influence of taxation and the strength of the accountancy profession.

On a worldwide scale, factors such as language, culture or geography have been referred to by researchers. To the extent that these also have some explanatory power, it seems more sensible to assume that this results from auto-correlation. For instance, the fact that Australian accounting bears a marked resemblance to accounting in New Zealand might be 'confirmed' by language and geographical factors. However, most of their similarities were probably not caused by these factors but by their historical connection with the United Kingdom, which passed on both accounting and language and was colonizing most parts of Australasia in the same period.

If one wanted to encompass countries outside the developed Western world, it would be necessary to include factors concerning the state of development of their economy and the nature of their political economy. Of course, a precise definition of terms might make it clear that it is impossible to include some of these countries. For example, if our interest is in the financial reporting practices of corporations with shares listed on stock exchanges, any countries with few or no such corporations will have to be excluded. The four factors identified above (providers

of finance, legal systems, taxation and the accountancy profession) are now considered in turn, after which international influences are examined in more detail.

5.3.2 Providers of finance

In some countries, a major source of corporate finance for two centuries has been the share capital and loan capital provided by large numbers of private investors. This has been the predominant mode of raising finance for large companies in the Netherlands, the United States and the United Kingdom. Although it is increasingly the case that shares in these countries are held by institutional investors rather than by individual shareholders, this still contrasts with state, bank or family holdings (see below). Indeed, the increased importance of institutional investors is perhaps a reinforcement for the following hypothesis: 'In countries with a widespread ownership of companies by shareholders who do not have access to internal information, there will be a pressure for disclosure, audit and decision-useful information'. Institutional investors hold larger blocks of shares and may be better organized than private shareholders, so they should increase this pressure.

By contrast, in France and Italy, capital provided by the state or by banks is very significant, as are family businesses. In Germany, the banks, in particular, are important owners of shares in companies as well as providers of debt finance. A majority of shares in some German public companies are owned directly by banks or controlled through proxies by them. In such countries the banks or the state will, in many cases, nominate directors and thus be able to obtain non-public information and to affect decisions. If many companies in continental countries are dominated by banks, governments or families, the need for published information is much smaller because of this access to private information. This also applies to the need for audit, because this is designed to check up on the managers in cases where the owners are 'outsiders'.

Evidence of the two-way characterization of countries may be found by looking at their numbers of listed companies. Table 5.4 shows the numbers, in early 2015, of domestic listed companies on stock exchanges where there are over 500 such companies and a market capitalization above $1,200 billion. Table 5.5 shows figures for four major countries in 2012, putting the size of the equity market in the context of the size of the economy and the number of domestic listed companies in the context of the population. The comparison between the United Kingdom and the United States (with large equity markets) and Germany and Italy (with much smaller equity markets) is instructive.

Activity 5.A

Examine Tables 5.4 and 5.5. Try to put countries into groups with respect to the strength of their equity markets (in the context of a measure of the size of the country).

Feedback

A two-tier group categorization of the countries in Table 5.5 and a few more from Table 5.4 might look as in Table 5.6. Incidentally, the country with the longest history of companies with publicly traded shares is the Netherlands. Although it has a fairly small stock exchange, many multinationals (such as Unilever, Philips, Royal Dutch) are

Table 5.4 Major stock exchanges, January 2015

Country	*Exchange*	*Domestic listed companies*	*Market capitalization of domestic equities ($bn)*	*Market capitalization as % of NYSE*
Europe				
–	Euronext	935	3,319	17
Germany	Deutsche Börse	595	1,739	9
UK	London	2,429*	4,095*	21
The Americas				
Canada	Toronto	3,691	2,094	11
United States	NASDAQ	2,430	6,979	36
	New York	1,939	19,351	100
Asia-Pacific				
China	Hong Kong	1,661	3,233	17
	Shanghai	995	3,933	20
	Shenzhen	1,618	2,072	11
India	Bombay	5,541	1,588	8
Japan	Tokyo	3,348	4,378	23
South Korea	Seoul	1,708	1,213	6
Australia	Australian	1,967	1,289	7

Source: Prepared using data from World Federation of Exchanges.

*However, the London figures are not recorded in that source, so they might not be fully comparable.

Table 5.5 The strength of equity markets, 2012

	Domestic listed companies/million of population	*Equity market capitalization/GDP*
Italy	4.5	0.22
Germany	8.2	0.40
United States	12.9	1.11
United Kingdom	64.4	1.13

Sources: Prepared by the authors from World Bank statistics (such as http://data.worldbank.org/indicator/CM.MKT.LDOM.NO, accessed 25 April 2015).

Table 5.6 Countries classified by strength of equity markets

Stronger	*Weaker*
United States	France
United Kingdom	Spain
Netherlands	Germany
Sweden	Italy
Australia	Belgium
Hong Kong	Portugal

listed on it. It seems reasonable, then, to place the Netherlands with the English-speaking world in a 'shareholder' group as opposed to a 'bank/state/family' group. Hong Kong was a British colony and still has its own currency and laws.

Japan is not shown in Table 5.6 above because it is difficult to classify. It has a fairly important equity market, although not as important (in the context of the size of the economy) as that in the United States or the United Kingdom. Furthermore, many Japanese companies own shares in each other, and so the total number of listed companies and market value is exaggerated when making an international comparison. Japanese accounting has both German and US features.

The characteristic of 'fairness' was mentioned above, as it has been in previous chapters. It is a concept related to the existence of a large number of outside owners who require unbiased information about the success of a particular business and its state of affairs. Although reasonable prudence will be expected, these shareholders are interested in comparing one year with another and one company with another. This entails judgement, which entails experts. This expertise is also required for checking financial statements by auditors. In countries such as the United Kingdom, the United States, Australia and the Netherlands, this can, over many decades, result in a tendency to require accountants to work out their own technical rules. This is acceptable to governments because of the influence and expertise of the private sector, which is usually running ahead of the government (in its capacity as shareholder, protector of the public interest or collector of taxation). Thus 'generally accepted accounting principles' control accounting. However, it is still the state that requires financial reporting and enforces the rules.

In many continental European countries (such as France, Germany and Italy), the traditional scarcity of 'outsider' shareholders has meant that external financial reporting has been largely invented for the purposes of governments, as tax collectors or controllers of the economy. This has held back the development of flexibility, judgement, fairness or experimentation. However, it does lead to precision, uniformity and stability. It also seems likely that the greater importance of creditors in these countries leads to more prudent (conservative) accounting. This is because creditors are interested in whether, in the worst case, they are likely to get their money back or not, whereas shareholders may be interested in an unbiased estimate of future prospects.

Nevertheless, even in countries such as Germany, France or Italy, where there are comparatively few listed companies, governments have recognized the responsibility to require public or listed companies to publish detailed, audited financial statements. There are laws to this effect in the majority of such countries and the governments in France and Italy also set up bodies specifically to control the securities markets: in France the *Autorité des Marchés Financiers* (AMF) and in Italy the *Commissione Nazionale per le Società e la Borsa* (CONSOB). These bodies were to some extent modelled on the Securities and Exchange Commission (SEC) of the United States. They have been associated with important developments in financial reporting, generally in the direction of Anglo-American practice. This is not surprising, as these stock exchange bodies are taking the part otherwise played by private and institutional shareholders, who

have, over a much longer period, helped to shape Anglo-American accounting systems.

Also, the stark comparisons have reduced over time, as Table 5.7 shows for the three largest European economies. Of course, for consolidated reporting by listed companies, all three countries now use IFRS.

Table 5.7 Percentages of holdings of outsider shareholders

	1977	*1987*	*1997*	*2007*	*2012*
France	40	50	68	67	69
Germany	44	46	46	62	55
UK	93	91	99	97	94

Source: Prepared by the authors from tables in *Who Owns the European Economy? Evolution of the ownership of EU-listed companies between 1970 and 2012*, Observatoire de l'Epargne Européenne and INSEAD, OEE data services.

5.3.3 Legal systems

Legal systems were considered in Section 4.2. It was suggested that many countries in the world can be put into one of two categories with respect to their main legal system: common law or Roman law. Table 5.8 illustrates the way in which some developed countries' legal systems fall into these two categories. The legal systems of the Nordic countries are more difficult to classify, as they do not fit neatly into either category. In South Africa, although there is a Roman–Dutch legal system, the commercial laws (which cover accounting) are based on British precedents. Notice how similar the list is to Table 5.6. There seems to be a relationship between financial system, legal system and accounting system, as noted later.

Table 5.8 Legal systems: some examples

Common law	*Codified Roman law*
England and Wales	France
Ireland	Italy
United States	Germany
Canada	Spain
Australia	Netherlands
New Zealand	Portugal
Hong Kong	Japan (commercial)

5.3.4 Taxation

Although it is possible to make groupings of tax systems in a number of ways, only some of these ways are relevant to financial reporting (see Chapter 12). What is particularly relevant is the degree to which taxation regulations determine accounting measurements. For example, in Germany, the tax accounts (*Steuerbilanz*) should generally be the same as the commercial accounts (*Handelsbilanz*) as far as the financial statements of individual entities are concerned. There is even a word for this idea: the *Massgeblichkeitsprinzip* (principle of congruence or binding together). Although the influence of tax on German reporting has been declining, it is still

evident. In Italy, a similar position prevailed until recently, described as *il binario unico* (the single-track approach). Incidentally, throughout Europe (and in many other countries), tax is based on the unconsolidated statements of individual companies, which still largely use national accounting rules, rather than IFRS.

Unlike traditional German or Italian accounting, there can be many differences between tax numbers and financial reporting numbers in the United Kingdom, the United States and the Netherlands. One obvious example of the areas affected by this difference is depreciation (which is discussed further in Chapter 9). In the United Kingdom, for example, the amount of depreciation charged in the published financial statements is determined according to custom established over the last century and influenced by the prevailing accounting standards. Convention and pragmatism, rather than exact rules or even the spirit of the standard, determine the method of depreciation (usually straight-line because it is easier), the estimates of the scrap value (often zero) and the expected length of life.

The amount of depreciation for tax purposes in the United Kingdom is independent of these figures. It is determined by capital allowances, which are a formalized scheme of tax depreciation allowances designed to standardize the amounts allowed and to act as investment incentives, as designed by the government of the day. For example, in 2015/16, for UK tax purposes, machinery is depreciated at 20 per cent per year on a reducing balance basis, and there is no tax depreciation for most buildings. Because of the separation of the two schemes, there can be a complete lack of subjectivity in tax allowances but full room for judgement in determining the depreciation charges for financial reporting.

At the opposite extreme, in countries such as Germany the tax regulations lay down maximum depreciation rates to be used for particular assets. These are generally based on the expected useful lives of assets. However, accelerated depreciation allowances are available in some cases: for example, for industries producing energy-saving or anti-pollution products or for certain regions. Up until the reunification of Germany in 1990, large allowances applied in West Berlin or other areas bordering East Germany; they were later applied in the new German *Länder* in the east. If these allowances are to be claimed for tax purposes (which would normally be sensible), they must also be fully charged in the financial accounts. Thus, the charge against profit would be said by a UK accountant not to be 'fair' or 'economic', even though it could certainly be 'correct' or 'legal'. This influence is felt even in the details of the choice of method of depreciation. For example, the Notes to BASF's parent company financial statements for 2011 record that: 'For declining-balance depreciations, a systematic transition to straight-line depreciation takes place if this results in higher depreciation amounts'. Declining-balance had been chosen because it led to faster depreciation; but, later in an asset's life, a change to straight-line gives higher expenses. Recently, tax influence has reduced. For example, in the 2014 report of BASF, the depreciation method has changed to straight-line, although older assets are still depreciated using reducing balance until straight-line leads to a larger expense (p. 38). A depreciation example from France is provided by the parent company financial statements of L'Oréal in 2014 which refer to 'accelerated tax-driven' amortization of intangible assets and depreciation of tangible assets (p. 185).

With some variations, tax influence operates in Germany, France, Belgium and Italy and many other countries. It is perhaps due partly to the pervasive influence of codification in law and partly to the predominance of taxation as a use of accounting. Nevertheless, by the late 1980s, there were clear moves away from this in some countries. For example, the Spanish accounting law of 1989 reduced the influence of tax and increased disclosures of the remaining tax effects. Similarly, in Nordic countries, the influence of taxation has been reducing. This has been clear since the early 1980s in Denmark and became important in Finland, Norway and Sweden in the 1990s.

Why it matters

Let us suppose that you would like to use the financial statements of a company to assess its performance, so that you can try to predict cash flows in order to make investment decisions. However, suppose also that the company operates in a country where a major purpose of accounting is the calculation of taxable income, using the government's rules for that purpose. These rules may not be designed to measure the performance of a year but to provide investment incentives for companies (e.g. by offering them large tax depreciation allowances) or to enable the statements to be checked easily by tax auditors. Disclosures designed to help the prediction of cash flows might be seen as irrelevant. Also, the company would usually be trying to make its income look as small as possible, in order to avoid or postpone tax.

In this case, the financial statements might not be very useful to you because they were prepared to serve other purposes.

When dealing with the financial statements of groups of companies (see Chapter 14), taxation influences can be reduced because taxable income is generally calculated for each legal entity rather than on a consolidated basis, as noted in Chapter 4. For example, France had substantially liberated consolidated accounts from tax rules even before the arrival of IFRS. However, it is still possible for a policy choice in unconsolidated statements (e.g. weighted average for inventory costing) to flow through to IFRS consolidated statements.

5.3.5 The accountancy profession

The power, size and competence of the accountancy profession in a country may follow, to a large extent, from the various factors outlined above and from the type of financial reporting that they have helped to produce. For example, the lack of a substantial body of private shareholders and public companies in some countries means that the need for auditors is historically much smaller than it is in the United Kingdom or the United States. So, this factor may be more a *result* of accounting differences rather than a *cause* of them. However, the nature of the profession also feeds back into the type of accounting that is practised and could be practised. For example, a 1975 Decree in Italy (not brought into effect until the 1980s), requiring listed companies to have extended audits similar to those operated in the United Kingdom and the United States, could only be brought into effect initially because of the substantial presence of international audit firms.

The scale of the difference is illustrated in Table 5.9, which lists for several countries the main bodies whose members may audit the financial statements

Table 5.9 Age and size of some members of IFAC

Country	*Body*	*Founding date**	*Approx. members 2015 (000s)*
Australia	CPA Australia	1952 (1886)	150
	Chartered Accountants Australia and New Zealand	2014 (1885)	100
Brazil	Conselho Federal de Contabilidade	1946	292**
Canada	Chartered Professional Accountants Canada	2013 (1880)	185
China	Chinese Institute of Certified Public Accountants	1988	203
France	Ordre des Experts Comptables	1942	19**
Germany	Institut der Wirtschaftsprüfer	1932	13**
India	Institute of Chartered Accountants of India	1949	162**
Japan	Japanese Institute of Certified Public Accountants	1948 (1927)	26‡
Netherlands	Koninklijk Nederlandse Beroepsorganisatie van Accountants	2013 (1895)	20
Sweden	Föreningen Auktoriserade Revisorer Svenska Revisorsamfundet	2006 (1899)	7
United Kingdom and Ireland	Institute of Chartered Accountants in England and Wales	1880 (1870)	144
	Institute of Chartered Accountants of Scotland	1951 (1854)	20
	Association of Chartered Certified Accountants	1939 (1891)	170
	Chartered Institute of Management Accountants	1919	100
	Institute of Chartered Accountants in Ireland	1888	23
United States	American Institute of Certified Public Accountants	1887	401

* Dates of earliest predecessor bodies in brackets. The names of some of the bodies have changed from time to time.

** These numbers relate to 2011.

‡ Excluding junior CPAs.

of companies (but see below for an explanation of the French and German situations). These remarkable figures (e.g. the small number of auditors in Germany) need some interpretation. For example, a German accountant may only be a member of the *Institut* if he or she is in practice as an auditor, whereas at least half of the British figure represents members working in companies, government, education and so on.

It is interesting to note a further division along Anglo-American versus Franco-German lines. In the Anglo-American countries, the state or government agencies require certain types of companies to be audited and they put certain limits on who is eligible to be auditors, with government departments having the final say. However, in general, membership of the private professional accountancy bodies

is the method of qualifying as an auditor. The situation in France and Germany is that there is a dual set of accountancy bodies. Those in Table 5.9 are private-sector professional bodies. However, in order to act as an auditor of companies, one must join a state-controlled auditing body (see Table 5.10). To a large extent the membership of the professional bodies overlaps with that of the auditing bodies and membership of the professional bodies is part of the way of qualifying for membership of the auditing bodies. The *Compagnie Nationale* is responsible to the Ministry of Justice; the *Wirtschaftsprüferkammer* to the Federal Minister of Economics.

Table 5.10 Accountancy and auditing bodies in France and Germany

	Private professional body	*State auditing body*
France	Ordre des Experts Comptables	Compagnie Nationale des Commissaires aux Comptes
Germany	Institut der Wirtschaftsprüfer	Wirtschaftsprüferkammer

5.3.6 Synthesis

The above discussion of the factors associated with international accounting differences can be simplified, because some factors seem to be influenced *by* accounting differences rather than the other way round. Such a case could be made for the last three of the above four factors, as now explained.

Legal systems

Even in a Roman/codified law country, the regulation of accounting can be left up to accountants if commercial pressure demands this. For example, in the Netherlands, the Civil Code is not detailed and allows room for accountants to make rules and in practice allows for some companies to follow US requirements. So, although the whole legal system is not strongly influenced by the nature of the accounting system, the regulation of accounting is. Furthermore, German companies were amongst the first to volunteer to use international standards (written by accountants), and this led to a change in German law in 1998 in order to facilitate their use.

Tax systems

The existence of *Massgeblichkeit* or *il binario unico* is probably sensible in Germany and Italy respectively because, for the great mass of entities, the calculation of taxable income is the main purpose of accounting. Where there is a competing purpose for accounting (e.g. the provision of useful financial reports to millions of shareholders in thousands of listed companies), accounting has to be done twice. For example, as already discussed, there are separate rules for tax and financial reporting in the United Kingdom and the United States. The *Massgeblichkeitsprinzip* is not a cause of the main international accounting differences (the two groups in Figure 5.3 and Table 5.3); it is an *effect*. Nevertheless, in countries where tax strongly influences accounting, different national tax rules will result in different national accounting practices.

The accountancy profession

The strength and size of the profession seems to be caused by the need for audits and by the room left for professional regulation by the legal system.

Conclusion

If these three factors are largely influenced *by* accounting, the remaining potential independent variable is the financing system. It is suggested here that, apart from international influences (see below), this is the main explanatory variable of a country's accounting system and therefore for the most convincing explanation for the major international differences in financial reporting.

5.3.7 International influences

As noted at the beginning of this chapter, many nations have contributed to the development of accounting. In the case of some countries, ideas have been transferred wholesale from another country, such as the following:

- Several African countries that are members of the (British) Commonwealth have accounting systems closely based on that of the British Companies Acts of 1929 or 1948.
- The French *plan comptable général* was introduced into France in the 1940s, based closely on a German precedent, and later into several former French colonies in Africa.
- The Japanese accounting system consists largely of a commercial code borrowed from Germany in the late nineteenth century, overlaid with US-style securities laws imposed in the late 1940s.

By the end of the twentieth century, international influences had begun to affect accounting in all countries, sometimes overwhelmingly. The globalization of markets had led to an increased need for internationally comparable accounting information. Where several large multinational companies are based in comparatively small countries (e.g. Hong Kong, Singapore, the Netherlands and Sweden), international influences are likely to be particularly great.

Many large European companies responded to internationalization by volunteering to use one of two sets of internationally recognized rules: the United States' generally accepted accounting principles (GAAP) and the international standards of the IASB. In general – in Europe at least – this usage has been mostly restricted to the consolidated financial statements prepared for groups headed by listed companies. As noted in Chapter 4, there are EU requirements in this area from 2005.

Another effect has been that national rule-makers have been trying to reduce differences between their national rules and the above international norms. At the extreme, certain countries (e.g. South Africa) have directly adopted IFRSs as part of their national rules. These issues were noted in Chapter 4 and are taken up again in Section 5.5.

Activity 5.B If you were trying to predict the financial reporting practices that would be found in various African countries, which non-accounting variables would you measure?

Feedback This activity asks you about African countries on the assumption that you do not know much about their accounting practices. Consequently, you could try to use the model of this chapter to make predictions.

It is well known that most countries in Africa have been colonies of various European countries, often until at least the second half of the twentieth century. Consequently, it seems likely that languages, legal systems and other 'cultural' features will have been imported, voluntarily or otherwise. Some of these may influence accounting practices today.

Even more directly, the main elements of accounting systems may have been imported. This suggests that, at a first approximation, the identification of colonial influence may predict accounting differences in Africa. For example, you might expect various French accounting features in Senegal, but various British features in neighbouring Gambia.

This might overwhelm factors such as the status of local equity markets. So, some 'British' African countries have aspects of Anglo-American accounting even though they have no listed companies. Additionally, increasing international development and increasing university-level education have a gradual but progressive effect towards IFRS thinking, South Africa being an obvious example of adoption of IFRS.

5.4 Harmonization of financial reporting

5.4.1 Introduction to harmonization

So far, this chapter has made it clear that there are major differences in the financial reporting practices of companies in different countries. This leads to great complications for those preparing, consolidating, auditing and interpreting published financial statements. Since the preparation of internal financial information often overlaps with the preparation of published information, the complications spread into management accounting. To combat these problems, several organizations throughout the world are involved in attempts to harmonize or standardize accounting.

'Harmonization' is a process of increasing the compatibility of accounting practices by setting bounds to their degree of variation. 'Standardization' appears to imply the imposition of a more rigid and narrow set of rules. However, within accounting these two words have almost become technical terms, so one cannot rely upon the normal difference in their meanings. Harmonization is a word that tends to be associated with the supranational legislation promulgated in the European Union, while standardization is a word often associated with the International Accounting Standards Board. In practice, the words are often used interchangeably. Convergence is a newer word, in this context, and means the gradual aligning of IFRS and US GAAP, followed by other jurisdictions aligning with the result of that.

It is necessary to distinguish between *de jure* harmonization (that of rules, standards, etc.) and *de facto* harmonization (that of corporate financial reporting practices). For any particular topic or set of countries, it is possible to have one of these two forms of harmonization without the other. For example, countries or companies may ignore the harmonized rules of standard setters or even law-makers. By contrast, in the 1980s, market forces persuaded many listed companies in France

and Switzerland to volunteer to produce English-language financial reports that approximately followed Anglo-American practice. Even among a large set of companies using IFRS (i.e. with *de jure* identity), there may be differences in policy choice because IFRS allows many areas of choice (i.e. *de facto* variety). However, there might then be gradual harmonization within an industry as companies seek to be more comparable.

The EU achieves its harmonizing objectives mainly through Directives (which must be incorporated into the laws of member states) and Regulations (which have direct effect). In the 1970s and 1980s attention was given to harmonizing national laws through Directives (see Sections 5.4.2 and 5.4.3 below). During the 1990s, the EU began to take more notice of international standards, leading to a Regulation of 2002 requiring IFRSs for the consolidated statements of listed companies (see Section 5.4.4).

5.4.2 Relevant EU Directives

The relevant body of law for accounting is company law and the concern of this section will be with the Directives on company law. These are listed in Table 5.11 with a brief description of their scope. The Fourth EU Directive will be discussed in more detail below, after an outline of the procedure for setting Directives. In 2013, the Fourth and Seventh Directives were combined and revised. The Seventh Directive covered group accounting, which we deal with in Chapter 14 in this book. Therefore the material here relates to what was originally in the Fourth Directive.

Table 5.11 EU Directives most relevant to corporate accounting

Directives on company law	*Draft dates*	*Date adopted*	*Topic*
Second	1970, 1972	1976	Separation of public companies, minimum capital, distributions
Fourth	1971, 1974	1978	Formats and rules of accounting
Seventh	1976, 1978	1983	Consolidated accounting
Eighth	1978	1984	Qualifications and work of auditors

The exact effects of any Directive on a particular country will depend upon what the previous rules were and then on the exact content of the laws passed by national legislatures to implement the Directives. For example, there are dozens of provisions in the accounting Directives which begin with such expressions as 'member states may require or permit companies to . . . '.

The Directive covers public and private companies. Its articles include those referring to valuation rules, formats of published financial statements and disclosure requirements. The Fourth Directive's first draft was published in 1971, before the United Kingdom, Ireland and Denmark (let alone the later entrants, such as Spain or Sweden) had joined the EU (or its predecessors). This initial draft was heavily influenced by German company law, particularly the *Aktiengesetz* of 1965. Consequently, for example, valuation rules were to be conservative and formats were to be prescribed in detail. Financial statements were to obey the provisions of the Directive.

The United Kingdom, Ireland and Denmark joined the then 'Common Market' in 1973. The influence of Anglo-Saxon thinking was such that a much amended draft of the Fourth Directive was issued in 1974. This introduced the concept of the 'true and fair view'. Another change by 1974 was that some flexibility of presentation had been introduced. This process continued and, by the promulgation of the finalized Directive, the 'true and fair view' was established as a predominant principle in the preparation of financial statements (now Article 4 of the 2013 Directive). In addition, the four basic principles (accruals, prudence, consistency and going concern) were made clearer than they had been in the 1974 draft (now Article 6).

More rearrangement and summarization of items in the financial statements was made possible (now Article 9). There were also calls for more Notes in the 1974 draft than the 1971 draft and more in the final Directive than in the 1974 draft (now Articles 15–18). Another concern of Anglo-Dutch accountants was with the effect of taxation on Franco-German accounts. The extra disclosures called for by the 1974 draft about the effect of taxation are included in the final Directive (now Article 17).

For over 20 years, the Fourth Directive was not changed in any substantial way. However, in 2001, it was amended to allow financial instruments to be valued at fair value with gains and losses taken to income, as is required by the international standard (IAS 39). In 2003, further amendments removed other incompatibilities with IFRSs.

A feature of the Fourth Directive is that it allows member states to exempt some smaller private companies from audits and from some other requirements. In the 2013 version of the Directive, member states are not allowed to impose note disclosures on small companies beyond a list of eight items. Also included in the 2013 Directive are provisions introduced into the Directives in 2012 which relate to 'micro' entities, with 'micro' being defined as not falling above two of the three criteria: 10 employees, and thresholds of sales and assets. Since most EU companies fall below these criteria, the provisions may lead to major change, depending on how many member states enact the exemption and what rules, if any, they impose instead.

The Second Directive concerns a number of matters connected with share capital and the differences between public and private companies. For example, the Directive requires all member states to have separate legal structures for public and private companies and to have separate names for the companies. Table 1.1 in Chapter 1 shows some forms of company names in the EU. As noted in that chapter, a 'public' company in this context is one that is legally allowed to have a market in its securities, although it does not *need* to have one. For example, many PLCs, SAs or AGs are not listed. It is important to note that 'public' in this sense means neither listed nor anything to do with government. The implementation of the Directive led to the creation of the BV in the Netherlands and to the invention of the label 'PLC' in the United Kingdom. The Second Directive also deals with the limits on distribution of profits to shareholders.

The Eighth Directive was watered down from its original draft, which might have greatly affected the training patterns and scope of work of accountants. However, its main effect now is to decide on who is allowed to audit financial statements in certain countries.

5.4.3 The example of accounting 'principles'

As an example of the evolution of the Fourth Directive's provisions, the requirements on accounting principles are examined here.

Anglo-Dutch financial reporting was traditionally free of legal constraints in the area of principles of valuation and measurement, whether from company law, tax law or accounting plan. However, this was far from the case in some other EU countries, especially Germany – its 1965 *Aktiengesetz* (AktG) was a major source of the Fourth Directive. There are three levels of principle in the AktG, in the Directive and in the resulting laws of member states. The first and vaguest level consists of a statement of the overriding purpose of the financial statements. In the AktG (paragraph 149), this overriding purpose was to obey the provisions of the law. By the final 1978 version of the Directive, the overriding purpose had become to give a true and fair view. The evolution of this may be seen in Table 5.12. Pressure from Anglo-Dutch countries had caused its insertion in the 1974 draft and its dominance in the Directive in special circumstances (see paragraph 5 of the final version of the Directive, as shown in Table 5.12). It should be noted that neither the 'true and fair' concept nor the 'special circumstances' are defined. The implication is that, above all, the financial statements should be in accordance with the facts and not be misleading.

Table 5.12 The development of 'true and fair' in the Fourth Directive

Stage 1: 1965 *Aktiengesetz* (paragraph 149)

1. The annual financial statements shall conform to proper accounting principles. They shall be clear and well set out and give as sure a view of the company's financial position and its operating results as is possible pursuant to the valuation provisions.

Stage 2: 1971 Draft (Art 2) of the Directive

1. The annual accounts shall comprise the balance sheet, the profit and loss account and the Notes on the accounts. These documents shall constitute a composite whole.
2. The annual accounts shall conform to the principles of regular and proper accounting.
3. They shall be drawn up clearly and, in the content of the provisions regarding the valuation of assets and liabilities and the layout of accounts, shall reflect as accurately as possible the company's assets, liabilities, financial position and results.

Stage 3: 1974 Draft (Art 2)

1. (As 1971 Draft)
2. The annual accounts shall give a true and fair view of the company's assets, liabilities, financial position and results.
3. They shall be drawn up clearly and in conformity with the provisions of this Directive.

Stage 4: 1978 Final (Art 2); 2013 (Art 4)

1. (As 1971 Draft)
2. They shall be drawn up clearly and in accordance with the provisions of this Directive.
3. The annual accounts shall give a true and fair view of the company's assets, liabilities, financial position and profit or loss.
4. Where the application of the provisions of this Directive would not be sufficient to give a true and fair view within the meaning of paragraph 3, additional information must be given.

(*continued*)

Table 5.12 The development of 'true and fair' in the Fourth Directive *(continued)*

5. Where in exceptional cases the application of a provision of this Directive is incompatible with the obligation laid down in paragraph 3, that provision must be departed from in order to give a true and fair view within the meaning of paragraph 3. Any such departure must be disclosed in the Notes on the accounts together with an explanation of the reasons for it and a statement of its effect on the assets, liabilities, financial position and profit or loss. The member states may define the exceptional cases in question and lay down the relevant special rules.
6. The member states may authorize or require the disclosure in the annual accounts of other information as well as that which must be disclosed in accordance with this Directive.

Implementation of the 'true and fair' concept has been interpreted in different ways in different countries, both linguistically and philosophically.

Language

The expression 'true and fair view' (TFV) has found its way into the laws of the EU member states, in a variety of ways. The versions for the 15 member states before the 2004 enlargement (plus Norway) are shown in Table 5.13. Four countries have an apparently dual concept (e.g. true *and* fair), whereas 12 have a unitary concept. Investigation in the United Kingdom (by Parker and Nobes, 1991) suggests that financial directors of large companies see TFV as unitary, whereas their auditors see it as dual: approximately, 'truth' is taken to mean that the financial statements are in accordance with the facts and 'fairness' that they are not misleading (the two features mentioned above).

Table 5.13 True and fair view

Country	*TFV in home language(s)*
UK (1947)	a true and fair view
Ireland (1963)	
Netherlands (1970)	een getrouw beeld
Belgium (1985)	
Denmark (1981)	et retvisende billede
France (1983)	une image fidèle (een getrouw beeld)
Luxembourg (1984)	
Belgium (1985)	
Germany (1985)	ein den tatsächlichen Verhältnissen entsprechendes Bild
Greece (1986)	tin pragmatiki ikona
Spain (1989)	la imagen fiel
Portugal (1989)	una imagem verdadeira e apropriada
Austria (1990)	ein möglichst getreues Bild
Italy (1991)	rappresentare in modo veritiero e corretto
Finland (1992)	oikeat ja riittävät tiedot
Sweden (1995)	en rättvisande bild
Norway (1998)	et rettvisende bilde

In most languages, but not Greek and Spanish, the indefinite article is used, leading to the conclusion that a number of different financial statements could all give a true and fair view of any particular state of affairs or profit or loss.

Philosophy

Accountants and lawyers in continental countries were, of course, aware of the forthcoming need to implement the TFV from at least the publication of the draft Directive of 1974. It was a topic of conversation at international meetings and even of specific European conferences in the 1970s and 1980s. The idea that law should be departed from as a result of the opinion of directors and auditors is hard to accept even for 'English' lawyers let alone for 'Roman' lawyers.

The national stances towards the implementation of the Directive may also be classified into several types, with the UK and Germany as extremes.

- *UK*. TFV is used by directors/auditors in interpreting the law and standards or where there is no law or standard and sometimes to override the law or standards. TFV can also be used by standard setters to make rules that override details of the law.
- *Germany*. TFV may be used by directors/auditors to interpret government requirements or in cases where there are no requirements. The law cannot be departed from in order to give a TFV. Some hold the view that TFV relates only to Notes to the financial statements.

5.4.4 The EU Regulation of 2002

By the early 1990s, it had become clear, even to the European Commission, that Directives were too cumbersome and slow to achieve further useful harmonization. The Fourth Directive, agreed in 1978, did not cover several topics and it had been too complicated to amend it often. Furthermore, global harmonization had become more relevant than regional harmonization.

It had also become clear that, for large European companies, voluntary harmonization might focus on US rules over which the European Commission and other Europeans have no influence. Consequently, from the middle of the 1990s, the European Commission began to support the increasingly important efforts of the International Accounting Standards Committee (IASC, later replaced by the IASB). The EU also had in mind the creation of powerful harmonized European financial markets.

In 2000, the Commission proposed the compulsory use of IFRSs for the consolidated statements of listed companies for 2005 onwards. This was agreed by the European Parliament and the Council of Ministers in 2002, in the form of a Regulation.

This Regulation also allows member states to extend the use of IFRSs compulsorily or optionally to unlisted companies and unconsolidated statements. For any financial statements falling under the Regulation, the national laws and standards on accounting are overridden. For other financial statements, the national rules (including the national implementations of the Directives) are still in effect.

5.4.5 Expansion of the EU

Having reached a membership of 15 countries in 1995, the EU remained at a constant size for nearly 10 years. In 2004 a further 10 countries joined: Cyprus, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Slovakia and Slovenia. Then Romania and Bulgaria joined in 2007, and Croatia in 2013. It is noteworthy

that all these new members except Malta and Cyprus are from the former 'Eastern bloc' of Soviet-controlled countries. All those joining in 2004 or later were automatically subject to the 2002 Regulation referred to in Section 5.4.4 above.

5.5 The International Accounting Standards Board

5.5.1 Nature of the IASC/B

The IASB's predecessor, the International Accounting Standards Committee (IASC), was founded in 1973 and had a secretariat based in London. The original members were the accountancy bodies of nine countries: Australia, Canada, France, Germany, Japan, Mexico, the Netherlands, the United Kingdom (with Ireland) and the United States. By the millennium, there were over 140 member bodies from over 100 countries. Up until the beginning of 2001, the IASC was governed by a Board comprising representatives of 13 of the countries plus a few other relevant international organizations. From early in 2001, an independent Board of 14 or more (mostly full-time) members has continued the IASC's work. The Board members are appointed by the trustees of the IFRS Foundation, drawn from the world's financial community, who represent the public interest.

Countries influenced by the Anglo-American tradition are most familiar with setting accounting standards in the private sector. It is not surprising, then, that the working language of the IASB is English, it is based in London and most standards (at least those issued by the IASC) are closely in line with, or compromise between, US and UK standards.

A list of the IASB's standards (collectively called IFRSs) is shown in Table 5.14. The process leading to the issue of an accounting standard includes the publication of an Exposure Draft (ED) prepared for public comment. A summary of the content of the IFRSs is given in Appendix B.

Table 5.14 IASB documents (as of 1 January 2016)

The conceptual framework for financial reporting (2010)		
IAS	1	Presentation of financial statements
IAS	2	Inventories
IAS	7	Statement of cash flows
IAS	8	Accounting policies, changes in accounting estimates and errors
IAS	10	Events after the reporting date
IAS	11	Construction contracts (being replaced by IFRS 15)
IAS	12	Income taxes
IAS	16	Property, plant and equipment
IAS	17	Leases (being replaced by IFRS 16)
IAS	18	Revenue (being replaced by IFRS 15)
IAS	19	Employee benefits
IAS	20	Accounting for government grants and disclosure of government assistance
IAS	21	The effects of changes in foreign exchange rates
IAS	23	Borrowing costs
IAS	24	Related party disclosures
IAS	26	Accounting and reporting by retirement benefit plans

(*continued*)

IAS	27	Separate financial statements
IAS	28	Investments in associates and joint ventures
IAS	29	Financial reporting in hyperinflationary economies
IAS	32	Financial instruments: presentation
IAS	33	Earnings per share
IAS	34	Interim financial reporting
IAS	36	Impairment of assets
IAS	37	Provisions, contingent liabilities and contingent assets
IAS	38	Intangible assets
IAS	39	Financial instruments: recognition and measurement (being replaced by IFRS 9)
IAS	40	Investment property
IAS	41	Agriculture
IFRS	1	First-time adoption of IFRS
IFRS	2	Share-based payment
IFRS	3	Business combinations
IFRS	4	Insurance contracts
IFRS	5	Non-current assets held for sale and discontinued operations
IFRS	6	Exploration for and evaluation of mineral resources
IFRS	7	Financial instruments: disclosures
IFRS	8	Operating segments
IFRS	9	Financial instruments
IFRS	10	Consolidated financial statements
IFRS	11	Joint arrangements
IFRS	12	Disclosures of interests in other entities
IFRS	13	Fair value measurement
IFRS	14	Regulatory deferral accounts
IFRS	15	Revenue from contracts with customers
IFRS	16	Leases

IFRS for small and medium-sized entities

One particular issue concerning the content of IFRSs needs to be taken up here. IAS 1 (paragraph 15) requires that, above all else, financial statements must 'present fairly' the financial position, performance and cash flows of an enterprise. This is somewhat similar to the 'true and fair view' requirement examined earlier and is also overriding – i.e. in rare circumstances, if compliance with a requirement of a standard would be misleading it must be departed from. There must be full disclosures of any such departure, including the numerical effect.

5.5.2 Influence of the IASB

The importance of the IASB's work can be seen in three major areas:

- adoption of IFRSs as national rules;
- influence on national rule-makers;
- voluntary adoption of IFRSs by companies.

In several Asian and African countries of the (British) Commonwealth, international standards were adopted exactly or approximately by national standard

setters in the 1980s or 1990s. This was a feature of a number of developing countries (e.g. Nigeria) and a number of well-developed countries with a British colonial history (e.g. Singapore). Adoption of IFRSs (sometimes with local variants) is an inexpensive way of setting standards that avoids unnecessary or accidental international differences.

The second point, namely the influence on rule-makers, is connected. Even for countries whose standard setters thought of themselves as leaders rather than followers (e.g. the United States and the United Kingdom), the IASB acted as a focus for international collaboration. Several accounting standards were set jointly by the IASB and one or more national standard setters. Joint standard-setting by the IASB and the US standard setter became a major feature of the 2000s. Many other standard setters tried to avoid differences from IFRSs.

The third point, namely voluntary adoption by companies, was seen particularly in continental Europe. From the early 1990s onwards, many large European companies (notably in France, Germany and Switzerland) volunteered to use IFRSs because they believed that international investors prefer financial statements prepared that way. By 2000, most of the biggest Swiss groups (e.g. Nestlé, Roche and Novartis) were using IFRSs for their consolidated statements. German companies started using IFRSs from the middle of the 1990s, and this was widespread by 1998.

From the late 1980s, the IASC had been in negotiation with the world's major stock market regulators through their international association called the International Organization of Securities Commissions (IOSCO). The objective was that IFRSs should become a global system accepted on all stock markets, particularly for foreign companies. IOSCO wanted improvements in IFRSs to be made, including the removal of options in standards and the coverage of several extra accounting topics. This process of improvement saw massive efforts by the IASC throughout the 1990s, then nearly completed with IAS 39 in 1998 and fully completed with IAS 40 in 2000. In May 2000, IOSCO recommended acceptance of IFRSs to its members for financial reporting by foreign companies listed on the stock exchanges that they regulate.

The EU's adoption of IFRS for the consolidated statements of listed companies for 2005 was followed by Australia for that year, by Canada for 2011, by Brazil for 2011 and by Russia for 2012. Now over 100 countries use some form of IFRS for consolidated reporting by listed companies. In most cases (e.g. the EU and Australia), there are mechanisms to turn IFRS (and amendments to it) into local legal requirements. So, for example, the audit reports on EU-listed companies' financial statements still refer to national regulations and to 'IFRSs as adopted by the European Union'.

Although this means that, for many situations, national systems of regulation will become irrelevant, it does not mean that national attitudes towards the practical application of written regulations will become irrelevant. Where differences in such attitudes exist, implications may continue. Differences still exist between the United States and general IASB philosophy on, for example, the extent to which regulation should be specific (rules) or more generic (principles). Also, companies from different countries can end up implementing IFRSs in different ways, e.g. by choosing options within IFRS differently (Kvaal and Nobes, 2010; Nobes, 2013).

In short, whilst the objective of moving standards more and more closely together is not in doubt, the achievement of that objective in the short term seems unlikely. Developments should be watched carefully.

5.5.3 IFRS for SMEs

In 2009, after six years of work, the IASB issued a special standard designed for those entities that are not publicly accountable, whatever their size. This means unlisted entities except for a few unlisted banks and insurance companies. IFRS for SMEs is much shorter and easier to read than full IFRS. It deletes some whole standards (e.g. segment reporting; see Chapter 6) and reduces disclosure requirements. It also contains some simplifications, e.g. expensing instead of capitalizing development costs (see Chapter 8) and amortizing instead of impairing goodwill (see Chapter 14). Small amendments were made to the standard in 2015.

Any permission or requirement to use IFRS for SMEs depends on national regulations. It has been adopted in South Africa and (slightly amended) in Hong Kong for unlisted companies. However, aspects of it are not in conformity with the EU Directives, so it is not legal in the EU. Nevertheless, some EU countries (e.g. the United Kingdom for 2015 onwards) have used IFRS for SMEs as the starting point for writing a new national accounting system. Other EU countries (e.g. France) will not use IFRS for SMEs because it would change profit and therefore taxable income.

Summary

- Today's financial reporting practices have developed over many centuries, with many countries contributing.
- Financial reporting practices can be classified into two main types of accounting system: these could be called 'micro-fair' and 'macro/tax-oriented'. However, in some macro countries (e.g. Germany) many listed companies voluntarily stopped using the traditional accounting system for their group accounting in the 1990s before this became compulsory under EU law.
- International differences seem to be connected to different purposes of accounting, particularly a contrast between use by investors for decision-making and use for the legal purposes of creditor protection and the calculation of taxable income.
- In Europe, some countries (e.g. the United Kingdom) have large stock markets and large numbers of auditors. Other countries (e.g. Germany) have much smaller stock markets and numbers of auditors (adjusting for the size of economy).
- Efforts to harmonize financial reporting within the EU were slow because of the need to reach agreement on the relevant EU Directives among the member states. This has also led to many options and omissions in the Directives. The spread of the requirement to give a true and fair view seems to be harmonization of form but not of substance. Also, the idea of harmonizing only within the EU is perhaps now out of date.
- EU progress was made with some standardization of formats of financial statements. The EU is now promoting the use of international standards (and trying to increase its influence on them).

- The IASC's attempts at harmonization were initially hampered by the problems of achieving international agreement and by the lack of enforcement mechanisms. However, with the spread of a global capital market, the support of stock market regulators and then governments, IFRSs are now extensively used. They are now compulsory in the EU, Australia, Canada and Russia at least for the consolidated statements of listed companies.



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? MULTIPLE CHOICE QUESTIONS

Answers to these questions are in Appendix D.

5a. Which of the following is valid for unconsolidated reporting under national accounting rules?

A. The influence of tax rules on financial reports is strong in Germany and weak in the UK.
B. The influence of tax rules in financial reports is weak in Germany and strong in the UK.
C. The influence of tax rules in financial reports is weak in both Germany and the UK.
D. The influence of tax rules in financial reports is strong in both Germany and the UK.

5b. Which of the following is valid?

A. Debt finance and Roman law seem to be positively related.
B. Debt finance and Roman law seem to be negatively related.
C. Debt finance and common law seem to be positively related.
D. There is no apparent relationship between debt finance and local legal systems.

5c. The contents of IFRS consolidated annual financial statements will generally be closely linked to taxation rules when the parent is based in a 'common law' country.

A. True.
B. False.

5d. The contents of IFRS consolidated annual financial statements will generally be closely linked to taxation rules when the parent is based in a 'code law' country.

A. True.
B. False.

5e. The 'IFRS for SMEs' is compulsory for the consolidated financial statements of medium-sized entities based within the European Economic Area (EEA).

A. True.
B. False.

5f. The meaning of 'true and fair view' is precisely defined in the European Union's Directive.

A. True.
B. False.

5g. The meaning of 'fair presentation' is precisely defined in IAS 1.

A. True.
B. False.

5h. The degrees of flexibility and subjectivity that the wording of IAS 1 implies regarding the application of 'fair' presentation is less than the degree of flexibility and subjectivity the wording of the EU Fourth Directive implies regarding the application of 'true and fair view'.

A. True.
B. False.

? EXERCISES

Feedback on the first five of these exercises is given in Appendix E.

5.1. Explain how international differences in the ownership and financing of companies could lead to differences in financial reporting.

5.2. Explain for whom international differences in financial reporting are a problem. Describe any ways you know about in which those who face such problems are dealing with them.

5.3. Several factors have been suggested as related to financial reporting differences, i.e. legal systems, providers of finance, taxation, the accountancy profession and accidents of history.

a. Within your knowledge and experiences, which factors do you believe to be the most important and why?
b. To what extent do you think your views on (a) above have been influenced by your own national environment?

5.4. 'International accounting classification systems are, by their very nature, simplistic'. Discuss.

5.5. By reference to any of the countries in Figure 5.2 or 5.3 with which you are familiar, comment on the apparent validity of the groupings. Make notes of points for and against the particular positions of the countries concerned. Be ready to update these notes as you read later chapters.

5.6. Do international differences in the rules for the calculation of taxable income cause accounting differences or is the influence the other way round?

5.7. 'The true and fair view requirement is now established in all European Union countries and so the aim of financial reporting has been harmonized'. Discuss.

5.8. a. Outline the objectives and achievements of the EU in the area of financial reporting.
b. Outline the objectives and achievements of the IASB and its predecessor in the area of financial reporting.
c. Do your answers to (a) and (b) suggest movement in the same direction: (i) in the 1980s and (ii) now?

5.9. In which European countries have the standards of the IASB had the greatest influence?

5.10. Bearing in mind that Section 5.5.2 of this chapter was written in 2015, rewrite it in the context of the time when you read this book.

Chapter 6

The contents of financial statements

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Objectives

Having thoroughly worked through this chapter you should be able to:

- outline the main component parts of published annual financial statements of corporations;
- describe and discuss the main requirements of IAS 1 and the EU Directives as regards the contents of published financial statements;
- discuss the concept of comprehensive income and demonstrate an understanding of the issues related to a single overall performance statement;
- outline the relationship of cash flow statements to other financial statements;
- outline and appraise disclosure requirements under IFRS in relation to segments, interim financial reports, earnings per share and discontinued operations;
- compare the above requirements with those in national jurisdictions within your experience;
- explain the increasing prevalence of reporting on environmental and social matters.

6.1 Introduction

As has already been explored in Chapter 2, the two most fundamental components of a set of financial statements are the balance sheet and the income statement. The balance sheet (or statement of financial position) presents a statement of the assets, liabilities and owner's equity at the balance sheet date. It is prepared from the accounting records after the application of the conventions and practices discussed in Chapter 3.

The income statement has as its focus the financial performance of the reporting period, taking into account the income and expenses of the period. Until recently, the income statement did not include all income and expense items. For example, gains on the revaluation (but not sale) of assets meet the IASB's definition of income but are not yet realized in cash or in promises of cash. So, traditionally they were not recorded in the income statement. However, from the 1990s onwards, under IASB, UK or US rules, they have been recorded in a second type of income statement called various things, such as a statement of other comprehensive income.

One thing that the above statements do not do, as briefly explored in Section 2.5, is provide a focus on the cash position. To remedy this, a cash flow statement is widely regarded as an essential component of financial reporting. This statement seeks to highlight the movements of cash into and out of the business during the period under review.

Why it matters

It is perfectly possible for a business operation to be profitable in the short term and still run out of money, because of delayed receipts or advance payments or because of investment policies. It is, of course, also possible for a business to be making losses while still having large amounts of cash and, in the short term, positive annual cash flows (e.g. by selling its non-current assets). A cash flow statement is thus an essential part of the overall information package that is necessary for business appraisal.

The typical annual financial report, particularly for listed companies, contains a number of additional sections. These are likely to include discussions by the company CEO and the management team of the activities and results of the business and various graphs, photographs of relevance (or otherwise) to the business and other material designed to ensure that the readers of the package receive the 'right' impression of the performance of the business and the management. It is unclear to what extent the company and its auditors are legally responsible for the validity and overall fairness of these voluntary sections. Formally, the auditors are required to give an opinion on the financial statements (including the Notes) and to check that the directors' report is consistent with those statements. However, there is some evidence that many readers of financial statements give more attention to the voluntary material than to the detailed formal financial information. Logic would therefore suggest that it is the overall impression of the complete 'annual report' that needs to be fair.

The next four sections of this chapter look in some detail at the general disclosure requirements for the basic statements, with a particular focus on IAS 1. Sections 6.6 and 6.7 outline the other major requirements existing and emerging at the present time.

As discussed in Chapter 5, IAS 1 is important for the general contents of financial statements. IAS 1 requires financial statements that claim to follow IFRSs to be clearly distinguished from any other information included in the same published document. Financial statements should be presented at least annually, normally for a 12-month period, and any exceptions (e.g. a change in reporting date following an acquisition by another entity) should be clearly explained.

Within Europe, the EU Fourth Directive and its 2013 successor are also still relevant for those financial statements not prepared under the EU Regulation of 2002 (e.g. still relevant in many countries for all unconsolidated statements, which do not use IFRS). Even where the Regulation is being followed, national practices under IFRS reflect preferences formed by national implementations of the Directives.

The approach we have followed here is to structure our coverage on IAS 1 (as revised up to 2015), but to include detail from the Directives in the appropriate places. A Directive is not actually functional for any particular entity until enshrined in the relevant national law, and the Fourth Directive took up to 13 years before this was universally achieved. Therefore, we are likely to remain for a number of years in a state of transition between the 1978 and 2013 versions, with different countries moving at different speeds. Further, since the options in the 1978 Directive remain in the new one, different directions of change are possible. We therefore consider both versions.

6.2 Balance sheets (statements of financial position)

A number of items, if material, should be shown as separate totals on the face of the balance sheet. These are specified in IAS 1 as follows:

- property, plant and equipment;
- investment property;
- intangible assets;
- financial assets (unless included under other headings below);
- investments accounted for using the equity method (see Chapter 14);
- biological assets within the scope of IAS 41;
- inventories;
- trade and other receivables;
- cash and cash equivalents;
- assets held for sale;
- trade and other payables;
- provisions;
- financial liabilities (unless included under other headings);
- liabilities and assets for current tax;
- deferred tax liabilities and assets;
- liabilities of disposal groups held for sale;
- non-controlling interests, presented within equity (see Chapter 14);
- issued capital and reserves attributable to the owners of the parent.

The above represents a minimum. Additional line items, headings and subtotals should also be included on the face of the balance sheet when any other IFRS

requires it or when such additional presentation is necessary in order to 'present fairly' the entity's financial position.

It is usual (and generally required by IAS 1 and by the Directives) for a balance sheet to present current and non-current assets, and current and non-current liabilities, as separate classifications on the face of the balance sheet. When an entity chooses not to make this analysis (e.g. because it is a bank), assets and liabilities should still be presented broadly in order of their liquidity, although the IAS does not specify 'which way up' the liquidity analysis should go. For example, it is generally European practice (both under IFRS and under national rules) for assets to end with cash, which is required by the Directive for non-financial companies). By contrast, it is Canadian, Japanese and Australian practice to start with cash. Whichever method of presentation is adopted, an entity should disclose the amounts included in each item that are expected to be recovered or settled before, and after, 12 months.

IAS 1 states that an asset should be classified as current when it:

- is expected to be realized in, or is held for sale or consumption in, the normal course of the entity's operating cycle;
- is held primarily for trading purposes;
- is expected to be realized within 12 months of the balance sheet date; or
- is cash or a cash equivalent that is not restricted in its use.

This is a wide definition; note the 'or' at the end of the third bullet point. By contrast, European laws based on the Directives concentrate on the first of these criteria by defining 'fixed' assets as those intended for continuing use in the business, and all other assets as current. Under European laws, a non-current asset remains non-current throughout its useful life to the entity, as it is not held primarily for trading purposes. It does not eventually become 'current' merely because its expected disposal is within less than 12 months. However, under IFRS 5 (which was based on US GAAP) when formerly non-current assets are held for sale, they are separated from non-current assets and valued like inventories (approximately speaking, at the lower of cost and market; see Section 6.8.2).

If liabilities are classified, a comparable distinction is required. IAS 1 requires that a liability should be classified as a current liability when it:

- is expected to be settled in the normal course of the entity's operating cycle;
- it is held for trading; or
- is due to be settled within 12 months of the balance sheet date.

In the case of liabilities the 'current' portion of long-term interest-bearing liabilities is generally to be classified as current, unless refinance is arranged by the balance sheet date.

Figure 6.1 shows an IFRS balance sheet for the Bayer Group, a German pharmaceutical company. The company has chosen a slightly different order of items compared to IAS 1's list. This is because of previous German practice (see below).

The Directives set out considerably more detail regarding balance sheets. To take the case of the Fourth Directive, it requires that member states should prescribe one or both of the layouts specified by its Articles 9 and 10. As noted earlier, this is relevant for EU companies not following IFRS and it affects the choices made

Figure 6.1 Bayer Group's consolidated balance sheet

	31 Dec. 2014
€ million	
Non-current assets	
Goodwill	16,168
Other intangible assets	15,653
Property, plant and equipment	11,248
Investments accounted for by the equity method	223
Other financial assets	1,107
Other receivables	447
Deferred taxes	2,981
	48,007
Current assets	
Inventories	8,478
Trade accounts receivable	9,097
Other financial assets	723
Other receivables	1,488
Claims for income tax refunds	588
Cash and cash equivalents	1,853
	22,227
Total assets	**70,234**
Equity	
Capital stock of Bayer AG	2,117
Capital reserves of Bayer AG	6,167
Other reserves	11,822
Equity attributable to Bayer AG stockholders	**20,106**
Equity attributable to non-controlling interest	112
	20,218
Non-current liabilities	
Provisions for pensions and other post-employment benefits	12,236
Other provisions	2,016
Financial liabilities	18,484
Other liabilities	1,088
Deferred taxes	689
	34,513
Current liabilities	
Other provisions	4,912
Financial liabilities	3,376
Trade accounts payable	5,363
Income tax liabilities	63
Other liabilities	1,789
	15,503
Total equity and liabilities	**70,234**

Source: Adapted from Bayer's Annual Report 2014, p. 230.

under IFRS. Article 9, reproduced in Table 6.1, gives a 'horizontal' format with the debits on one side and the credits on the other, following the general continental European tradition. Incidentally, the word 'Liabilities' that heads the right-hand side (or lower half) of the balance sheet is a poor translation of the French '*passif*' or German '*passiv*' (see Chapter 11). The terminology used in the Directive, as shown

Table 6.1 The EU Fourth Directive: horizontal balance sheet format

Assets

A. Subscribed capital unpaid
B. Formation expenses
C. Fixed assets
- I. Intangible assets
  1. Costs of research and development.
  2. Concessions, patents, licences, trademarks and similar rights and assets.
  3. Goodwill, to the extent that it was acquired for valuable consideration.
  4. Payments on account.
- II. Tangible assets
  1. Land and buildings.
  2. Plant and machinery.
  3. Other fixtures and fittings, tools and equipment.
  4. Payments on account and tangible assets in course of construction.
- III. Financial assets
  1. Shares in affiliated undertakings.
  2. Loans in affiliated undertakings.
  3. Participating interests.
  4. Loans to undertakings with which the company is linked by virtue of participating interests.
  5. Investments held as fixed assets.
  6. Other loans.
  7. Own shares.

D. Current assets
- I. Stocks
  1. Raw materials and consumables.
  2. Work in progress.
  3. Finished goods and goods for resale.
  4. Payments on account.
- II. Debtors
  (Amounts becoming due and payable after more than one year must be shown separately for each item.)
  1. Trade debtors.
  2. Amounts owed by affiliated undertakings.
  3. Amounts owed by undertakings with which the company is linked by virtue of participating interests.
  4. Other debtors.
  5. Subscribed capital called but not paid.
  6. Prepayments and accrued income.
- III. Investments
  1. Shares in affiliated undertakings.
  2. Own shares.
  3. Other investments.
- IV. Cash at bank and in hand

E. Prepayments and accrued income
F. Loss for the financial year

(*continued*)

Table 6.1 *(continued)*

Liabilities

A. Capital and reserves
- I. Subscribed capital
- II. Share premium account
- III. Revaluation reserve
- IV. Reserves
  1. Legal reserve.
  2. Reserve for own shares.
  3. Reserves provided for by the articles of association.
  4. Other reserves.
- V. Profit or loss brought forward
- VI. Profit or loss for the financial year

B. Provisions
1. Provisions for pensions and similar obligations.
2. Provisions for taxation.
3. Other provisions.

C. Creditors

(Amounts becoming due and payable within one year and amounts becoming due and payable after more than one year must be shown separately for each item and for the aggregate of these items.)
1. Debenture loans, showing convertible loans separately.
2. Amounts owed to credit institutions.
3. Payments received on account of orders in so far as they are now shown separately as deductions from stocks.
4. Trade creditors.
5. Bills of exchange payable.
6. Amounts owed to affiliated undertakings.
7. Amounts owed to undertakings with which the company is linked by virtue of participating interests.
8. Other creditors including tax and social security.
9. Accruals and deferred income.

D. Accruals and deferred income

E. Profit for the financial year

in Tables 6.1 and 6.2, is unchanged from 1978 and differs significantly from current IASB usage.

Article 10, reproduced in Table 6.2, provides a 'vertical' format of the type more traditional in the UK. Companies are required to show the items in the order specified in these formats, except that the headings preceded by Arabic numbers may be combined or taken to the Notes. The chapters in Part 2 of this book explain the meaning of the various items.

In the European Union, companies that fall below a given size limit, which is updated as circumstances change, may be permitted by the laws of member states to produce abridged accounts. As far as the balance sheet is concerned, these would consist of only those items preceded by letters and roman numerals in Tables 6.1 and 6.2.

In some cases, more specific international standards provide precise requirements for presentation, as illustrated in a number of the chapters in Part 2. It should

Table 6.2 The EU Fourth Directive: vertical balance sheet format

A. Subscribed capital unpaid
B. Formation expenses
C. Fixed assets
- I. *Intangible assets*
  1. Costs of research and development.
  2. Concessions, patents, licences, trademarks and similar rights and assets.
  3. Goodwill, to the extent that it was acquired for valuable consideration.
  4. Payments on account.
- II. *Tangible assets*
  1. Land and buildings.
  2. Plant and machinery.
  3. Other fixtures and fittings, tools and equipment.
  4. Payments on account and tangible assets in course of construction.
- III. *Financial assets*
  1. Shares in affiliated undertakings.
  2. Loans to affiliated undertakings.
  3. Participating interests.
  4. Loans to undertakings with which the company is linked by virtue of participating interests.
  5. Investments held as fixed assets.
  6. Other loans.
  7. Own shares.

D. Current assets
- I. *Stocks*
  1. Raw materials and consumables.
  2. Work in progress.
  3. Finished goods and goods for resale.
  4. Payments on account.
- II. *Debtors*
  (Amounts becoming due and payable after more than one year must be shown separately for each item.)
  1. Trade debtors.
  2. Amounts owed by affiliated undertakings.
  3. Amounts owed by undertakings with which the company is linked by virtue of participating interests.
  4. Other debtors.
  5. Subscribed capital called but not paid.
  6. Prepayments and accrued income.
- III. *Investments*
  1. Shares in affiliated undertakings.
  2. Own shares.
  3. Other investments.
- IV. *Cash at bank and in hand*

E. Prepayments and accrued income
F. Creditors: amounts becoming due and payable within one year
1. Debenture loans, showing convertible loans separately.
2. Amounts owed to credit institutions.
3. Payments received on account of orders in so far as they are not shown separately as deductions from stocks.
4. Trade creditors.
5. Bills of exchange payable.

(*continued*)

Table 6.2 *(continued)*

6. Amounts owed to affiliated undertakings.
7. Amounts owed to undertakings with which the company is linked by virtue of participating interests.
8. Other creditors including tax and social security.
9. Accrual and deferred income.

G. Net current assets/liabilities

H. Total assets less current liabilities

I. Creditors: amounts becoming due and payable after more than one year

1. Debenture loans, showing convertible loans separately.
2. Amounts owed to credit institutions.
3. Payments received on account of orders in so far as they are now shown separately as deductions from stocks.
4. Trade creditors.
5. Bills of exchange payable.
6. Amounts owed to affiliated undertakings.
7. Amounts owed to undertakings with which the company is linked by virtue of participating interests.
8. Other creditors including tax and social security.
9. Accruals and deferred income.

J. Provisions

1. Provisions for pensions and similar obligations.
2. Provisions for taxation.
3. Other provisions.

K. Accruals and deferred income

L. Capital and reserves

I. *Subscribed capital*
II. *Share premium account*
III. *Revaluation reserve*
IV. *Reserves*
    1. Legal reserve.
    2. Reserve for own shares.
    3. Reserves provided for by the articles of association.
    4. Other reserves.
V. *Profit or loss brought forward*
VI. *Profit or loss for the financial year*

be remembered that such requirements do not apply to immaterial items. The fundamental requirement is to give a fair presentation and the guiding factor should be not to mislead the careful reader of the financial statements.

6.3 Comprehensive income

IAS 1 requires entities to present either a single 'statement of profit or loss and other comprehensive income' or two statements: a statement showing profit or loss and a statement showing other comprehensive income (OCI). Most companies choose to present two statements because they regard the elements of OCI as volatile or beyond control. We assume below that two statements are presented.

6.3.1 Profit or loss

As with the balance sheet, IAS 1 requires certain disclosures on the face of the statement of profit or loss and other disclosures either on the face of the statement or in the Notes, at the discretion of the reporting entity.

As a minimum, the face of the statement should show the following items (as well as some items relating to certain financial assets, where relevant):

- revenue;
- finance costs;
- share of the after-tax profits and losses of associates and joint ventures (see Chapter 14);
- tax expense;
- discontinued operations.

The determination of revenue is a complex matter, and we are in the middle of a prolonged complicated change in the IFRS requirements, discussed in Chapter 8. Additional line items, headings and subtotals should be presented on the face of the income statement when required by more specific IFRSs or when such additions are necessary to present fairly the entity's financial performance. IAS 1 explicitly accepts that considerations of materiality and the nature of the entity's operations may require additions to, deletions from, or amendments of, descriptions within the above list.

Beyond all the above, there is a requirement that an entity should present, either on the face of the income statement (which is 'encouraged' but not obligatory under IAS 1) or in the Notes to the income statement, an analysis using a classification based on either the nature of expenses or their function within the entity. The implications of this distinction between classification by nature and classification by function are conveniently illustrated by turning to the Fourth Directive's specifications for the income statement. The Directive requires that member states allow one or more of the four layouts given in its Articles 23 to 26.

These four layouts were necessary to accommodate the possibility of following either an analysis by nature or an analysis by function, combined with either a horizontal-type presentation or a vertical-type presentation. Table 6.3 classifies the expense items by nature showing, for example, staff costs as a single figure. Table 6.4 classifies by function. Thus, for example, staff costs as a total are not shown, being split between the various functional heads related to staff activity, e.g. distribution and administration.

The formats in Tables 6.3 and 6.4 are vertical in style, treating the revenues (credits) as pluses and the expenses (debits) as minuses. However, the Directive allowed

Table 6.3 The EU Fourth Directive: vertical profit and loss account by nature

Item	*Description*
1	Net turnover.
2	Variation in stocks of finished goods and in work in progress.
3	Work performed by the undertaking for its own purposes and capitalized.
4	Other operating income.
5	(a) Raw materials and consumables.
	(b) Other external charges.
6	Staff costs:
	(a) wages and salaries;
	(b) social security costs with a separate indication of those relating to pensions.

(*continued*)

Table 6.3 *(continued)*

Item	*Description*
7	(a) Value adjustments in respect of formation expenses and of tangible and intangible fixed assets. (b) Value adjustments in respect of current assets, to the extent that they exceed the amount of value adjustments that are normal in the undertaking concerned.
8	Other operating charges.
9	Income from participating interests, with a separate indication of that derived from affiliated undertakings.
10	Income from other investments and loans forming part of the fixed assets, with a separate indication of that derived from affiliated undertakings.
11	Other interest receivable and similar income with a separate indication of that derived from affiliated undertakings.
12	Value adjustments in respect of financial assets and of investments held as current assets.
13	Interest payable and similar charges, with a separate indication of those concerning affiliated undertakings.
14	Tax on profit or loss on ordinary activities.
15	Profit or loss on ordinary activities after taxation.
16	Extraordinary income.
17	Extraordinary charges.
18	Extraordinary profit or loss.
19	Tax on extraordinary profit or loss.
20	Other taxes not shown under the above items.
21	Profit or loss for the financial year.

Table 6.4 The EU Fourth Directive: vertical profit and loss account by function

Item	*Description*
1	Net turnover.
2	Cost of sales (including value adjustments).
3	Gross profit or loss.
4	Distribution costs (including value adjustments).
5	Administrative expenses (including value adjustments).
6	Other operating income.
7	Income from participating interests, with a separate indication of that derived from affiliated undertakings.
8	Income from other investments and loans forming part of the fixed assets, with a separate indication of that derived from affiliated undertakings.
9	Other interest receivable and similar income, with a separate indication of that derived from affiliated undertakings.
10	Value adjustments in respect of financial assets and of investments held as current assets.
11	Interest payable and similar charges, with a separate indication of those concerning affiliated undertakings.
12	Tax on profit or loss on ordinary activities.
13	Profit or loss on ordinary activities after taxation.
14	Extraordinary income.
15	Extraordinary charges.
16	Extraordinary profit or loss.
17	Tax on extraordinary profit or loss.
18	Other taxes not shown under the above items.
19	Profit or loss for the financial year.

a horizontal double-entry style of income statement, as illustrated in Chapter 2. Table 6.5 shows the horizontal version of the by-nature format, i.e. a rearrangement of Table 6.3. Although the Directive also allows a horizontal by-function format, this is not used in practice and is not illustrated here.

Table 6.5 The EU Fourth Directive: horizontal profit and loss account by nature

Item	*Description*
A. Charges	
1	Reduction in stocks of finished goods and in work in progress.
2	(a) raw materials and consumables; (b) other external charges.
3	Staff costs: (a) wages and salaries; (b) social security costs with a separate indication of those relating to pensions.
4	(a) Value adjustments in respect of formation expenses and of tangible and intangible fixed assets. (b) Value adjustments in respect of current assets, to the extent that they exceed the amount of value adjustments that are normal in the undertaking concerned.
5	Other operating charges.
6	Value adjustments in respect of financial assets and of investments held as current assets.
7	Interest payable and similar charges, with a separate indication of those concerning affiliated undertakings.
8	Tax on profit or loss on ordinary activities.
9	Profit or loss on ordinary activities after taxation.
10	Extraordinary charges.
11	Tax on extraordinary profit or loss.
12	Other taxes not shown under the above items.
13	Profit or loss for the financial year.
B. Income	
1	Net turnover.
2	Increase in stocks of finished goods and in work in progress.
3	Work performed by the undertaking for its own purposes and capitalized.
4	Other operating income.
5	Income from participating interests, with a separate indication of that derived from affiliated undertakings.
6	Income from other investments and loans forming part of the fixed assets, with a separate indication of that derived from affiliated undertakings.
7	Other interest receivable and similar income, with a separate indication of that derived from affiliated undertakings.
8	Profit or loss on ordinary activities after taxation.
9	Extraordinary income.
10	Profit or loss for the financial year.

In the Directive's formats (and therefore in EU national laws) there are lines for 'extraordinary' items. These are defined, rather vaguely, as those outside ordinary activities. In France and Italy, such activities were taken to include the sale of fixed assets, but in the United Kingdom ordinary was defined so widely as to leave nothing as extraordinary. The revision to IAS 1 of 2003 abolished the presentation of extraordinary items. In the 2013 Directive's format, shown in Section 6.4 below, these lines have disappeared.

Activity 6.A Consider the relative advantages and usefulness of the Directive's four formats for the income statement.

Feedback As regards the financial reports of large listed companies, there is no doubt that the vertical presentations are increasingly predominant. As between the by-nature and by-function classification, both methods have advantages. Showing expenses by nature requires less analysis and less judgement but is arguably less informative. It fails to reveal the cost of sales, and therefore the gross profit, and it has the disadvantage that it might seem to imply (see Table 6.3 or 6.5) that changes in inventory are an expense or an income in their own right, whereas they are an adjustment to purchases (and evaluated on a cost basis).

However, because information on the nature of expenses is regarded as useful in predicting future cash flows, both IAS 1 and the Directives require additional disclosure on the nature of expenses, including depreciation and amortization expenses and staff costs, when the by-function classification is used. Table 6.6 shows the formats typically, but not universally, used in certain countries. Note that the different formats do not lead to differences in reported net income. Different formats do not imply different measurements.

Table 6.6 Typical income statement formats by country

Vertical by nature	*Vertical by function*	*Horizontal by nature*
Finland	Denmark	Belgium
Germany (commonly)	Germany (large companies IFRS)	France
Italy	Netherlands, South Africa	Spain
Norway	Sweden	
	United Kingdom	
	United States	

Figure 6.2 shows the income statement of Bayer Group. This is in vertical form, by function.

6.3.2 Other comprehensive income

There has been considerable discussion in recent years about reporting total or comprehensive income. The difficulty began with the traditional view that only realized profits (see Chapter 3) should be included in the income statement and therefore in reported 'earnings'. However, there are two problems here. First, the definition of 'realized' is unclear; not even conservative German accountants would think that an entity should wait to receive cash from a customer before recording sales revenue. Second, a wide variety of other value changes affecting assets and liabilities may have taken place during the year and fair presentation may require them to be reported. If so, this will inevitably affect owner's equity, which is equal to the difference between assets and liabilities. Any event, other than a transfer of resources between the owners and the entity that alters the ownership claim on the business must in some sense represent a gain or a loss recognized in the year (see Section 2.4). These gains or losses are all part of 'comprehensive income'.

Figure 6.2 Bayer Group's consolidated statement of income

	2014
	€ million
Net sales	**42,239**
Cost of goods sold	(20,266)
Gross profit	**21,973**
Selling expenses	(11,018)
Research and development expenses	(3,574)
General administration expenses	(1,741)
Other operating income	716
Other operating expenses	(850)
EBIT (earnings before financial result and taxes)	**5,506**
Equity-method loss	(13)
Financial income	343
Financial expenses	(1,311)
Financial result	**(981)**
Income before income taxes	**4,525**
Income taxes	**(1,082)**
Income after taxes	**3,443**
of which attributable to non-controlling interest	17
of which attributable to Bayer AG stockholders (net income)	**3,426**
Earnings per share (€)	
Basic	4.14
Diluted	4.14

Source: Adapted from Bayer's Annual Report 2014, page 228.

There has been a tendency in the past – perhaps shared by both preparers and users of financial statements – to focus attention on the income statement and on the final net profit figure in particular. This probably had its origin in the view, perhaps valid from a creditor perspective, that only gains received in cash or near-cash are reliable. However, other recognized changes in assets and liabilities carry significant information content. Also, as mentioned in Part 1, the IASB's Framework puts emphasis on asset and liability definitions and measurement rather than on income and expense definitions and measurement. So, for example, increases in assets are 'income'.

This thinking led to the idea that all gains and losses should be reported, but some of them in an additional statement. The first example of this, called a statement of recognized gains and losses, was required in the United Kingdom from 1993. In IFRS, up to 2008, the equivalent was called a statement of recognized income and expense. Now, as explained, OCI must be shown as a separate statement or included in comprehensive income. This approach has also been adopted in US GAAP.

A statement of OCI begins with the balance from profit or loss. After that, the most common items to be found in OCI are:

- gains and losses on translating items of foreign subsidiaries' financial statements into the group's presentation currency (see Chapter 15);

- revaluations of various assets, e.g. certain financial assets (see Chapter 11);
- actuarial gains and losses on pension plans (see Chapter 11).

Figure 6.3 shows the comprehensive income statement of the Bayer Group. Do not try to understand all the detail at this stage, but notice the size of many of the figures, and the complexity of the presentation, and remember that all items of OCI are excluded from earnings per share.

Figure 6.3 Bayer Group's consolidated statement of comprehensive income

	2014
	€ million
Income after income taxes	**3,443**
of which attributable to non-controlling interest	17
of which attributable to Bayer AG stockholders	3,426
Remeasurements of the net defined benefit liability for post-employment benefit plans	(5,159)
Income taxes	1,621
Other comprehensive income from remeasurements of the net defined benefit liability for post-employment benefit plans	**(3,538)**
Other comprehensive income that will not be reclassified subsequently to profit or loss	**(3,538)**
Changes in fair values of derivatives designated as cash flow hedges	(146)
Reclassified to profit or loss	(46)
Income taxes	57
Other comprehensive income from cash flow hedges	**(135)**
Changes in fair values of available-for-sale financial assets	–
Reclassified to profit or loss	–
Income taxes	(2)
Other comprehensive income from available-for-sale financial assets	**(2)**
Changes in exchange differences recognized on translation of operations outside the eurozone	1,384
Reclassified to profit or loss	–
Other comprehensive income from exchange differences	**1,384**
Other comprehensive income that may be reclassified subsequently to profit or loss	**1,247**
Effects of changes in scope of consolidation	**–**
Total other comprehensive income[1]	**(2,291)**
of which attributable to non-controlling interest	11
of which attributable to Bayer AG stockholders	(2,302)
Total comprehensive income	**1,152**
of which attributable to non-controlling interest	28
of which attributable to Bayer AG stockholders	1,124

[1] total changes recognized outside profit or loss

Source: Adapted from Bayer's Annual Report 2014, p. 229.

Activity 6.B

Depending on your own particular circumstances, nationality and domicile, you may be interested in the interpretation of financial statements prepared under the laws, rules and norms of one or more national jurisdictions. You are in a much better position than the authors to investigate your 'local' scenario.

There are two respects in which you should explore the situation in relation to the general principles and the IFRS requirements that are described here. You have already been invited in Chapter 4 to consider the balance between legal, professional and other possible regulatory influences within your own environment. Now you can investigate local regulations and compare them with the international considerations discussed here. The optimal timing of this comparison will depend on your particular needs and study programme. If you have already studied a set of national regulations, then you should now compare the presentation and disclosure requirements contained therein regarding the balance sheet and income with those outlined above. You should then ask yourself two questions.

1. What are the reasons for the differences?
2. Are the differences justified?

Feedback

Because of the nature of the task set, no detailed reply can be given here. The reasons for the differences will be essentially historical and contextual and the earlier chapters of Part 1 should provide the necessary framework for your assessment. Whether or not you think the differences are justified is of course a more open question. It is likely in most cases that the differences can be rationalized by historical considerations, but that is not the same thing as saying the differences will necessarily survive in a dynamic global economy. This task is designed for discussion among students or between students and tutors.

Why it matters

The argument in favour of a statement of comprehensive income is in essence the point that all information relevant to the determination of business wealth, and therefore to shareholder wealth, security for creditors, etc. should be made conveniently available in a manner that does not emphasize one aspect rather than others. The often subjective separation of 'extraordinary' items in a way designed to minimize their apparent significance (when they are unfavourable!) was one example of potentially confusing practice. Any such possibility of presentational bias increases the risk that the lazy or inexperienced reader will be misled. It also allows the directors deliberately to increase the chances of such a misleading outcome, by pushing favourable aspects of the overall results into the more visible parts of the overall reporting package and less favourable aspects into those parts likely to be given less attention. It is also important, however, that a statement of comprehensive income does not try to present so much detail on one page that it becomes incomprehensible instead of comprehensive.

6.4 The 2013 Directive's formats

As indicated above, the 2013 Directive has replaced the Fourth and Seventh Directives, which were issued in 1978 and 1983, respectively. It is important to remember that a Directive imposes a requirement on national governments to enact legislation. Only after such enactment does an entity have a requirement

to follow any of its contents. Indeed until that happens the previous national legislation, based on the earlier Directives, remains in force. As indicated in Section 6.1, the practical effects of changes are likely to appear at different, and unpredictable, speeds across the relevant countries.

The new versions of the formats are contained in Annexes 3–6 of the Directive. The two balance sheet formats are very similar to the earlier versions, shown in Tables 6.1 and 6.2 as the horizontal and vertical formats, respectively, and we do not reproduce them in full. The only amendments are as follows:

- in item C II 4, the words 'and tangible assets in course of construction' are deleted;
- item C III 7 is deleted;
- item A IV 4 in Table 6.1, and item L IV 4 in Table 6.2, have additional words, to read 'Other reserves, including the fair value reserve';
- in Table 6.1, the items F on the assets side and E on the liabilities side, relating to the results of the financial year, are deleted.

However, there are major changes to the profit and loss account formats. The two horizontal formats which were previously permitted (the first shown above as Table 6.5, and the second not shown) are deleted, leaving only the two vertical formats, by nature of expense and by function of expense. In these, the concept of extraordinary items has been removed. They are reproduced here as Tables 6.7 and 6.8.

Table 6.7 Layout of the profit and loss account – by nature of expense

1. Net turnover.
2. Variation in stocks of finished goods and in work in progress.
3. Work performed by the undertaking for its own purposes and capitalized.
4. Other operating income.
5. a. Raw materials and consumables.
   b. Other external expenses.
6. Staff costs:
   a. wages and salaries;
   b. social security costs, with a separate indication of those relating to pensions.
7. a. Value adjustments in respect of formation expenses and of tangible and intangible fixed assets.
   b. Value adjustments in respect of current assets, to the extent that they exceed the amount of value adjustments which are normal in the undertaking concerned.
8. Other operating expenses.
9. Income from participating interests, with a separate indication of that derived from affiliated undertakings.
10. Income from other investments and loans forming part of the fixed assets, with a separate indication of that derived from affiliated undertakings.
11. Other interest receivable and similar income, with a separate indication of that derived from affiliated undertakings.
12. Value adjustments in respect of financial assets and of investments held as current assets.
13. Interest payable and similar expenses, with a separate indication of amounts payable to affiliated undertakings.
14. Tax on profit or loss.
15. Profit or loss after taxation.
16. Other taxes not shown under items 1 to 15.
17. Profit or loss for the financial year.

Table 6.8 Layout of the profit and loss account – by function of expense

1. Net turnover.
2. Cost of sales (including value adjustments).
3. Gross profit or loss.
4. Distribution costs (including value adjustments).
5. Administrative expenses (including value adjustments).
6. Other operating income.
7. Income from participating interests, with a separate indication of that derived from affiliated undertakings.
8. Income from other investments and loans forming part of the fixed assets, with a separate indication of that derived from affiliated undertakings.
9. Other interest receivable and similar income, with a separate indication of that derived from affiliated undertakings.
10. Value adjustments in respect of financial assets and of investments held as current assets.
11. Interest payable and similar expenses, with a separate indication of amounts payable to affiliated undertakings.
12. Tax on profit or loss.
13. Profit or loss after taxation.
14. Other taxes not shown under items 1 to 13.
15. Profit or loss for the financial year.

6.5 Statements of changes in equity

Most of the changes in an entity's equity are caused by income and expenses of various sorts. However, there are some others:

- adjustments to the opening balance sheet caused by correcting errors or changing accounting policies;
- new capital contributed by the owners;
- distributions of cash (dividends) or other assets to the owners.

All these changes are shown in an entity's statement of changes in equity, which is required by IAS 1. Figure 6.4 shows the statement of changes in equity of the Bayer Group. Notice how the same figures work their way through Figures 6.2, 6.3 and 6.4 (and of course back to Figure 6.1).

6.6 Cash flow statements

As already indicated, users of financial information need to know not only income and expenses as derived under the accrual basis but also an entity's cash position and cash movements. To demonstrate the point in simple terms, look at Activity 6.C.

Activity 6.C

Consider the following two summarized statements about the same company for the same year, as set out in Tables 6.9 and 6.10.

Figure 6.4 Bayer Group's consolidated statement of changes in equity

	Capital stock of Bayer AG	*Capital reserves of Bayer AG*	*Retained earnings incl. net income*	*Exchange differences*	*Fair-value measurement of securities*	*Cash flow hedges*	*Revaluation surplus*	*Equity attributable to Bayer AG stockholders*	*Equity attributable to non-controlling interest.*	*Equity*
Dec 31, 2013	**2,117**	**6,167**	**14,817**	**(2,545)**	**32**	**99**	**31**	**20,718**	**86**	**20804**
Equity transaction with owners										
Capital increase/ decrease										
Dividend payments			(1,737)					(1,737)	(2)	(1,739)
Other changes			6				(5)	(1)	–	1
Other comprehensive income			(3,538)	1,373	(2)	(135)		(2,302)	11	2,291
Income after income taxes			3,426					3,426	17	3,443
Dec 31, 2014	**2,117**	**6,167**	**12,974**	**(1,172)**	**30**	**(36)**	**26**	**20,106**	**112**	**20,218**

Source: Adapted from Bayer's Annual Report 2014, page 23.

Table 6.9 Summarized income statement

Sales	256
less Cost of sales	(182)
	74
less Other expenses	(44)
	30
less Depreciation	(8)
	22
less Taxation provided	(10)
Profit	12

Table 6.10 Summarized statement of cash flows

Receipts from sales	228
less Payments for goods for resale	(162)
	66
less Payments for other expenses	(44)
	22
less Capital expenditure	(46)
	(24)
less Taxation paid	(4)
Net cash outflow	(28)

Has the company had a successful year?

Feedback The first statement, the income statement, shows a successful year and positive results on the accrual basis. The second statement is a summary of cash flows. This shows a reduction in the cash resources of the business even without the payment of any dividend. In any one year, such a reduction may be sensible – even desirable – as part of the process of strategic development and the maximization of long-run returns, but of course, in the long run, such annual reductions cannot be allowed to continue, and an analyst or potential investor would need to monitor the cash situation and prospects carefully. The general point is that a report on the cash or liquid funds provides useful and important information that is different in focus and information content from the income statement.

The widespread publication of cash flow statements is relatively recent in some countries. There was no mention in the EU Directives of such statements. This may seem rather surprising, given the demonstrable importance of cash in the management of an entity. However, at the time of the creation of the Directives there was no general practice of any such thing in the major countries involved. The effect was that, when national governments came to enact national legislation derived from the Directives, there was usually still no mention of a cash flow statement. Nevertheless, the rise of this statement as a necessary part of a comprehensive reporting package has been rapid. Something like it became a standard requirement in the UK in 1975, in international standards in 1977 and eventually

in German law, for listed companies, in 1998. There have been a number of developments in the format – and, indeed, in the underlying principles – of such statements and there have been two different versions of the International Accounting Standard for this, namely IAS 7.

The practices and regulatory influences involved are sufficiently important and complicated to require a chapter to themselves. We therefore defer a detailed consideration until Chapter 13.

6.7 Notes to the financial statements

The Notes to the financial statements are where the other compulsory information is shown. IAS 1 summarizes the functions of the Notes as being:

- to present information about the basis of preparation of the financial statements and the specific accounting policies used for significant transactions and events;
- to disclose any information required that is not included elsewhere;
- to provide additional information that is not presented on the face of the financial statements but is necessary to ensure a fair presentation.

Notes to the financial statements need to be presented systematically, with each item on the face of the balance sheet, income statement and cash flow statement cross-referenced to any related information in the Notes. It is usual to begin the Notes with a statement of compliance with the appropriate set of accounting principles. Each specific accounting policy that has been used, and the understanding of which is necessary for a proper understanding of the financial statements, is then described. The remainder of the Notes then give the required detailed disclosures, in the order corresponding to the items' appearances in the financial statements themselves.

6.8 Other general disclosure requirements

This is an introductory textbook, not a manual of requirements for statement preparation and disclosure. It is important, however, to give a flavour and overview of what you are likely to see in practice. It is also important to have some understanding of the overall picture so as to be able to consider its adequacy. This section looks briefly at IFRS requirements regarding segment reporting, discontinued operations, earnings per share and interim financial reports.

6.8.1 Segment reporting

Many large companies are 'conglomerate' entities (i.e. they are involved in a number of distinct industries or types of business operation) or multinational corporations operating in several different countries or regions that have different economic and political characteristics. Understanding the past and potential performance of the entity as a whole requires an understanding of the separate component parts.

Table 6.11 Segment reporting

	Company A (€m)	*Company B (€m)*
Total sales	100	100
EU	40	20
USA	40	20
Africa	20	60
Tobacco	10	20
Cotton	10	60
Petrol	10	10
Software	70	10

Why it matters

Since the various parts of conglomerate and multinational companies are susceptible to different influences, it is quite likely that some components will be doing better than others and the risks – and potential – will be significantly different. It follows that it is not possible to appraise the position, progress and prospects of a whole entity without some separate information about the major components.

Consider, for example, the situation shown in Table 6.11. Company A and Company B have the same total sales figure of €100m. However, a fair presentation of the entity as a whole cannot be given without some detailed information about the component parts. For example, a belief that operations in the EU and United States will expand slower than those in Africa would make Company B seem preferable. However, a belief that software will expand faster than cotton would make Company A seem better.

The analysis outlined above has given rise to what is known as segment (or segmental) reporting. The present standard is IFRS 8, *Operating Segments*. It requires listed companies to report several items (e.g. sales) on a disaggregated basis, using the segments that are reporting internally to the company's chief operating officer. This is a question of the company practice, and might be done on a geographical basis, by line of business or in a mixed way.

IFRS 8 requires that a segment of a company's operations should be reported separately if its revenue, results or assets are 10 per cent or more of the total. The reported segments should represent at least 75 per cent of the consolidated amounts. The items to be reported segmentally include profit, sales, assets, liabilities, interest, depreciation and tax.

6.8.2 Discontinued operations

Under IFRS 5, a 'discontinued operation' of an entity is a relatively large component that has been disposed of or is to be disposed of within a year, completely or substantially. The effects of such discontinuation are likely to be significant, both in their own right and in changing the likely future results of the remaining parts of the entity. Fair presentation requires that the discontinued and continuing operations are distinguished from each other. This will improve the ability of investors, creditors and other users of statements to make projections of the entity's cash flows, earnings-generating capacity and financial position.

IFRS 5 focuses on how to present a discontinued operation in an entity's financial statements and what information to disclose. As noted in Section 6.2, summary disclosures related to discontinued operations must be shown on the face of the balance sheet and the income statement. Note disclosure is required of the operations being discontinued and the segments in which they are reported. This will help the users of financial statements to predict the future figures after discontinuation.

6.8.3 Earnings per share

Earnings per share, known as EPS, is an important summary indicator of entity performance for investors and other users of financial statements. As the name suggests, it relates the total earnings of the entity, i.e. the profit attributable to the ordinary shareholders (before OCI), to the number of shares issued. It can be used to calculate the price/earnings (PE) ratio, which provides a basis of comparison between listed entities and an indicator of market confidence. The PE ratio is calculated as market price per share divided by EPS or, more simply, as market price divided by earnings. High expectations of future performance lead to, and are indicated by, a higher share price and therefore a higher PE ratio.

IAS 33, *Earnings per Share*, requires EPS to be presented in two forms, namely 'basic' and 'diluted'. The basic EPS reports the EPS essentially as under current circumstances. The diluted EPS calculates the ratio as if the dilutive effect of potential ordinary or common shares currently foreseeable had already taken place; i.e. it shows the position if a possible future increase in the number of shares has already happened. Earnings per share is discussed more fully in Chapter 16. Figure 6.2 (earlier) ends with Bayer's presentation of earnings per share.

6.8.4 Interim financial reports

Annual financial statements are something of a blunt instrument. They cover a long period and do not appear until several months after the end of that period. This may fail to meet the quality of timeliness described in Chapter 3. It is helpful to many users of financial statements to receive one or more progress reports at interim points through the year. This is a requirement for most stock exchanges, which are likely to have regulations on such interim statements. It is also, of course, good public relations to maintain an image of openness and transparency with one's lenders, customers and investors. The relevant standard here is IAS 34, which does not itself require the publication of interim financial reports but is available for regulators to impose or for companies to choose to follow. As examples, the US Securities and Exchange Commission requires all its registrants to produce quarterly reporting and EU regulators require at least half-yearly reporting by listed companies.

IAS 34 sets out the minimum content of an interim financial report as including a condensed balance sheet, income statement, cash flow statement and statement of changes in equity, together with selected Notes to the statements. The objective is to provide a report that updates the most recent annual financial statements by focusing on those items that are significant to an understanding of the changes

in financial position and performance of the entity since its last year end. Policies should be consistent with those used in the annual accounts. Measurements for interim purposes are generally made on a year-to-date basis. Seasonal or cyclical revenues or expenses should not be smoothed or averaged over the various interim periods, but reported as they occur.

6.9 Wider disclosure considerations: corporate social reporting, corporate governance and ethics

There is an increasing tendency to report on ever-broader aspects of the whole of the relationship of a business entity with the social and physical environment in which it operates and with which it interacts. This tendency has led to a plethora of committees, reports and suggestions for further corporate disclosures. Key words here include corporate social reporting, corporate governance and ethical considerations. Many such elements are likely to be included in a 'management report' as part of the annual statement package.

Corporate social reporting means many things to many people. Briefly, it may be suggested as linking the activities of the firm with ethical and environment implications and practices. Corporate governance focuses more directly on the entity and has been defined as the system by which entities are directed and controlled. There is a link, in the sense that it is the wider community which needs to have some (indirect) control on the entity and it is also the wider community which represents the 'spokesperson' for the 'social and physical environment'. The International Federation of Accountants (IFAC) has published various proposals relating to the implications of serving the 'public interest' and what it means to be an 'ethical' accountant. The IASB has issued (non-mandatory) recommendations on the presentation of management reports, suggesting that they should provide users with an historical and prospective commentary on the entity's financial position, financial performance and cash flows, plus a basis for understanding management's objectives and its strategy for achieving those objectives. Some might argue that the repeated use of the word 'financial' in this statement is unduly restrictive.

A recent development assuming major importance is what is known as an Integrated Report. A variety of semi-competing regulatory bodies have appeared, of which the most high profile one is the International Integrated Reporting Council (IIRC), established in London in 2010. Its original objective was to be focus on sustainability, though whether of the planet or of the entity was unclear. It issued a 'framework' for integrated reporting in 2013, which shows that the focus is firmly on the entity, rather than the planet. The primary purpose of an integrated report is stated as 'to explain to providers of financial capital how an organisation creates value over time'. Its presence as part of the reporting process is not obligatory, but is becoming distinctly 'fashionable'.

Developments in this area of wider, often non-financial, disclosures seem likely to continue, as much by market and peer pressure as by regulation. Figure 6.5 shows the contents page of the Management Report by Bayer for 2014. Behind this contents list are some 180 pages of detailed presentation. This possibly represents 'information overload'.

Figure 6.5 **Combined Management Report of the Bayer Group and Bayer AG as of December 31, 2014**

Fundamental Information About the Group

1. Bayer at a Glance 46
1.1. Corporate Profile 46
1.2. Group Strategy 48
1.3. Targets and Performance Indicators 49
1.4. Internal Management System 52
1.5. Value Creation 52
1.6. Corporate Environment 53
2. Corporate Structure 55
3. Strategies of the Subgroups 57
4. Economic Environments of the Subgroups 61
5. Research, Development, Innovation 63
6. Sustainability Management and Governance 79
7. Employees 87
8. Procurement and Production 101
9. Products, Distribution and Markets 108
10. Product Stewardship 114
11. Safety 123
12. Environment Protection 127
12.1. Energy Consumption 128
12.2. Air Emissions 129
12.3. Use of Water and Emissions into Water 134
12.4. Waste and Recycling 137
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12.6. Environmental and Transport Incidents 141
12.7. Internal Standards and Certification 144
13. Social Commitment 145

Report on Economic Position

14. Overview of Sales, Earnings, and Financial Position 150
15. Business Development by Subgroup, Segment and Region 154
15.1. HealthCare 154
15.2. CropScience 160
15.3. MaterialScience 163
15.4. Business Development by Region 166
15.5. Business Development in the Emerging Markets 166
16. Earnings; Asset and Financial Position of the Bayer Group 169
16.1. Earnings Performance of the Bayer Group 169
16.2. Calculation of the EBIT(DA) Before Special Items 170
16.3. Core Earnings per Share 171
16.4. Value Management 172
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16.6. Asset and Capital Structure of the Bayer Group 177
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Events After the End of Reporting Period

19. Events After the End of the Reporting Period 207

Report on Future Perspectives and on Opportunities and Risks

20. Future Perspectives 208
20.1. Economic Outlook 208
20.2. Forecast for Key Data 210
20.3. Opportunities and Risks Report 213
20.3.1. Group-wide Risk Management System 213
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21. Takeover-Relevant Information 224

Activity 6.D

We can now take Activity 6.B further. The next issue to consider is the extent to which the regulatory requirements, whatever they are and wherever they come from, are actually followed. You should attempt to obtain:

- one or more sets of published financial statements prepared under your own national requirements;
- one or more sets of financial statements prepared under IFRSs.

In each case, you should seek to build up a picture of the extent to which the disclosure and revealed measurement practices of those statements fully meet the relevant set of regulations. This will be a gradual process, which you should revisit as your reading and studying proceed; nevertheless, an introductory impression at this time would be interesting and useful. You should also form an opinion on the understandability and usefulness of the information given.

Feedback

Inevitably, this one is largely up to you, but you should not be surprised if you discover examples of circumstances where the practices, whether local or international, do not appear to be fully consistent with the corresponding requirements.

Summary

- This chapter discusses the content and format of published financial statements under IASB requirements. It encourages exploration of local national formats and comparisons with the international requirements. In Europe, the EU Directives are an important source of regulation for non-IFRS reporting.
- The basic contents of financial statements comprise balance sheet, income statement (including OCI), statement of changes in equity, cash flow statement and relevant Notes.
- Balance sheets require analysis by liquidity, usually distinguishing current and non-current assets, current and long-term liabilities and owners' equity. Horizontal and vertical formats are both found in practice.
- Income statements can be horizontal or vertical in format and analysed by function or by nature of expense. Horizontal by function is rare, but the other three possible combinations are used in various countries.
- Cash flow statements provide useful information, different from that contained in an income statement. They are discussed further in Chapter 13.
- Notes to the financial statements contain a wide variety of supplementary information.
- Various other disclosure requirements are common. Four are outlined here, relating to segment reporting, discontinued operations, earnings per share and interim financial reports. Wider disclosure considerations are briefly discussed.



References and research

The IASB documents particularly relevant to this chapter are:

- IAS 1, *Presentation of Financial Statements.*
- IAS 33, *Earnings per Share.*
- IAS 34, *Interim Financial Reporting.*
- IFRS 5, *Non-current Assets Held for Sale and Discontinued Operations.*
- IFRS 8, *Operating Segments.*

The Fourth Directive and its 2013 replacement are also important in the EU and some other countries.

Discussion continues on possible changes or improvements to many of the disclosure issues covered in this chapter, both at international level and within some national regulatory systems. These debates should be followed, via discussion documents issued by the IASB, by national regulators and in the professional accounting press.

The following may be of interest from a multinational perspective:

- M.L. Ettredge, K.S. Young, D.B. Smith and P.A. Zarowin, 'The impact of SFAS no. 131 business segment data on the market's ability to anticipate future earnings', *Accounting Review*, Vol. 80, No. 3, pp. 773–804, July 2005.
- O.-K. Hope, W.B. Thomas and G. Winterbotham, 'The impact of nondisclosure of geographic segment earnings on earnings predictability', *Journal of Accounting, Auditing and Finance*, Vol. 21, No. 3, pp. 323–346, Summer 2006.
- J. Prather-Kinsey and G.K. Meek, 'The effect of revised IAS 14 on segment reporting by IAS companies', *European Accounting Review*, Vol. 13, No. 2, 2004.

? MULTIPLE CHOICE QUESTIONS

Answers to these questions are in Appendix D.

6a. Under IAS 1, an asset is current when it is expected to be realized within 12 months from the balance sheet date.

A. True.
B. False.

6b. Under IAS 1, an asset can only be current when it is expected to be realized within 12 months from the balance sheet date.

A. True.
B. False.

The following relate to questions 6c to 6g. A number of separate statements or sections have been suggested as important elements in a complete set of 'annual financial statements'. These include the following:

1. Balance sheet (statement of financial position).
2. Statement of profit or loss.
3. Statement of other comprehensive income.
4. Statement of profit or loss and other comprehensive income.

5. Statement of cash flows.
6. Notes to the financial statements.
7. Management report.

Consider each of the following propositions in relation to IFRS annual financial statements.

6c. 1 and 2 are obligatory.

A. True.
B. False.

6d. 5 and 6 are obligatory.

A. True.
B. False.

6e. 7 is obligatory.

A. True.
B. False.

6f. Provision of either 4 or both 2 and 3 is obligatory.

A. True.
B. False.

6g. A statement of changes in equity, omitted from the above list, is obligatory as a separate statement under IAS 1.

A. True.
B. False.

? EXERCISES

Feedback on the first two of these exercises is given in Appendix E.

6.1. 'The disclosure requirements of International Financial Reporting Standards are broadly sufficient to meet the needs of financial statement users'. Discuss.

6.2. Discuss the advantages and disadvantages of horizontal and vertical balance sheet formats.

6.3. Discuss the advantages and disadvantages of each of the four income statement formats allowed by the EU Fourth Directive, namely horizontal and vertical and by function and by nature.

6.4. Is there a danger of having too much data in published financial statements?

6.5. Which disclosure formats are usually used in your own jurisdiction? Why is this so?

6.6. If you live in, or work in connection with, a member country of the EU, investigate the progress in that country toward replacing national regulation to be in line with the 2013 Directive.

Chapter 7

Financial statement analysis

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Objectives

After studying this chapter carefully, you should be able to:

- select appropriate financial information for different users;
- define, select and calculate a variety of common ratios that deal with profits, profitability, liquidity and the management of funds;
- explain the meaning of ratios that have been provided for you;
- build up an overall picture from a variety of ratio figures;
- write reports discussing the implications of ratio calculations and original financial data for individual businesses covering one, two or more years or for two or more businesses.

7.1 Introduction

The final stage of exploring the context of accounting is the interpretation of financial statements. A vital part of the analysis of financial statements is to be fully aware of their weaknesses. Some problems are caused by the tools of analysis, but most of the important problems arise from the content and characteristics of the original accounting data as prepared or published. The conventions and practices of accounting that have been examined in earlier chapters have to be understood before effective financial analysis can be done. This chapter provides an introduction to interpretation and its techniques. A deeper exploration is deferred until Part 3, after several financial reporting issues have been examined more thoroughly.

In Chapter 1 we identified the users of accounting information and their differing needs. The following activity may provide useful revision.

Activity 7.A

Identify the needs/objectives of the external users referred to in Activity 3.A and add more detail than is in the feedback given in that activity.

Feedback

- *Investors/owners* Is the money invested in the business making a suitable return for them or could it earn more if invested elsewhere? Is the business a safe investment; i.e. is it likely to become insolvent/bankrupt? Should the investors invest more money in the business?
- *Suppliers* Is the business able to pay for the goods bought on credit? Will the business continue to be a recipient of the goods that the supplier produces?
- *Customers* Is the business able to supply the goods that customers require and when they require them? Will the business continue in operation so that warrantees on goods purchased will be met?
- *Lenders* Is there adequate security for any loan made? Does the business make a sufficient profit and have enough cash available to make the necessary payments of interest and capital to the lender?
- *Employees* Does the business make sufficient profit and have enough cash available to make the necessary payments to the employees? Will the business continue in operation at its current level so that an employee has secure employment?
- *Government* What is the starting point for the calculation of taxable income? Is the business properly complying with legislation designed to protect shareholders, creditors and the environment?
- *Public* The majority of the public's needs in respect of employment, pollution and health and safety are not as yet particularly well provided for in financial statements: can improvements in presentation be made?

7.2 Ratios and percentages

A number, in isolation, is not a very helpful piece of information. For example, suppose that a German company discloses, about one part of its business, that: 'sales last year were 20 million Norwegian kroner'. What information does this

give? Without knowledge of the exchange rate between the euro and Norwegian kroner, no comparison with home sales is possible. Without knowledge of the size of the Norwegian market for the products concerned and without knowledge of the structure of that market in terms of size and number of competitors, no comparison with the general situation in Norway is possible. Without knowledge of sales figures for earlier years, and of the assets available and the expenses consumed to create those sales, no appraisal of progress, effectiveness or efficiency is possible.

Comparison is the key. A ratio is potentially a very powerful tool, but it is also a very simple one. A ratio is one number divided by another. If the total Norwegian market for the product is 400 million Norwegian kroner, then the ratio of sales by the company mentioned above to its total home market is 20:400 (or 1:20 or 5 per cent).

In many instances – perhaps only because of habit and experience – a percentage seems most helpful and easiest to understand. One simple but effective application of this technique is the idea of *common-size statements*. This involves reduction of the monetary figures in financial statements to percentages of relevant totals.

For effective comparison in practice, a number of years' results need to be taken together, preferably five or more. Note, however, that the more years are considered, the greater the risk of changes in the accounting policies used over the period. Such changes will distort any trend considerations. They should be looked for and eliminated as far as possible, if necessary on a subjective basis.

A large number of ratios are looked at below. It should be stressed that there are no absolute 'rules' on how to define the ratios. The whole purpose of ratio analysis is to be *useful*, so an individual analyst should adapt the techniques used to maximize their relevance to a specific situation encountered.

Figures 7.1, 7.2 and 7.3 give the summarized financial statements for a model retail company, Bread Co., for two successive years. These will be used as a basis of calculation and illustration throughout the chapter. For this chapter, we are assuming that the business has no 'other comprehensive income'.

7.3 Profit ratios

The income statement will be explored first, beginning with ratios constructed entirely from within that statement.

7.3.1 Gross profit margin

The gross profit is the difference between the value of the sales and the cost of the sales (sometimes called the cost of goods sold). The gross profit margin is an indication of the extra inflow from an extra unit of sales. The formula for it is:

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

Activity 7.B Calculate the gross profit margin for Bread Co. for 20X1 and 20X2.

Figure 7.1 Bread Co. income statements (€000)

	Year ended 31 Dec 20X1		*Year ended 31 Dec 20X2*	
Sales		150		250
Opening inventory	8		12	
Purchases	104		180	
	112		192	
Closing inventory	12		16	
Cost of goods sold		100		176
Gross profit		50		74
Wages and salaries	20		26	
Depreciation	4		8	
Debenture interest	–		2	
Other expenses	14		16	
		38		52
Net profit before tax		12		22
Taxation		4		10
Net profit after tax		8		12

Note: During 20X2, Bread Co. paid out dividends of €6,000, being the dividends paid in relation to the year 20X1. The corresponding dividends paid in 20X3 in relation to 20X2 were also €6,000.

Figure 7.2 Bread Co. balance sheets (€000): vertical presentation

	At 31 Dec 20X1		*At 31 Dec 20X2*	
Fixed (non-current) assets		72		110
Current assets				
Inventory	12		16	
Receivables	18		40	
Bank	10		4	
	40		60	
Payables less than one year				
Trade payables	10		28	
Taxation	4		10	
Other creditors	4		6	
	18		44	
Net current assets (working capital)		22		16
Payables greater than one year				
10 per cent debentures		–		20
Net assets		94		106
Financed by				
Ordinary shares of €1 each		70		76
Retained profits		24		30
Shareholders' funds		94		106

Figure 7.3 Bread Co. balance sheets (€000): horizontal presentation

		At 31 December 20X1			
Fixed (non-current) assets		72	Ordinary shares of €1 each		70
			Retained profits		24
Current assets			Shareholders' funds		94
Inventory	12				
Receivables	18		*Payables greater than one year*		–
Bank	10				
		40	*Payables less than one year*		
			Trade payables	10	
			Taxation	4	
			Other creditors	4	
					18
		112			112
		At 31 December 20X2			
Fixed (non-current) assets		110	Ordinary shares of €1 each		76
			Retained profits		30
Current assets					
Inventory	16		*Payables greater than one year*		
Receivables	40		10 per cent debentures		20
Bank	4				
		60	*Payables less than one year*		
			Trade payables	28	
			Taxation	10	
			Other creditors	6	
					44
		170			170

Feedback

The values (from Figure 7.1) are as follows:

$$\text{Gross profit margin for 20X1} = \frac{50}{150} = 33.3 \text{ per cent}$$

$$\text{Gross profit margin for 20X2} = \frac{74}{250} = 29.6 \text{ per cent}$$

An alternative way to consider this is to relate the gross profit to the cost of goods sold, thus giving the mark-up as a percentage of cost. Using such a mark-up might well be the way in which the business manager decided upon the selling price. The calculation of the mark-up is as follows:

$$\text{Mark-up for 20X1} = \frac{50}{100} = 50 \text{ per cent}$$

$$\text{Mark-up for 20X2} = \frac{74}{176} = 42 \text{ per cent}$$

For Bread Co. the gross profit margin has fallen since the previous year. Some of the possible reasons for this are obvious. For instance, the selling price may have been deliberately lowered or the cost of goods sold may have increased but a decision made not to increase selling prices correspondingly. Alternatively the mix of sales may have altered, with an increase in the proportion of low-margin goods.

There might also be other less visible reasons. For example, note how the cost of goods sold, and therefore gross profit figures, are directly affected by the inventory figures. The fall in gross profit margin, if unexpected, could suggest an error in the calculation of one of the inventory figures or that goods were being stolen from the business in 20X2.

You will remember that Bread Co. is a retail business. The calculations for a manufacturing business would be more complicated because cost of sales means the manufacturing cost in such a business. This will include a variety of separate items, including direct labour and materials, production overheads and possibly some arbitrary proportion of some of the more general overheads as well. Full information enabling a proper split of the results between gross profit and net profit may not be available. If it is available, it is likely to be based on debatable assumptions about cost behaviour and cost allocation.

An additional practical problem is that some companies use a different format for the income statement, illustrated in Table 6.5 (by-nature horizontal format). For a manufacturing company, this does not reveal the cost of goods sold and gross profit, but adds an increase in inventory to sales and then deducts all expenses including raw materials, wages and depreciation. Sometimes reasonable assumptions can be made about which of these are manufacturing expenses, in order to produce a useful approximation to gross profit, but sometimes such assumptions will be based on too much guesswork to be reliable.

7.3.2 Net profit margin

The net profit is the difference between the sales and all the expenses. The net profit margin shows the net benefit to the business per unit of sales. The formula is:

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

Activity 7.C

Calculate the net profit margin for Bread Co. for 20X1 and 20X2 and comment briefly.

Feedback

The figures are calculated thus:

$$\text{Net profit margin for 20X1} = \frac{12}{150} = 8.0 \text{ per cent}$$

$$\text{Net profit margin for 20X2} = \frac{22}{250} = 8.8 \text{ per cent}$$

These values show that the efficiency that Bread Co. demonstrates in turning sales into profit generation has slightly increased in 20X2 compared with 20X1.

The net profit margin will be affected by two major considerations, namely the gross profit margin and the size of the expenses. It may be useful, therefore, to compute an expenses-to-sales ratio as well, as set out below.

7.3.3 Expenses to sales

The expenses-to-sales ratio explains the movement between gross and net profit margins. The formula for this ratio is:

$$\text{Expenses to sales} = \frac{\text{Expenses}}{\text{Sales}}$$

Activity 7.D

Calculate the expenses-to-sales ratio for Bread Co. for 20X1 and 20X2 and comment on the picture revealed so far.

Feedback

The ratios can be calculated thus:

$$\text{Expenses to sales in 20X1} = \frac{38}{150} = 25.3 \text{ per cent}$$

$$\text{Expenses to sales in 20X2} = \frac{52}{250} = 20.8 \text{ per cent}$$

Bread Co. has successfully managed to increase sales quite substantially in 20X2 without a corresponding pro rata increase in the expenses of running the business.

It is interesting to put together the ratios that have been calculated so far. These are shown in Table 7.1.

The fall in gross profit margin has been more than compensated for by the fall in the relative size of the expenses, leading to a slight improvement in the net profit margin.

These figures go part-way towards the preparation of common-size income statements. A common-size income statement is usually prepared by expressing each item as a percentage of total sales. Furthermore, if this technique is applied to the income statements of two different businesses, two benefits emerge. First, any size differences are taken into account, so that the internal relationships can be compared on equal terms. Second, the internal relationships themselves are clarified and highlighted in a manner convenient to the eye and the mind.

The common-size statements for Bread Co. are shown complete in Figure 7.4, and give more detail on the way in which the success in controlling total expenses has been achieved. In effect, Figure 7.4 calculates each expense item separately as a percentage of sales. A similar technique can be used for balance sheets. Each item will be expressed as a percentage either of total assets or of total non-current (fixed) assets plus net current assets, depending on the balance sheet structure preferred.

Table 7.1 Bread Co. profit ratios

	20X1	*20X2*
Gross profit margin (%)	33.3	29.6
Expenses to sales (%)	25.3	20.8
Net profit margin (%)	8.0	8.8

Figure 7.4 **Bread Co. common-size income statements (all figures are percentages of sales)**

	Year ended 31 Dec 20X1		*Year ended 31 Dec 20X2*	
Sales		100		100
Cost of sales		66.7		70.4
Gross profit		33.3		29.6
Wages and salaries	13.3		10.4	
Depreciation	2.7		3.2	
Debenture interest	–		0.8	
Other expenses	9.3		6.4	
		25.3		20.8
Net profit before tax		8.0		8.8

7.3.4 Net operating profit

Ratio preparation is a pragmatic business. It is, of course, possible to calculate a ratio that is 'wrong' in the sense of being defined or calculated in an illogical manner. Even so, once that hurdle has been overcome, there is still no list of 'right' ratios. For example, in the above discussion, the debenture interest was treated as just another expense. However, depending on the purpose of the analysis, it may be more helpful to view the debenture interest as different and separate from the other expenses, on the grounds that it is concerned with the financing structure rather than with the operation of the business. This leads to the idea of calculating the percentage of net operating profit to sales, i.e. taking the profit before deduction of the debenture interest. Then we would have:

$$\text{Net operating profit margin} = \frac{\text{Net operating profit}}{\text{Sales}} \times 100 \text{ per cent}$$

Activity 7.E

Calculate the net operating profit margin for Bread Co. for 20X1 and 20X2 and comment briefly.

Feedback

There was no interest expense in 20X1, but there was an expense of 2 in 20X2 (see Figure 7.1). The ratios can be calculated thus:

$$\text{Net operating profit margin for 20X1} = \frac{12}{150} = 8.0 \text{ per cent}$$

$$\text{Net operating profit margin for 20X2} = \frac{(22 + 2)}{250} = 9.6 \text{ per cent}$$

This shows that, in terms of the costs of operating, ignoring any costs of financing, the efficiency of Bread Co. increased even more in 20X2.

Why it matters

From a management perspective, the efficiency of operating (i.e. production and selling) activities is quite distinct from the question of the efficacy of the financing structure. The improvement of each of these two functions is independent of the

other. It is likely to be helpful, therefore, to separate the two types of results for analysis purposes. Note, however, that net profit ratios and net operating profit ratios are not mutually exclusive alternatives. They both provide useful insights into the situation and progress of the business.

7.4 Profitability ratios

It is not sufficient to analyse the income statement and the profit position in isolation. Business operation requires the use of scarce resources that are not cost-free and need to be used as efficiently as possible. It is essential to analyse the results of the operations in relation to the resources being used by the business and controlled by the management of the business. This leads to a variety of relationships and ratios that need to be explored. Strictly speaking, when comparing an item from an income statement (which is the total of a year's activity) with an item from a balance sheet (which is at a point in time), the *average* balance sheet figure for the year should be used. In practice, closing balance sheet figures are often taken as a reasonable approximation.

7.4.1 Asset turnover ratios

One approach to exploring the relationship between returns and resources is to consider some or all of the assets as recorded in the balance sheet. Possibilities include considering total assets, net assets (i.e. assets minus liabilities) or non-current assets alone. These could be related to, for example, sales, gross profit, net profit or net operating profit. Using net profit or net operating profit gives an indication of the rate of return being generated through the use of the assets.

Table 7.2 shows six such ratios calculated for Bread Co. for 20X1 and 20X2. Care has to be taken in applying ratios like these, for there are many influences on the asset figures used that are not related to business efficiency. For example, a business that buys additional inventory without paying for it, just before the balance sheet date, will show an increase in total assets but not an increase in net assets. Therefore, the net asset picture better reflects the economic reality. The figures used for non-current assets (which are also incorporated into the net asset and total asset figures) are notoriously susceptible to changes in depreciation, impairment, valuation or asset replacement policies. Nevertheless, useful indications of trend can often be discovered from ratios like these, provided that the weaknesses and peculiarities behind the figures in each particular business are explored and understood.

Activity 7.F

Comment on the implications for the performance of Bread Co. of the information shown in Table 7.2.

Feedback

When looking at Table 7.2, it seems that the efficiency of use of net assets has increased significantly from 20X1 to 20X2, as sales to net assets and net profit to net assets have both risen sharply. The other four ratios presented have increased a little. It should also be noticed that the net assets have not increased much, whereas non-current assets and total assets have both increased very substantially. The net assets, unlike either of the other two asset aggregates, have been held down by a sharp increase in liabilities.

Table 7.2 Bread Co.: some asset turnover ratios

	20X1	*20X2*
$\frac{\text{Sales}}{\text{Fixed assets}}$	$\frac{150}{72} = 2.1$	$\frac{250}{110} = 2.3$
$\frac{\text{Sales}}{\text{Net assets}}$	$\frac{150}{94} = 1.6$	$\frac{250}{106} = 2.4$
$\frac{\text{Sales}}{\text{Total assets}}$	$\frac{150}{112} = 1.3$	$\frac{250}{170} = 1.5$
$\frac{\text{Net profit}}{\text{Fixed assets}}$	$\frac{12}{72} = 0.17$	$\frac{22}{110} = 0.20$
$\frac{\text{Net profit}}{\text{Net assets}}$	$\frac{12}{94} = 0.13$	$\frac{22}{106} = 0.21$
$\frac{\text{Net profit}}{\text{Total assets}}$	$\frac{12}{112} = 0.11$	$\frac{22}{170} = 0.13$

7.4.2 Non-financial resource ratios

Much useful information about business activities is non-financial. This not only applies to information about some of the important outputs, such as chemical or noise pollution, but also to information about some of the inputs. Concentration on non-financial data may be especially useful in relation to a resource input that is particularly scarce or expensive. Sales per employee is a good example of this type of ratio, where sales could be expressed in money terms or in non-financial terms such as the number of units produced each year per employee. Another example is output or sales per square metre of retail space.

Whether or not non-financial ratios like these are useful will depend on the particular situation and available information. However, they may permit useful comparisons of different organizational structures and different trends of development.

7.4.3 Return on equity (ROE)

A further approach to investigating the relationship between returns and the resources employed to create them is to consider the sources of finance on the other side of the balance sheet. This is probably the most interesting approach, because it enables analysts to focus on various subsets of the total finance being provided and to consider the return generated *for* that particular subset and its providers. Several different ratios are now considered.

Return on equity relates the return made *for* the shareholders with the finance made available *by* the shareholders. It can be calculated either before tax deductions or after them and it may well be useful to do both. If the issue to be explored is the return potentially available for distribution to shareholders, then clearly the after-tax position has to be taken. However, the deduction of tax is a distortion when investigating the efficiency of management in organizing the operations of the business is required or when comparing ROE with rates of return on

other sources of finance. In such cases, before-tax returns may be more useful. The formula for return on equity is:

$$\frac{\text{Net profit}}{\text{Share capital and reserves}}$$

Activity 7.G Calculate the ROE for Bread Co. for 20X1 and 20X2, both before and after tax.

Feedback

$$\text{ROE before tax for 20X1} = \frac{12}{94} = 12.8 \text{ per cent}$$

$$\text{ROE before tax for 20X2} = \frac{22}{106} = 20.8 \text{ per cent}$$

$$\text{ROE after tax for 20X1} = \frac{8}{94} = 8.5 \text{ per cent}$$

$$\text{ROE after tax for 20X2} = \frac{12}{106} = 11.3 \text{ per cent}$$

The increase in ROE before tax is large, but the after-tax return is partly reduced by a larger-than-proportional tax charge.

7.4.4 Return on capital employed (ROCE)

In terms of assessing the efficient use of the resources provided to the business, the ROCE is probably the most important single ratio. The capital employed is normally defined as the owners' equity plus the long-term borrowings of the business. It seeks to embrace all the long-term finance used by the business. The ratio therefore investigates the efficiency of the business as a whole, rather than from the point of view of any particular subset of financiers, such as the owners.

Notice that the ROE compares the return made on the share capital and reserves with the amount of that share capital and reserves. Similarly, in the case of the ROCE, the target is to compare:

(a) the return made on the total of the share capital, the reserves and the long-term borrowings with
(b) the amount of that total.

That is, in contrast to the ROE, the denominator of the ROCE ratio is larger by the amount of a company's long-term borrowings. It therefore follows that the numerator of the ROCE will be larger than the numerator of the ROE by including the return that relates to those borrowings, i.e. interest. This interest, being an expense of the business, has been deducted in arriving at net profit. So, in order to calculate the correct 'return' relevant to the ROCE calculation, the interest on the long-term borrowings must be added back to the net profit. The formula for return on capital employed is:

$$\frac{\text{Net profit before interest on long-term borrowings}}{\text{Owners' equity} + \text{Long-term borrowings}}$$

Profit before tax is used because interest figures are given gross of any tax effect and to take after-tax profit and then adjust for interest net of tax would require subjective adjustments to the tax charge. This profit figure is sometimes referred to as EBIT, which stands for earnings before interest and tax.

Activity 7.H

Calculate ROCE for Bread Co. for 20X1 and 20X2, compare the results with the ROE before-tax figures and comment.

Feedback

The ROCE figures are as follows:

$$\text{ROCE for 20X1} = \frac{12}{94} = 12.8 \text{ per cent}$$

$$\text{ROCE for 20X2} = \frac{22 + 2}{106 + 20} = \frac{24}{126} = 19.0 \text{ per cent}$$

Table 7.3 summarizes the required ratios.

Table 7.3 ROE/ROCE comparison for Bread Co.

	20X1	*20X2*
ROE (before tax)	12.8%	20.8%
ROCE	12.8%	19.0%

In 20X1 the figures are identical, because there were no long-term borrowings. In 20X2 the return made by the business as a whole, considering all the long-term finance, was 19.0 per cent; yet the return to the shareholders, at 20.8 per cent, was more than this. The shareholders have arranged a company structure that enables them to get more than their simple proportion of the ROCE increase. The reason for this should be clear: the providers of the remainder of the capital employed have accepted a fixed return, which is *less* than their simple proportion of the ROCE would be at present levels of profit: ROCE is 19.0 per cent, interest on debentures is 10.0 per cent. Therefore, for that part of capital employed represented by the debentures, the difference of 19.0 per cent –10.0 per cent = 9.0 per cent is available for the owners in addition to the 19.0 per cent that has been earned for them on their own proportion of the capital employed.

7.4.5 Gearing and its implications

The relationship between equity and long-term borrowings is known as the gearing (or leverage) of the financial structure. There are two common ways of calculating a gearing ratio:

(a) compare the debt (i.e. long-term borrowings) with the equity; or
(b) compare the debt with the capital employed (i.e. equity plus debt).

Formulae for the two gearing ratios are:

$$\text{(a) Gearing} = \frac{\text{Debt}}{\text{Share capital} + \text{Reserves}} = \frac{\text{Debt}}{\text{Equity}}$$

or

$$\text{(b) Gearing} = \frac{\text{Debt}}{\text{Share capital} + \text{Reserves} + \text{Debt}} = \frac{\text{Debt}}{\text{Equity} + \text{Debt}}$$

For Bread Co. the figures are:

(a) 20X1: 0.0 per cent

$$\text{20X2:} \frac{20}{106} = 18.6 \text{ per cent}$$

(b) 20X1: 0.0 per cent

$$\text{20X2:} \frac{20}{126} = 15.9 \text{ per cent}$$

For this company, the shareholders might want to maximize the proportion of the total capital employed that is financed by debt rather than by themselves, as now explained. As shown in Table 7.3, with non-current debt of 20 (measured in €000), the ROCE for Bread Co. for 20X2 was 19.0 per cent and the ROE was 20.8 per cent.

If we were to increase the gearing ratio so that, for example, the same capital employed of 126 consisted instead of capital plus reserves of 66 and debentures (with 10 per cent interest) increased to 60, then the ratios for 20X2 would give the same ROCE but a much improved return to the equity investors, as follows:

$$\text{ROE} = \left(\frac{24 - 6}{126 - 60}\right) = \frac{18}{66} = 27.3 \text{ per cent}$$

There are limits to the feasibility of increasing the proportion of debt, however. First, it is riskier to lend to a business that already has significant debt and therefore increased interest rates would be needed to attract such lending – if, indeed, it could be attracted at all. Second, consider what happens to a highly geared structure when operating profits fall. Suppose that Bread Co. alters its capital structure (as above) to give owners' equity of 66 and debentures of 60, but then in 20X3 the level of operating profit falls back to that of 20X1, i.e. 12. This would lead to 20X3 ratios as follows:

$$\text{ROE for 20X3} = \left(\frac{12 - 6}{66}\right) = 9.1 \text{ per cent}$$

$$\text{ROCE for 20X3} = \left(\frac{12}{126}\right) = 9.5 \text{ per cent}$$

Now the gearing is working in the other direction, to magnify the fall in returns suffered by the shareholders rather than to magnify the rise. The end result is that ROE is less than ROCE. It is, of course, perfectly possible for ROCE to be positive and ROE to be negative. It should be remembered also that a company which cannot afford to pay dividends does not *have* to pay them. However, a company that cannot afford to pay interest still legally has to pay it. This can be the road to bankruptcy.

7.4.6 Further analysis of ROE and ROCE

In practice, life is much more complicated than for Bread Co. The text and case studies in this book are not designed to cover all possible complications that might be met, but to enable the diligent reader to work out how to deal with them. To begin this process, two complications are mentioned at this stage.

What is long-term borrowing?

If a particular liability is defined as one of those 'falling due within one year' or some similar phrase, the reality behind this may not be clear-cut. For example, consider the amounts set out in Table 7.4 as falling due within one year.

Table 7.4 Examples of current liabilities

	20X1	*20X2*
Bank loans	18	19
Bank overdrafts	5	4
Bills payable	20	10
Trade payables	50	55
Taxation	32	34
Dividends	20	25
Other payables and accruals	18	20
	163	167

Does it look as though all of these items are genuine short-term liabilities arising from the trading and operating cycle or do some of them seem likely to be a continuing source of finance that happens to be legally constructed so as to be renewable within one year? It seems likely that the bank loans and overdrafts, and possibly also the commercial bills payable, are being used to finance the activities of the business, rather than being an integral part of those operating activities.

If that view is taken, then these items might be included as long-term borrowings for the purposes of calculating capital employed. Further, the interest on those 'current' liabilities must then also be added back to net profit (or not deducted from operating profit) in arriving at the correct return figure for the ROCE ratio. This may involve a very careful analysis and division of the interest payable amount between the various loans to which it relates. However, care is needed here. We are only discussing the treatment for gearing calculations. If risk of liquidity problems were being discussed (see Section 7.5), some of these financing items might definitely be 'current'.

Different classes of owners

The above discussions also assume that all shareholders are identical. However, there may be several classes of share and each class of shareholder will then have its own viewpoint on the performance of the business. For example, suppose now that the share capital of Bread Co. remains the same in total (see Figures 7.2

and 7.3) but includes 10,000 €1 preference shares, each bearing a fixed 10 per cent dividend entitlement, the ordinary share capital then being 60,000 and 66,000 at the ends of 20X1 and 20X2 respectively. The ROE (and ROCE) will be the same as previously shown. As a reminder, the ROE, taking before-tax figures to ease comparison, was:

$$20X1: \frac{12}{94} = 12.8 \text{ per cent}$$

$$20X2: \frac{22}{106} = 20.8 \text{ per cent}$$

However, it is also possible to calculate the return on ordinary owners' equity (ROOE). For this, the preference share capital must be deducted from the denominator, and the preference shareholders' dividend return must be deducted from the numerator. So, we have:

$$\text{ROOE in 20X1} = \left(\frac{12 - 1}{94 - 10}\right) = \frac{11}{84} = 13.1 \text{ per cent}$$

$$\text{ROOE in 20X2} = \left(\frac{22 - 1}{106 - 10}\right) = \frac{21}{96} = 21.9 \text{ per cent}$$

This leads to a more complete set of data, as shown in Table 7.5.

Table 7.5 Return ratios for Bread Co.

	20X1	*20X2*
ROCE (all capital employed)	12.8%	19.0%
ROE (all shareholders' equity)	12.8%	20.8%
ROOE (ordinary owners' equity)	13.1%	21.9%

The effect on the ordinary shareholders of adding a tranche of preference shareholders, with a lower dividend, is similar to the gearing effect on all shareholders together of adding a tranche of debentures with a lower interest rate. Again, this is only an advantage to the ordinary shareholders when profits exceed a certain level.

Why it matters

It is easy to be blinded by statistics. Consider the ROE of 20.8 per cent shown in Table 7.5. First of all, this is a numerically correct and logically valid figure. It reveals what the business has achieved after 'paying off' everyone involved except the owners (and except the tax authorities, since we have taken before-tax figures here), but it does not reveal the potential return to a potential shareholder. A potential shareholder would have to buy either an ordinary share, with 21.9 per cent generated for it in 20X2, or a preference share, with a dividend of 10 per cent. From this point of view, therefore, ROE is not revealing relevant information, whereas ROOE would be (to the ordinary shareholder). Furthermore, the figure of 21.9 per cent is not, of course, the rate of return that a new shareholder would receive if buying a share today on the stock market. That rate of return would be dependent on the price actually paid for the share and on future performance.

7.5 Liquidity ratios

This section explores some ratios related to the liquidity (i.e. cash or near-cash position) of a business. A number of ratios can be calculated that compare short-term assets with short-term liabilities. Each ratio uses a different interpretation of just how short term the assets or liabilities should be. The shorter the term considered, the more prudent, pessimistic or safe is the approach adopted. Each ratio in this section shows the extent to which the particular definition of 'short-term assets' chosen would allow the repayment of the short-term liabilities in existence at that date. They all assume that the assets concerned will turn into cash at their balance sheet values.

Three common ratios are:

1. $\text{Cash ratio} = \dfrac{\text{Cash} + \text{Marketable securities}}{\text{Current liabilities}}$

2. $\text{Acid test (or quick assets) ratio} = \dfrac{\text{Current assets} - \text{Inventory}}{\text{Current liabilities}}$

3. $\text{Current (or working capital) ratio} = \dfrac{\text{Current assets}}{\text{Current liabilities}}$

Activity 7.1

Calculate the above three ratios for Bread Co. for 20X1 and 20X2, using the data in Figures 7.2 or 7.3.

Feedback

1. Cash ratio for 20X1 $= \dfrac{10}{18} = 0.55{:}1$

   Cash ratio for 20X2 $= \dfrac{4}{44} = 0.09{:}1$

2. Acid test ratio for 20X1 $= \dfrac{28}{18} = 1.6{:}1$

   Acid test ratio for 20X2 $= \dfrac{44}{44} = 1.0{:}1$

3. Current ratio for 20X1 $= \dfrac{40}{18} = 2.2{:}1$

   Current ratio for 20X2 $= \dfrac{60}{44} = 1.4{:}1$

It is important to remember that these ratios take a static view. They assume the relevant assets are all that will be available to settle the current liabilities and the assets will provide the cash amounts as recorded in the balance sheet (even though inventory is normally recorded at cost, i.e. below selling price). So, for example, the quick assets ratio assumes that all the debtors will pay, but excludes any cash sales from inventory.

The safety or acceptability of any particular ratio for any particular business is related to the everyday operations of the business. Each industry will have a typical operational and financial structure, which can be significantly different for different industries, and calculated ratios should be compared with competitor or

general industry figures or with past trends to enable meaningful comparisons to be made. Furthermore, high liquidity is not costless. It ties up resources unproductively. A firm needs to balance safety with efficient use of resources.

7.6 Interest cover

Long-term liquidity is connected to gearing, as examined in Section 7.4. The balance sheet perspective discussed there can be supplemented by considering the *interest cover*. This is the number of times a business could pay its necessary interest charges out of the available operating profit of the current year. The formula for interest cover is:

$$\frac{\text{Net profit before interest and tax}}{\text{Interest charges}}$$

For Bread Co. the figures will be as follows:

$$\text{Interest cover in 20X1} = \frac{12}{0} (\text{i.e. infinite value})$$

$$\text{Interest cover in 20X2} = \left(\frac{22 + 2}{2}\right) = 12 \text{ times}$$

This figure is an indication of the risk that Bread Co. might not be able to pay interest on its borrowings out of operating income if that income fell in a future year. The higher the interest cover, the greater the fall in profits that would have to occur before net profit (i.e. after charging interest) became negative. Note that for this ratio, *all* interest payable should be included, irrespective of whether it relates to long- or short-term borrowing.

7.7 Funds management ratios

Insight into the liquidity implications of the operations of a business can be gained by examining some of the constituent elements of working capital, i.e. inventory, receivables (debtors) and payables (creditors). In each case, the amount of the item is compared with the flow related to it. These ratios can be expressed in a number of ways, but probably the most easily understandable is to express the answer in days.

7.7.1 Receivables collection period

This ratio compares trade receivables with sales. To calculate the average receivables collection period in days, the formula is:

$$\frac{\text{Trade receivables}}{\text{Sales}} \times 365$$

Ideally, cash sales should be excluded from the denominator. However, total receivables is often used instead of trade receivables. Frequently, the amount is taken from the closing balance sheet, but a more theoretically valid ratio is obtained by using the average amount of each item over the trading cycle. A simple average of

opening and closing balance sheet figures may well be a better approximation to the true average than taking just the closing balance sheet figure.

7.7.2 Payables payment period

A similar ratio can be calculated for payables. To calculate the average payment period, it is theoretically necessary to relate trade payables with annual purchases. However, the purchases figure is often not available and therefore the cost of goods sold will have to be used as a surrogate. In some income statement formats, cost of sales is not shown either, so the sales figure has to be used. It is worth noting that the 'error' introduced by taking a surrogate or proxy figure is common to all years and therefore largely cancels out when trends over time are explored. Where cost of sales is available but the cost of purchases is not, the formula becomes:

$$\frac{\text{Trade payables}}{\text{Cost of sales}} \times 365$$

7.7.3 Inventory turnover

The inventory turnover is the number of times per year that the typical level of inventory in the business is sold. This can also be expressed the other way round, i.e. as the average time (in days) that inventory remains in the business between purchase and sale. Since inventory is valued at cost, it should be compared with cost of goods sold (which is obviously at cost) rather than with sales (which are at selling price). Again, this assumes that the data are available. The formula for the speed of turnover in days is:

$$\frac{\text{Inventory}}{\text{Cost of goods sold}} \times 365$$

Activity 7.J

Calculate debtors, creditors and inventory ratios (in terms of days) for Bread Co. for 20X1 and 20X2. For receivables and payables, use the figures in the closing balance sheets. For inventory, calculate the average figures for the year from the opening and closing balances.

Feedback

The answers are summarized in tabular form in Table 7.6.

Table 7.6 Funds management ratios for Bread Co.

Ratio	*20X1*	*20X2*
Receivables collection	$\frac{18}{150} \times 365$	$\frac{40}{250} \times 365$
	$= 44$ days	$= 58$ days
Payables payment	$\frac{10}{100} \times 365$	$\frac{28}{176} \times 365$
	$= 36.5$ days	$= 58$ days
Inventory turnover	$\left(\frac{(8 + 12)}{\frac{2}{100}}\right) \times 365$	$\left(\frac{(12 + 16)}{\frac{2}{176}}\right) \times 365$
	$= 36.5$ days	$= 29$ days

Trends can be explored between 20X1 and 20X2 showing, for example, that customers are taking longer to pay in 20X2. The ratios can also be related together. In 20X1, if purchases were made on day 1 then they were paid for (on average, of course) some 36 days later. Those purchases remained in store (or process) also for some 36 days, were then sold and the sales were actually paid for 44 days after the sale. The outward cash flow therefore occurs on day 36, but the inward cash flow not until day 80.

7.8 Introduction to investment ratios

The profitability and finance ratios so far discussed investigate various relationships that are revealed within financial statements. Investment ratios also consider items outside financial statements from the equity investor's perspective. The connection between an investor and a company is obviously through the medium of a share and most investment ratios relate shares to some aspect of the financial statements. We give a brief introduction to investment ratios here. When Part 2 has been studied, your understanding of much of this data should have been considerably deepened and more complexities of investment ratios can then be explored in Part 3.

7.8.1 Book value per share

The *book value* of an ordinary share is the value that would be attributable to each ordinary share if the assets and liabilities of the company were sold or settled at the figures shown in the published balance sheet (i.e. at the 'value in the books'). The book value of a share is therefore the net assets divided by the number of issued shares. For Bread Co. (see Figure 7.2 or 7.3) the numbers are $\frac{94}{70} = €1.34$ for 20X1 and $\frac{106}{76} = €1.39$ for 20X2.

Since most numbers in the balance sheet are not designed to show the value of the item in any market-oriented sense of value, this ratio – at least in isolation – is not particularly useful.

7.8.2 Market value per share

For a publicly quoted company the market value per share, i.e. the share price, is easily obtainable from reports of stock exchange transactions, e.g. from newspapers. For a private company, the value has to be estimated, because there is no regular market in such a company's shares.

7.8.3 Earnings per share

A company's 'earnings' is a particular measure of its profit for the year. In terms of Chapter 6's discussion, earnings is the 'profit or loss' less any preference dividends. That is, earnings does not include the various gains and losses that are treated as other comprehensive income. Earnings per share (EPS) is a commonly used statistic that gives an idea of what the business has achieved during the year for the

benefit of all the ordinary shareholders, divided by the number of such shares. If you buy one of these shares, the EPS shows what has been generated in the year that is attributable to you. Some of this might be paid in dividends and some not. In a simple situation, the calculation of EPS is:

$$\frac{\text{Earnings attributable to ordinary shareholders}}{\text{Number of ordinary shares}}$$

Activity 7.K

Calculate EPS for Bread Co. for 20X1 and 20X2. The earnings can be found from Figure 7.1 and the number of shares from Figure 7.2 or 7.3.

Feedback

The answers are as follows:

20X1 earnings = €8,000
Number of shares = 70,000

$$\text{Therefore EPS} = \frac{8}{70} = €0.11$$

20X2 earnings = €12,000

Number of shares = 76,000

$$\text{Therefore EPS} = \frac{12}{76} = €0.16$$

This rise in EPS obviously suggests an improved performance by Bread Co. from 20X1 to 20X2 when considered from the viewpoint of a shareholder.

Real-world example

IAS 33 requires listed companies to show EPS calculated in several different ways (see more detail in Chapter 16). Figure 7.5 shows the example of Marks & Spencer PLC for 2014 (the presentation is different in 2015; changes to calculate 'underlying differences' are smaller, and are relegated to the Notes). The 'basic' EPS is the one outlined above. The 'underlying' figures remove the effect of such items as property disposals, 'one-off pension credits', and restructuring costs. It is noteworthy that in its 'overview of the year at a glance', presented in large font on page 2 of the annual report, the 'group profit' and the 'underlying group profit' appear with equal prominence, the 'underlying' figure coming first. Page 2 is not covered by the audit report, although page 88 is. We return also to this issue in Chapter 16.

7.9 Some general issues about ratios

7.9.1 Industry-specific considerations

We have already made the point that it is vital to consider the financial statements or ratios of any particular company in the context of what is typical in the field of operations involved. The same figure for any chosen ratio may suggest danger in the context of one industry, but a high degree of safety or success in another. For a simple illustration of this point, try the following activity.

Figure 7.5 Consolidated income statement for Marks & Spencer PLC

	52 weeks ended 29 March 2014 £m
Revenue	10,309.7
Operating profit	694.5
Finance income	25.0
Finance costs	(139.1)
Profit before tax	580.4
Income tax expense	(74.4)
Profit for the year	506.0
Attributable to:	
Owners of the parent	524.8
Non-controlling interests	(18.8)
	506.0
Basic earnings per share	32.5p
Diluted earnings per share	32.2p
Non-GAAP measures:	
underlying profit before tax	622.9
underlying basic earnings per share	32.2p
underlying diluted earnings per share	31.9p

Source: Adapted from Marks & Spencer PLC, Annual Report 2014, p. 88.

Activity 7.L

A sample of ratios for the same year for three firms, A, B and C is given in Table 7.7. The data are based on real European listed companies. The firms are in three different industries: one is a supermarket, one is in heavy engineering and one is a firm of management consultants. Which do you think is which?

Table 7.7 Ratios for A, B and C

	A	*B*	*C*
Debtors collection (days)	55	131	14
Inventory ratio (days)	48	N.A.	21
Acid test ratio	0.9:1	1.55:1	0.5:1
Current ratio	1.5:1	1.55:1	0.7:1

Feedback

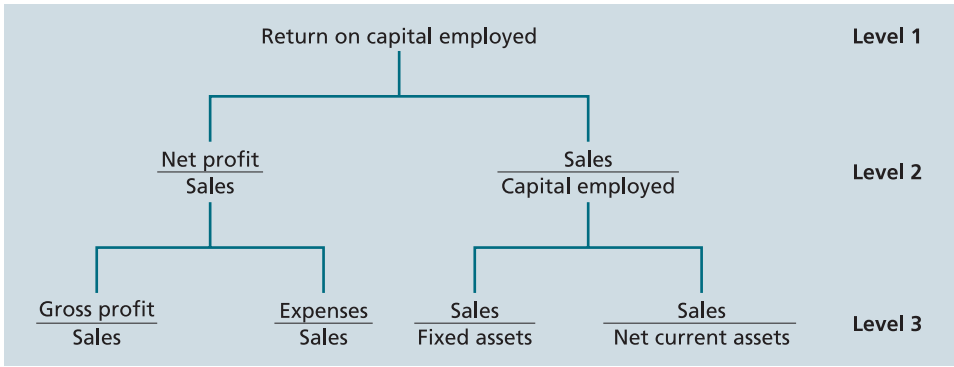
It would be a good idea to choose the easiest answer first. In this case, the fact that firm B has no inventory must mean that it is the consulting firm. It also has slow-paying customers, which fits the answer. Remember that the receivables ratio cannot usually distinguish between high receivables and slow-paying customers, because we do not usually know what proportion of the sales is for cash. A consultancy might have

no cash sales, therefore relatively high receivables. This helps us to identify C as the supermarket. It either has a high proportion of cash sales or fast-paying customers or both. Firm C also has low liquidity ratios, which fits a supermarket. It does not need high liquidity because it receives plenty of cash every day. You might think that an inventory period of 21 days is rather long, but many supermarkets now sell many items other than fresh food. That must mean the engineering company is firm A. We can be comfortable with this because it has the slowest inventory use.

7.9.2 Relationships between ratios

The relationship between the various types of ratios can be charted. To take the example of return on capital employed, Figure 7.6 shows how it can be split up into components. The result is a 'pyramid of ratios'. The pyramid can be extended to a further level by comparing, for example, the individual expenses to sales and by breaking down the non-current assets and net current assets into their constituent parts, as in Figure 7.7.

Figure 7.6 Pyramid of ratios (levels 1–3)

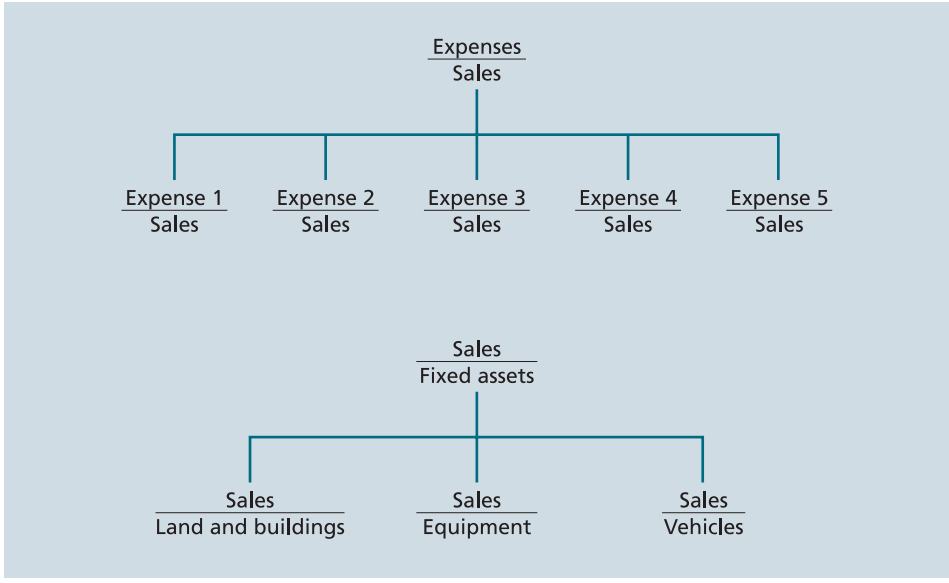


7.9.3 Caveat

There is much more involved with interpretation than has been discussed in this chapter. We return to consider the whole area further in Part 3. Part 2 provides more detailed understanding of many of the accounting problems that affect the numbers used in financial statements. Such greater understanding should help with the interpretation of the financial statements.

Finally, it is important to remember that ratios are usually most informative when comparison is involved. For example, what might be regarded as a reasonable level for a liquidity ratio in one industry, country or set of economic conditions may be very different from what would be regarded as acceptable in other circumstances. Therefore, you should not believe anyone or any book that tells you about a standard level for a liquidity ratio or any other ratio.

Figure 7.7 Pyramid of ratios (level 4)



Summary

- Ratios are used to understand the earnings structure, profitability, liquidity and potential of business organizations.
- Ratios are also methods of analysing relationships within a financial statement and the interconnection between the income statement and the balance sheet.
- Gearing is an important consideration that can significantly affect the return attributable to investors, as compared with the return generated by the business as a whole.
- Liquidity and funds management can also be assessed by several ratios.
- The interrelationship between the various ratios is important and an overall picture can be built up by considering such connections. No ratio is 'better' than the underlying data, but sometimes 'errors' can cancel out when considering trends rather than absolute numbers.
- The interrelationships between some of the important ratios can become clear if they are considered as components of more summarized ratios, forming what is often known as a pyramid of ratios.
- Just as there is no list of correct ratios, so there are no correct levels at which ratios should be.

? MULTIPLE CHOICE QUESTIONS

Answers are given in Appendix D.

Using the following balance sheet and income statement, answer Questions 7a to 7g.

Balance sheet

	€m		€m
Property	200	Trade payables	65
Plant and equipment	300	Tax due	14
Other non-current assets	20	Other current liabilities	67
Inventory	135	Share capital (€1 shares)	145
Trade receivables	85	Reserves	174
Cash	30	Long-term loans	305
	770		770

Income statement (and other changes in equity)

	€m
Sales (of which €1,100 are on credit)	1,600
Operating costs	(1,300)
Interest	(20)
Profit before tax	280
Tax	(60)
Profit after interest and tax	220
Dividends paid	(80)
Retained profits	140

7a. What is the total of shareholders' funds?

A. £145m.
B. £174m.
C. £319m.
D. £770m.
E. £350m.

7b. What is the total of current assets?

A. £220m.
B. £250m.
C. £290m.
D. £270m.
E. £570m.

7c. What is the total of current liabilities?

A. £67m.
B. £451m.
C. £146m.
D. £132m.
E. None of the above.

7d. What is the current ratio?

A. 0.2
B. 2.0
C. 1.7
D. 0.8
E. 1.2

7e. What is the quick (acid test) ratio?

A. 0.9
B. 4.8
C. 0.8
D. 0.2
E. 1.7

7f. What is the receivables holding period?

A. 21.6 days.
B. 8 times.
C. 19.4 days.
D. 4.7 times.
E. 28.2 days.

7g. What is the return on capital employed?

A. 39.0%
B. 44.9%
C. 48.0%
D. 17.8%
E. 34.0%

7h. The gross profit margin is:

A. The same thing as gross profit.
B. The sales minus the cost of sales.
C. The gross profit as a proportion of the sales.
D. The difference between the sales and the gross profit.

7i. Operating profit is:

A. The same as gross profit.
B. The profit before interest and tax.
C. The profit after interest but before tax.
D. The same as earnings.

7j. The most appropriate measure of profitability from the point of view of the shareholders is:

A. Return on equity.
B. Return on capital employed.
C. Return on non-current assets.
D. Profit on sales.

7k. Which of the following ratios would you expect to be the lowest for any particular company?

A. The cash ratio.
B. The current ratio.
C. The quick ratio.
D. The ratio of total assets to current liabilities.

7I. For which sort of business might the ratio of receivables to sales be the lowest (and therefore the debtors collection period the shortest)?

A. A market stall selling vegetables.
B. An audit firm.
C. An engineering company.
D. A retail store.

? EXERCISES

Feedback on the first three of these exercises is given in Appendix E.

7.1. The simplified financial statements of two companies, P and Q, are shown in Figure 7.8.

Figure 7.8 Financial statements for P and Q

	P	*Q*
Income statement for 20X1		
Sales	45,000	40,909
less Cost of goods sold	(36,000)	(32,727)
Gross profit	9,000	8,182
less Depreciation	(3,500)	(2,917)
Other expenses	(1,500)	(1,364)
Net profit	4,000	3,901
Balance sheet as at 31 December 20X1		
Equipment at cost	35,000	29,167
less Depreciation	(3,500)	(2,917)
	31,500	26,250
Inventory at cost	10,500	10,000
Net monetary current assets	2,000	2,000
less Long-term loan	(10,000)	(10,000)
	34,000	28,250
Share capital	25,000	25,000
Retained profits	4,000	3,901
Other reserves	5,000	(651)
	34,000	28,250

Assuming that interest is charged on the long-term loan at 10 per cent per annum, calculate the following ratios for 20X1 and comment on the results:

$$\frac{\text{Gross profit}}{\text{Sales}};\ \frac{\text{Net operating profit}}{\text{Sales}};\ \frac{\text{Net profit}}{\text{Sales}};\ \text{ROCE};\ \text{Gearing}.$$

7.2. The summarized balance sheets of company R at the end of two consecutive financial years were as shown in Figure 7.9.

Sales were €541,000 and €675,000 for the years ended 31 March 20X2 and 20X3, respectively. Corresponding figures for cost of sales were €369,000 and €481,000, respectively. At 31 March 20X1, reserves had totalled €21,000. Ordinary share capital was the same throughout.

Figure 7.9 R's summarized balance sheets as at 31 March (€000)

20X2			*20X3*	
		Non-current assets (at written down values)		
50		Premises	48	
115		Plant and equipment	196	
42		Vehicles	81	
	207			325
		Current assets		
86		Inventory	177	
49		Receivables and prepayments	62	
53		Bank and cash	30	
188			269	
		Current liabilities		
72		Payables	132	
20		Accruals	30	
92			162	
	96	*Working capital*		107
	303	*Net assets*		432
		Financed by		
250		Ordinary share capital	250	
53		Reserves	82	
	303	Shareholders' funds		332
	–	Loan capital: 7 per cent debentures		100
	303			432

Calculate the following ratios for both years and comment briefly on the results:

(i) Gross profit/Sales;
(ii) Net profit/Sales;
(iii) Sales/Net assets;
(iv) Net profit/Net assets;
(v) Current assets/Current liabilities;
(vi) Quick assets/Current liabilities.

7.3. Mosca and Vespa are two sole traders with the financial statements (in euros) for the year ending 31 December as set out in Figure 7.10.

Figure 7.10 Financial statements for Mosca and Vespa

	Mosca		*Vespa*	
Income statement				
Sales		144,000		140,000
Cost of goods sold		120,000		120,000
		24,000		20,000
Selling expenses	7,000		10,000	
Administration expenses	3,000		6,000	
		10,000		16,000
Net profit		14,000		4,000
Balance sheet				
Non-current assets		54,000		30,000
Current assets				
Inventory	20,000		10,000	
Receivables	30,000		50,000	
Cash	10,000		5,000	
		60,000		65,000
less Payables		24,000		5,000
Net assets		90,000		90,000
Capital and reserves		90,000		90,000

Using the information contained in the financial statements, and assuming opening and closing inventories are the same, calculate the following ratios and comment on the results of your analysis:

(i) return on capital employed;
(ii) gross profit margin;
(iii) current ratio;
(iv) inventory period;
(v) receivables collection period;
(vi) payables payment period.

7.4. The following information has been extracted from the recently published statements of company D, as set out in Figure 7.11.

Figure 7.11 Financial statements for company D as at 30 April

Balance sheets as at 30 April

		20X2		*20X1*
Non-current assets		1,850		1,430
Current assets				
Inventory	640		490	
Receivables	1,230		1,080	
Cash	80		120	
	1,950		1,690	
Creditors due in less than 1 year				
Bank overdraft	110		80	
Payables	750		690	
Taxation	30		20	
Dividends	65		55	
	955		845	
Net current assets		995		845
Total assets less current liabilities		2,845		2,275
less Creditors due in more than 1 year				
10 per cent debentures		800		600
		2,045		1,675
Share capital and reserves				
Ordinary share capital		800		800
Reserves		1,245		875
		2,045		1,675

Extracts from the income statements

Sales	11,200	9,750
Cost of goods sold	8,460	6,825
Net profit before tax	465	320
This is after charging:		
Depreciation	80	60
Interest on bank overdraft	15	9
Audit fees	12	10

The ratios set out in Table 7.8 are those calculated for D based on its published statements for the previous year and also the latest industry average ratios.

Required:

(a) Calculate comparable ratios (to two decimal places where appropriate) for company D for the year ended 30 April 20X2. All calculations must be clearly shown.

(b) Analyse the performance of D, comparing the results against the previous year and against the industry average as supplied.

Table 7.8 Financial ratios for company D

	D as at 30 April 20X1	*Industry average*
ROCE (Capital employed = Equity + Debentures)	16.70 per cent	18.50 per cent
Profit/sales	3.28 per cent	4.73 per cent
Asset turnover	4.29	3.91
Current ratio	2.00	1.90
Quick ratio	1.42	1.27
Gross profit margin	30.00 per cent	35.23 per cent
Days receivables	40 days	52 days
Days payables	37 days	49 days
Inventory turnover per year	13.90	18.30
Gearing	26.37 per cent	32.71 per cent

7.5. Business A and Business B are both engaged in retailing but seem to take a different approach to this trade according to the information available. The information consists of a table of ratios, shown as Table 7.9.

Table 7.9 Financial ratios for A and B

Ratio	*Business A*	*Business B*
Current ratio	2:1	1.5:1
Quick assets (acid test) ratio	1.7:1	0.7:1
Return on capital employed (ROCE)	20 per cent	17 per cent
Return on owner's equity (ROE)	30 per cent	18 per cent
Receivables collection	63 days	21 days
Payables payment	50 days	45 days
Gross profit percentage	40 per cent	15 per cent
Net profit percentage	10 per cent	10 per cent
Inventory period	52 days	25 days

Required:

(a) Explain briefly how each ratio is calculated.

(b) Describe what this information indicates about the differences in approach between the two businesses. If one of them prides itself on personal service and one of them on competitive prices, which do you think is which and why?

7.6. Figure 7.12 presents, in summarized form, the financial statements of Non Co. for the years 20X1 and 20X2.

Figure 7.12 Financial statements for Non Co. for 20X1 and 20X2

		20X2 balance sheet (€000)		*20X1 balance sheet (€000)*
Machinery – cost	11		10	
– depreciation	5		4	
Building – cost	90	6	50	6
– depreciation	11		10	
		79		40
Investment at cost		80		50
Land		63		43
Inventory		65		55
Receivables		50		40
Bank		–		3
		343		237
Ordinary shares of €1 each		50		40
Share premium		14		12
Revaluation reserve		20		–
Retained earnings		25		25
Debenture loan, 10% p.a.		150		100
Trade payables		60		40
Other payables and accruals		20		20
Bank		4		–
		343		237
		20X2 Income statement		20X1 Income statement
Sales		200		200
Cost of goods sold		120		100
Gross profit		80		100
Expenses, including tax		60		60
Earnings		20		40

Six months after each of the two year ends, a dividend of €20,000 is paid in relation to the results of that year.

Prepare a table of ratios calculated for both years, showing your calculations, and comment on the position, progress and direction of Non Co. as far as the available evidence permits.

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Part 2

FINANCIAL REPORTING ISSUES

8 Recognition and measurement of the elements of financial statements

9 Tangible and intangible non-current assets

10 Inventories

11 Financial assets, liabilities and equity

12 Accounting and taxation

13 Cash flow statements

14 Group accounting

15 Foreign currency translation

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Chapter 8

Recognition and measurement of the elements of financial statements

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Objectives

After studying the chapter carefully, you should be able to:

- explain the effects of the primacy of the definition of 'asset' for the division of payments into assets and expenses;
- show the implications of the definition of 'liability' for recognition of liabilities;
- illustrate when an asset should be recognized in a balance sheet;
- explain the main issues concerning the initial and subsequent measurement of assets and liabilities;
- outline the main possible alternatives to historical cost measurement;
- outline the main principles for recognition of revenue and other types of income;
- apply these principles to the case of construction contracts;
- explain the concept of capital maintenance.

8.1 Introduction

Part 2 of this book deals with recognition, measurement and presentation of the elements of financial statements, which are: assets, liabilities, equity, income and expenses. As in the rest of the book, the general context of the discussion is the standards of the IASB, with some reference to the regulations of particular countries and the practices of particular companies.

This chapter deals with some basic recognition and measurement issues. To take assets as the preliminary example, there are two basic issues:

- As pointed out in Section 2.4, it is helpful to establish a primacy of definitions based on either:
  — assets and liabilities; or
  — expenses and income.
- Then, assuming a primacy of assets and liabilities, and focusing to start with on assets, there is a hierarchy of decisions:
  — Is the item an asset?
  — If yes, should the asset be recognized in the balance sheet?
  — If again yes, how should it be measured when initially recorded?
  — Then, how should it be measured in subsequent balance sheets?

These matters are introduced in this chapter and taken further for various types of assets and liabilities in Chapters 9–12. Income and expenses are examined at the end of this chapter, concentrating on revenue recognition. The chapter concludes with discussions of 'other comprehensive income' and capital maintenance.

8.2 Primacy of definitions

The need to establish which definitions have primacy is examined here first in the context of assets and expenses. Examples of payments related to assets are those for:

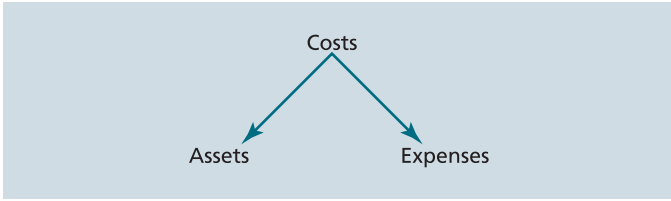
- repairs;
- decorating or redecorating;
- extensions;
- improvements;
- replacement of parts;
- future inevitable payments for dismantling, decommissioning or cleaning up.

When considering such payments, decisions are frequently necessary about whether the amounts should be added to the asset or should be treated as an expense. All these payments are 'applications' of resources in terms of the discussion of Chapter 2. They are all recorded as 'debits' in the double-entry system. Any costs that do not generate assets (and are not added to existing assets) are therefore expenses. Figure 8.1 presents this in diagrammatic form.

To summarize Chapter 2 on this issue, accounting can work in one of two ways:

- *Method 1*
  — *expenses* of 20X1 are the costs of any period that relate to 20X1; and therefore . . .
  — *assets* at the end of 20X1 are any remaining costs.

Figure 8.1 The relationship of costs, to assets and expenses



- *Method 2*
  — *assets* at the end of 20X1 are resources controlled by the entity that are expected to give benefits; and therefore . . .
  — *expenses* of 20X1 are any remaining costs.

The IASB's Framework gives primacy to the second way of defining the elements, by starting with an asset defined as follows (paragraph 4.4 of the 2010 version):

> a resource controlled by the entity as a result of past events and from which future economic benefits are expected to flow to the entity.

Note that the definition has three elements:

- past event;
- present control of a resource;
- future benefit.

The 'present control' part of the definition has the effect of reducing the importance of the 'matching' concept, as discussed in Section 3.2.3. If an expense is postponed in order to match it against a future revenue, it would have to be stored in the balance sheet as an asset. However, in principle, this is not allowed under IFRS unless the amount meets the definition of an asset. This restriction on the items to be shown as assets does not come from a desire to be prudent but from a desire to comply with a coherent framework.

The IASB gives similar importance to the definition of 'liability' as it does to 'asset'. As noted in Chapter 2 (Framework, paragraph 4.4):

> a liability is a present obligation of the entity arising from past events, the settlement of which is expected to result in an outflow from the entity of resources . . .

This has three elements:

- past event;
- present obligation;
- future outflow of resources.

An obligation is an unavoidable requirement to transfer resources to a third party. Many liabilities are clear legal obligations for exact amounts, such as accounts payable or loans from the bank. Some liabilities are of uncertain timing or amount. These are called 'provisions' (but see Chapter 11 for more discussion of the usage of this word). Depending on the nature of legal contracts, some of these provisions are also directly enforceable under contracts, such as provisions to pay pensions

to retired employees or to repair machinery sold to customers that breaks down soon after sale. Some obligations are not based on precise laws or legal contracts but would probably be enforced by a court of law based on normal business practices or, at least, the entity would suffer so much commercial damage if it did not settle the obligation that it cannot reasonably avoid settling it.

However, some companies that do not follow IFRS make provisions when there is no obligation. Let us take the example of provisions for expected repair expenses. The double entry for the creation of the liability is an expense. At a year end, it has been traditional German practice to charge the expected repair expenses of the first three months of the following year. This has a tax advantage in Germany because a (tax-deductible) expense can thereby be charged earlier.

The large German chemical company BASF provides an example (Annual Report of parent company, 2014):

> Other provisions are recognized . . . to cover omitted maintenance procedures as of the end of the year, which will be incurred within the first three months of the following year.

The double entry for a repair provision would be as follows, at the end of 20X1:

Debit: Repair expense of 20X1
Credit: Provision for repair expense (to be carried out in 20X2).

Suppose that the definition of an expense is the traditional one as outlined above (Method 1), then it would be easy to argue that the German practice is right. The reason why a machine needs to be repaired in early 20X2 is the wearing out of the machine in 20X1. So, the expense could be said to *relate* to 20X1, although this conclusion is not completely clear.

However, let us now give primacy to the IASB's definition of 'liability'. In the above example of the repair, does the entity have an obligation to a third party at the balance sheet date to transfer resources? Probably not. If not, there is no liability at the end of 20X1; therefore, there can be no expense in 20X1; therefore the above double entry should not be made.

Why it matters *This asset/liability approach seems to provide clearer answers to some accounting questions compared to the expense/revenue approach. The answers are often different for the two approaches, as has just been shown and as will be noted again several times in Part 2.*

In 2015, the IASB issued an Exposure Draft containing proposed amendments to the Framework. One proposal is to remove the 'expected' from the future parts of the above definitions; replacing it with the notion of the asset or liability being capable of producing the inflows or outflows. This would not affect the discussion above.

8.3 Hierarchy of decisions about assets and liabilities

8.3.1 The first stage

Having decided upon the asset/liability approach, it is then necessary to apply a four-stage hierarchy of decisions, as mentioned in Section 8.1, starting with: 'Is there an asset/liability?' For example, if an entity does not own a machine but

nevertheless controls it via a lease contract, the machine is the entity's asset. On the other hand, if an entity spends money to train staff, no asset is created or enhanced because the staff are not assets because they are not controlled; they could resign.

8.3.2 Recognition

The second stage in the hierarchy of decisions is to ask whether an asset or liability should be recognized in the balance sheet. For example, the value of some assets may be so difficult to measure that they should be omitted from balance sheets. The Framework (paragraph 4.38) gives recognition criteria for an asset as follows:

(a) it is probable that any future economic benefit . . . will flow . . . to the enterprise; and
(b) the item has a cost or value that can be measured with reliability.

Real-world example before IFRS

Let us apply these ideas to various intangible items that can be found in some balance sheets. For example, the balance sheet of Costa Crociere SpA, an Italian company, for a year before IFRS adoption in 2005, is shown as Figure 8.2.

It contains several items treated as intangible assets, including:

(a) pre-operating expenses (i.e. the set-up costs of a business);
(b) research expenditure;
(c) development expenditure;
(d) publicity.

According to IAS 38 (*Intangible Assets*) the correct treatment for these items should be as follows:

(a) Pre-operating expenses are not an asset, because there is no resource with a future benefit (paragraph 69).
(b) Research expenditure can give rise to an asset but (if it is spent inside the entity) it is too difficult to demonstrate that the benefits are probable for the expenditure to be recognized in a balance sheet (paragraph 54).
(c) Development expenditure can give rise to an asset, which should be recognized if, and only if, certain criteria are met – such as there being a separately identifiable project that is technically feasible and commercially viable (paragraph 57).
(d) Publicity cannot be capitalized for the same reason that research cannot be (paragraph 69).

Consequently, Costa Crociere's treatment of pre-operating, publicity and research expenses would not be acceptable under IAS 38, but its treatment of development expenditure might be, depending on the detailed circumstances.

Real-world examples under IFRS

When Volkswagen adjusted from German accounting to IFRS, it discovered a new asset, 'development costs', of nearly €4 billion. This alone increased its net assets by 41 per cent. This is shown in Figure 8.3.

Figure 8.2 Balance sheet for Costa Crociere SpA

ASSETS	
FIXED ASSETS	
Intangible assets	
Pre-operating and expansion costs	430,788,400
Research, development and publicity	8,322,744,995
Goodwill	17,504,906,718
Other	7,728,844,063
	33,987,284,176
Tangible assets	
Fleet	1,545,376,990,994
Furniture, office equipment and vehicles	12,533,869,794
Land and buildings	13,724,722,607
Advances to suppliers	4,200,980
	1,571,639,784,375
Financial assets	
Investments	
■ In subsidiary companies	2,361,047,604
■ In associated companies	9,585,321,141
■ In other companies	441,359,551
	12,387,728,296
Receivables due from	
■ Third parties, current	810,299,509
■ Third parties, non-current	15,241,145,498
	16,051,445,007
	28,439,173,303
TOTAL FIXED ASSETS	1,634,066,241,854
CURRENT ASSETS	
Inventories	
Materials and consumables	26,935,395,415
Costs of uncompleted cruises	–
Finished goods and goods for resale	180,531,558
Payments on account for goods	181,248,671
	27,297,175,644
Receivables due from	
Customers	115,202,164,925
Subsidiary companies	597,461,385
Third parties, current	18,819,167,035
Advances to suppliers and agents	13,635,070,629
	148,253,863,974
Financial assets not held as fixed assets	
Other securities	3,811,127,944
Liquid funds	
Bank deposits	72,303,268,761
Cash and cash equivalents	14,333,697,020
	86,636,965,781
TOTAL CURRENT ASSETS	265,999,133,343
ACCRUED INCOME AND PREPAID EXPENSES	
Accrued income	1,208,376,573
Prepaid expenses	36,780,748,166
	37,989,124,739
TOTAL ASSETS	1,938,054,499,936

LIABILITIES AND STOCKHOLDERS' EQUITY	
STOCKHOLDERS' EQUITY	
Capital stock	123,406,166,000
Additional paid-in capital	100,019,657,500
Legal reserve	9,957,183,361
Other reserves	
Merger surplus	–
Reserve for grants received re. Article 55, Law 917/1986	16,626,003,837
	16,626,003,837
Cumulative translation adjustments	4,146,160,964
Retained earnings	272,122,576,707
Net income for the year	61,230,802,224
	587,508,550,593
Minority interests	13,090,651
	587,521,641,244
RESERVES FOR RISKS AND CHARGES	
Income taxes	–
Other risks and charges	9,685,481,239
	9,685,481,239
RESERVE FOR SEVERANCE INDEMNITY	16,908,221,646
RESERVE FOR GRANTS TO BE RECEIVED	
re. Article 55, Law 917/1986	245,686,803,797
PAYABLES	
Bonds	271,083,750,000
Banks	
Advances	1,334,387,305
Secured loans	
■ Current	37,620,176,560
■ Non-current	407,861,924,572
Unsecured loans	
■ Current	723,271,076
■ Non-current	1,808,177,702
	449,347,937,215
Other providers of finance, current	4,543,000,000
Advances received	27,208,610,892
Suppliers, current	128,837,650,343
Subsidiary companies	–
Parent company	1,267,000,000
Tax authorities	6,056,148,078
Social security authorities	4,129,308,302
Other	28,404,868,128
	920,878,272,958
ACCRUED EXPENSES AND DEFERRED INCOME	
Accrued expenses	25,688,281,827
Deferred income	131,685,797,225
	157,374,079,052
TOTAL LIABILITIES AND STOCKHOLDERS' EQUITY	1,938,054,499,936

Guarantees and commitments are detailed in Notes to consolidated financial statements

Source: Published company financial statements.

Figure 8.3 Volkswagen 2001 (opening reconciliation)

	€m
Equity (German law) 1.1.2000	9,811
Capitalization of development costs	3,982
Amended useful lives and depreciation methods of tangible and intangible assets	3,483
Capitalization of overheads in inventories	653
Differing treatment of leasing contracts as lessor	1,962
Differing valuation of financial instruments	897
Effect of deferred taxes	–1,345
Elimination of special items	262
Amended valuation of pension and similar obligations	–633
Amended accounting treatment of provisions	2,022
Classification of minority interests not as part of equity	–197
Other changes	21
Equity (IFRS) 1.1.2000	20,918

Source: Volkswagen's Annual Report, 2001.

Glaxo SmithKline, the pharmaceutical company, has several intangible assets in its balance sheet, as in Figure 8.4. They amount to nearly half of the non-current assets.

Views differ around the world on these issues. Many companies in France, Italy and Spain still follow Costa's practices in their unconsolidated statements. At the other extreme, under the rules of the United States, even development expenditure cannot be recognized as an asset unless it relates to software.

A more general European example of problems concerning the recognition of assets can be seen in the list of items shown under the heading 'Assets' in the EU accounting Directive, on which laws in EU countries (and in some others) are based. Table 8.1 shows the first two levels of headings in the English-language version of the balance sheet, from Annex III of the 2013 revision of the Directive, as

Figure 8.4 GSK's intangible assets, 2014

	€m	*% of non-current assets*
Goodwill	3.724	14.3
Computer software	563	2.2
Licences	5.550	21.4
Brands	2.207	8.5
Total intangibles		46.4

Source: Prepared by the authors from the company's annual report.

Table 8.1 Balance sheet contents specified by the EU Directive

Assets	*Capital and liabilities*
A. Subscribed capital unpaid[a]	A. Capital reserves
B. Formation expenses	I. Subscribed capital[a]
C. Fixed assets	II. Share premium account
I. Intangible assets	III. Revaluation reserve
II. Tangible assets	IV. Reserves
III. Financial assets	V. Profit or loss brought forward
D. Current assets	VI. Profit or loss for the year
I. Stocks	B. Provisions
II. Debtors	C. Creditors
III. Investments	D. Accruals and deferred income[c]
IV. Cash	
E. Prepayments and accrued income[b]	

Notes: [a] Can be netted off, in which case the amount uncalled can be shown as an asset under A or D.II.
[b] Can be shown under D.II.
[c] Can be shown under C.

shown in more detail in Chapter 6. The right-hand side of the balance sheet (i.e. capital and liabilities) is dealt with in more detail in Chapter 11.

The left-hand side of Table 8.1 contains two options, reflecting previous (and present) practice in parts of Europe. Let us examine the problems related to these 'assets'.

1. *Subscribed capital unpaid* is amounts that a company could ask for from its shareholders or amounts it has asked for but are as yet unpaid. The second of these seems to be an asset (receivables), but the first is more contingent on future events. The company may never call in the money, which would mean that the company had no probable receipt, so no asset.
2. *Formation expenses* are discussed above as 'pre-operating expenses'. The Directive includes a potential heading for use in some countries for these doubtful assets.

Companies are allowed to show extra detail and more headings. For example, as will be explained in Chapter 15, many European companies show some currency losses (which, of course, have *debit* balances) as assets and gains as liabilities.

Why it matters

The readers of a balance sheet will sometimes be interested in net assets or total assets to assess the strength of a company, using such ratios as those introduced in Chapter 7. They might be misled by phantom assets, e.g. a former year's legal expenses of setting up the company, let alone by an asset called 'this year's currency loss'.

The 2015 Exposure Draft on the Framework proposed to delete the probability criterion for recognition. This might not affect any of the conclusions above. However, it is relevant where the entity has possible (but less than probable) inflows or outflows which result from past events. These can be very large, and the entity could often sell its rights or off-load its problem for a current amount of cash. Clearly, the entity's financial position is affected by the existence of the items, and therefore they should perhaps be reflected in its statement of financial position.

8.3.3 Initial measurement

Once it has been decided that an asset or liability should be recognized in the balance sheet, it is then necessary to measure its value before it can be shown. Under most systems of accounting that have been used in practice, initial recognition of nearly all assets takes place at cost. If this were not the case, then the very act of purchasing an asset might lead to the recognition of a gain or loss.

Sometimes the cost of an asset is obvious, such as when a machine is bought in exchange for cash. However, even then, decisions have to be made about what to do with taxes on the purchase, delivery charges and so on. The cost should include not only the invoice price of the asset but also all costs involved in getting the asset into a location and condition where it can be productive. So, this will include delivery charges, sales taxes and installation charges in the case of plant and machinery. For land and buildings, cost will include legal fees. If the company arranges to have its own building constructed, the 'cost' will also include architect's fees, clearing the land and so on, as well as the builder's bill and the cost of the land.

If a company has used its own labour or materials to construct an asset, these should also increase the cost of the asset rather than being treated as current expenses; that is, the costs are *capitalized*. It is also possible to capitalize the interest cost on money borrowed to create non-current assets. Indeed, this is required by both US GAAP and IFRS. Where labour or material is capitalized, certain formats of the income statement (described as 'by nature' in Chapter 6) show this item as a type of income. This is because all the labour and materials used have been charged elsewhere in the income statement. However, the items capitalized do not relate to current operations, so they are added back as though they were income (see Section 8.4), although they could more logically be seen as reductions in expenses. In the example of Figure 8.5 (CEPSA of Spain), the 4,079 million of capitalized expenses are a partial credit for the expenses shown on the debit side.

Activity 8.A

As a digression from the discussion of the measurement of assets, it is worth checking that you can understand the format of the income statement shown in Figure 8.5. This is horizontal, by nature (see Chapter 6, Tables 6.5 and 6.6). Why, for example, did CEPSA show 'operating income' as a debit and 'financial loss' and 'extraordinary loss' as credits?

Feedback

CEPSA was using a double-entry format and showing subtotals as it went down the page. The operating income (of 67,674) is the excess of the operating credits (1,172,175) over the operating debits (1,104,501). Strictly speaking, this is not very good double entry, because the debit balance of 67,674 for operating income is introduced as though it were an extra debit entry but not matched by a new credit entry of that size. Similarly, the financial loss of 12,684 is the excess of the four debit items of that sort over the three credit items; and the extraordinary loss of 7,925 is the excess of the four debit items of that sort over the four credit items.

Expenditure on an asset after its initial recognition should sometimes also be added in as part of the asset's cost. This includes inevitable future costs of dismantling or

Figure 8.5 **Consolidated statement of income for CEPSA***

DEBIT		CREDIT	
Expenses		**Revenues**	
Procurements	556,672	Sales and services on ordinary activities	868,148
Personnel expenses	53,225	Excise tax hydrocarbons charged on sales	292,392
Period depreciation and amortization	31,604	Net sales	1,160,540
Variation in operating provisions	6,469	Increase in finished products and work-in-progress inventories	3,693
Other operating expenses		Capitalized expenses of Group in-house work on fixed assets	4,079
Excise tax on hydrocarbons	292,529	Other operating revenues	3,863
Other expenses	163,972		
	1,104,501		**1,172,175**
Operating income	**67,674**		
Financial expenses	14,604	Revenues from shareholdings	2
Losses on short-term financial investments	5	Other financial revenues	2,093
Variation in financial investment provisions	178	Gains on short-term financial investments	81
Translation losses	436	Translation gains	–
		Exchange gains	363
	15,223		2,539
		Financial loss	**12,684**
Amortization of goodwill in consolidation	**383**	**Share in income of companies carried by the equity method**	**4,790**
Income from ordinary activities	**59,397**		
Losses on fixed assets	308	Gains on fixed assets	9,270
Variation in intangible assets, tangible fixed assets and control portfolio provisions	3,094	Capital subsidies transferred to income for the year	814
Extraordinary expenses	16,539	Extraordinary revenues	1,947
Prior years' expenses	376	Prior years' revenues	361
	20,317		**12,392**
		Extraordinary loss	**7,925**
Consolidated income before taxes	**51,472**		
Corporate income taxes	13,058		
Consolidated income for the year	**38,414**		
Income attributed to minority interests	**376**		
Income attributed to the controlling company	**38,038**		

* As published by the company for the year before IFRS adoption in 2005.
Source: CEPSA's consolidated statement of income for year ended 31 December 1998.

cleaning up. Any payments that make the asset better than it was initially are capitalized (added) to the asset. Any other payments are expenses. The principle in Figure 8.1 is being maintained here.

In general, repairs and maintenance are treated as current expenses, whereas improvements are capitalized. So, a new engine for a company vehicle will usually be treated as an expense, since it keeps the vehicle in running order rather than improving it, unless the engine is recorded as a separate asset. In the case of an aeroplane, the engines are very valuable and have different useful lives from the rest of the plane, so they are treated as separate assets. Even the painting of new advertising signs on the company's fleet of vans could be treated as a capital item, if material in size. However, repainting the signs would be an expense.

Obviously, the accountant needs to consider whether the amounts relating to the improvements are material enough to capitalize them. He or she tends to treat as much as possible as expense, since this is administratively more convenient. If the inspector of taxes can be convinced that items are expenses, this will also speed up their tax deductibility, although this ought not to influence the accounting.

Activity 8.B

There was a list of six payments at the beginning of Section 8.2, namely:

- repairs;
- decorating or redecorating;
- extensions;
- improvements;
- replacement of parts;
- future inevitable payments for dismantling, decommissioning or cleaning up.

Which of these should be added to the cost of an asset and which should be treated as an immediate expense?

Feedback

Repairs would normally be expensed because they do not improve the asset beyond its original state. Decorating costs might be capitalizable if they were material in size and made an asset better than it ever had been. However, redecorating sounds like an expense. The cost of building extensions should normally be added to the asset being extended or could create a separately identified asset. Improvements should probably be capitalized. Replacement of parts should be an expense unless the part is treated as a separate depreciable asset, so that replacement is treated as a disposal followed by a purchase. Future committed costs of dismantling, etc. should be discounted (see Chapter 11) and added to the cost of the asset.

The topic of depreciation was introduced briefly in Chapter 3 and will be considered at length in Chapter 9. For now, it should be noted that the depreciation treatment of the new engine mentioned above will depend on the depreciation 'units' that the accountant works on. Normally, a whole vehicle will be a unit, so a new engine will be a current expense. If the vehicle and the engine were separate units for depreciation, the new engine would be a capital item and the old engine would have been scrapped.

Some purchases are not made with cash but in exchange for the future payment of cash or in exchange for other assets. The general rule is that the current 'fair value' of the purchase consideration should be estimated as accurately as possible. The term *fair value* is of great importance in IFRSs. According to IFRS 13, it now means:

> the price that would be received for an asset sold or paid to transfer a liability in an orderly transaction between participants in a market at the measurement date.

8.3.4 Subsequent measurement

We now need to consider whether an entity should take account of subsequent changes in the value of an asset or liability. For assets that are to be sold, the issue really becomes not whether, but *when*, to take account of changes in value, because eventually any previously ignored change in value is recognized at the point of sale. Conventional accounting in most countries continues to use cost as the basis for valuing most assets until the point of sale. The arguments in favour of this approach are substantial: cheapness and greater verifiability.

Historical cost is an easier and cheaper method of valuation than most methods, because it uses information already recorded and does not require expensive estimations and the auditing of them. In addition, for most assets the cost is more reliably determined than the fair value or other current valuation could be. It will be remembered that one of the characteristics for external reporting, as examined in the IASB's Framework, is verifiability. The Framework (paragraph QC 35–39) also suggests that regulators and preparers should be aware of the cost of the accounting, to ensure that it does not exceed the benefits to the users.

The problem is that the Framework's key characteristic is relevance for economic decisions. It is difficult to see how the historical cost could be the most relevant information for making decisions – which normally requires estimation of the future, particularly the prediction of cash flows.

Activity 8.C

Suppose that an entity buys an investment for €800 in June 20X1. It has a market value of €1,000 at the end of the accounting year, namely 31 December 20X1. It is then sold for €950 in June 20X2.

In order to give useful information, should the balance sheet show cost or market value at the end of 20X1?

Feedback

It seems that the €800 cost is not a very useful predictor of cash flows at 31 December 20X1, particularly if the asset had been held for a longer period. Also, if only cost is recorded until sale, then a gain of €150 will be shown in 20X2 even though the asset has fallen in value in 20X2. The result of management's decision not to sell the asset early in 20X2 is not reflected in the 20X2 statements.

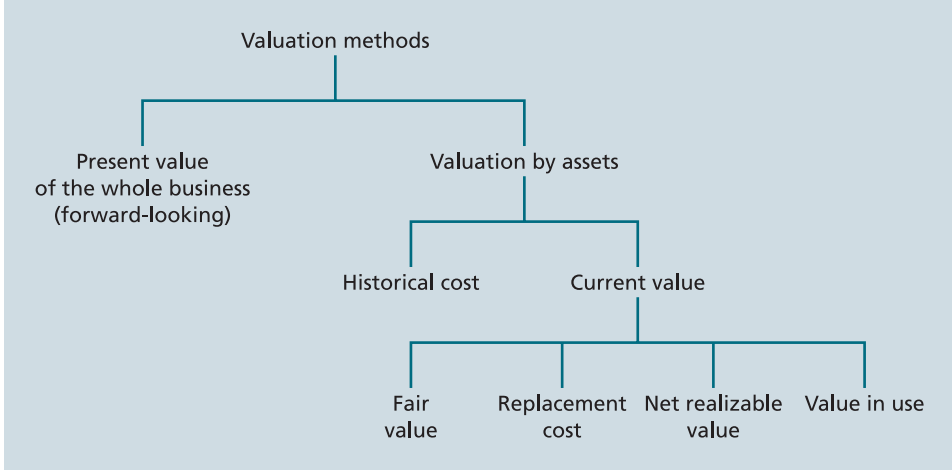
The main asset valuation bases that could be used instead of cost are:

- *fair value* (as defined above), which assumes that the business is not necessarily selling, because the selling costs are not deducted;

- *replacement cost*, which is what it would currently cost to buy the same asset, including the transaction costs of replacement;
- *net realizable value*, which is defined as the expected sales receipts less any costs to finish and to sell;
- *value in use* (or *economic value*), which is the present value (i.e. the discounted value) of the expected net cash flows from the asset.

It can easily be seen that, although these values may be more relevant than past values, they involve more subjectivity than historical cost. In practice, as will be shown, it is possible to introduce some conventions to narrow the range of choice. Also, some systems of accounting involve a choice of basis depending on circumstances. The alternatives mentioned in this section are summarized diagrammatically in Figure 8.6.

Figure 8.6 Valuation methods



The choice of valuation method may also depend on who needs the valuation. Owners and prospective buyers will want the most realistic estimate of the worth of the business as a going concern. On the other hand, lenders may want a much more conservative valuation, based on the lowest likely valuation of the individual assets in the event that the business has to be closed down. Managers will, of course, also be interested in accounting information. They may be prepared to put up with more estimated numbers, because they can trust themselves to estimate fairly. However, this book is mainly concerned with information presented to outsiders – for example, in the form of published annual reports of companies. Consequently, there is a need for verifiability and therefore a difficult trade-off between relevance and verifiability.

For most assets in most countries, the cheapness and verifiability of historical cost has ensured its dominance, despite doubts about relevance. Of course, accounting sometimes takes account of market values of non-financial assets before the sale of those assets. For example, in order to be prudent, inventories are

usually valued at the lower of cost and net realizable value, and non-current assets are written down below cost if they are damaged (their value is impaired). However, these are only downward valuations. For certain assets – particularly those where there are active markets, such as some markets for shares – fair values are easily verifiable and obviously relevant for some decisions. For such assets, there seems a strong argument for the consistent use of fair values in financial reporting. In the case of IFRS, there has been a gradual move towards the use of fair values for various assets since the beginning of the 1990s.

Why it matters

A company owns two identical office blocks next door to each other in the centre of Stockholm. They are used as the company's head office. Office 1 was bought in 2000 for Skr1m and Office 2 was bought very recently for Skr4m. Under conventional accounting practice, Office 1 will be shown at less than Skr1m because it has worn out (been depreciated) to some extent since 2000. The identical Office 2 will be shown at Skr4m. Is this a fair presentation? You can perhaps see, by this example, why the topic is important.

The Framework of 1989, as revised in 2010, has no useful content about how standard-setters should decide on which measurement bases to impose for particular assets and liabilities. As will be seen in later chapters, some standards allow entities to choose between cost and fair value. The Exposure Draft of 2015 divides measurement bases into two types: historical cost and current values. It contains some guidance about choosing between them, including that the standard-setters should consider the way in which the asset or liability leads to future cash flows.

8.4 Income (including revenue) and expenses

8.4.1 Introduction

The IASB's approach, as examined in Section 8.2, is to give primacy to the definition of assets and liabilities, such that income and expenses are defined in terms of changes in assets and liabilities. For example:

> Income is increases in economic benefits during the accounting period in the form of inflows or enhancements of assets or decreases of liabilities that result in increases in equity, other than those relating to contributions from equity participants. (Framework, paragraph 4.25)

IFRS divides income into two types: revenue and gains. The obvious example of revenue is sales to customers. An example of a gain would be the excess of the sale price over the book value of a non-current asset.

The above definition seems to suggest that special income recognition criteria are not necessary because any increase in an asset is an income. However, in practice, there is a large amount of guidance, particularly on revenue. Also, there are two particular problems, which we address later:

- the recognition of revenue from the sale of goods or rendering of services when a contract is fulfilled over a period;
- when to recognize the gains on assets if they are revalued in the balance sheet.

This section first examines revenue from simple sales, which is often the largest number in a company's financial statements. Then, attention is turned (in 8.4.3) to cases where revenue is gradually recognized over a period. In 8.4.4, we look at income from re-measurements, including the matter of why some income is called 'other comprehensive income'.

A complication for this section is that there are two sets of IFRS instructions in force until 2018: (i) the old standards, IAS 11 and IAS 18, and (ii) IFRS 15 which was issued in 2014. For the years 2014 to 2017 inclusive, an entity could choose which of the two sets of instructions to follow. However, in the EU, IFRS 15 was not immediately available because it had to wait for endorsement. This section considers both of the sets of standards.

8.4.2 Revenue from simple sales

It has been agreed, in nearly all countries, that the recognition of revenue does not always need to await the receipt of cash; i.e. the accruals convention is used. Consequently, the determination of the exact moment when revenue should be recognized becomes a major practical problem. Under EU laws, for example, the answer is expressed in terms of 'realization': income should be recognized in the income statement when it is realized. In practice, this does not help much because there is no clear way to define what is realized, if it does not mean 'received in cash'. One possibility is to define *realized* as having received either cash or a contractual right to cash. This allows income recognition before a customer pays a bill.

Activity 8.D

An example may be useful here. Suppose that a manufacturing business produced a batch of output in the following way.

12 January	Buy raw materials; store them.
19 February	Begin work on processing the materials.
3 April	Finish producing the goods; store them.
10 May	Receive order for goods; accept order.
17 May	Deliver goods; send invoice to customer.
5 June	Customer pays invoice in cash.

It is clear that the eventual profit will be the difference between the final sales receipts and the various costs involved. However, at what point should the revenue be recognized? Is the profit earned gradually over the manufacturing process or when a contract of sale is agreed or when the goods are delivered or when cash is finally received?

Feedback

In this case, the income would be called 'revenue', for which IFRS requires that income is not recognized until goods cease to be the producer's asset because control is passed to the customer by delivery. This instruction can be found in IAS 18 and in its replacement IFRS 15. In this example, the sale is on credit rather than for cash, but the acquisition of a receivable is considered to be sufficiently reliable.

IAS 18 and IFRS 15 require that revenue should be measured at the fair value of the consideration received or receivable. If a customer pays €1,000 cash at the time of sale, then the revenue is obviously €1,000. However, if the customer pays in barrels of oil or promises to pay cash in one year's time, the fair value of the consideration must be estimated. In the second case, this is done by discounting.

Sometimes the sale involves foreign currency. Suppose that a Dutch company has delivered goods to a US customer who will later pay an agreed amount of US dollars. If the US dollar rises by the balance sheet date, so that the Dutch company now has a contractual right to receive an amount worth more than the original value in euros, has the company made a further gain? It seems obvious that the company is better off, but is the gain realized? Even this relatively simple question is contentious and is addressed further in Chapter 15.

Sometimes, the contract between the supplier and the customer involves the delivery of several things for a single price. In such cases, the supplier should split the price on the basis of fair value, and take revenue as the various parts of the contract are fulfilled. This idea applies widely, for example:

- A manufacturer of electrical goods might include a three-year warranty with the sale of a particular refrigerator. There is a single price. The revenue allocated to the refrigerator is taken on delivery. The revenue allocated to the warranty is taken over the three years.
- Lufthansa gives 'air miles' to customers when they buy flight tickets. The part of the ticket price allocated to the flight is recognized as revenue on the day of the flight. The part allocated to the air miles is taken as revenue later.

8.4.3 Revenue on contracts over time

Some construction or service contracts last a long time – often over more than one accounting period. The issue of determining the *total* revenue on such a contract raises no accounting problems beyond those discussed above in relation to simple sales of inventory. However, there is one important and difficult additional issue: the allocation of the total revenue over the various accounting periods during which the construction or service takes place.

If a profitable contract extends over, say, three years, should the contribution to profits be 0 per cent, 0 per cent and 100 per cent respectively for the three years? Can we make profits on something before we have finished it? In old-fashioned terms, the prudence convention would certainly argue against it. Furthermore, unless something has been delivered to the customer, the basic principle of revenue recognition would not allow it. However, the various users want regular information on business progress. Can we not argue that revenue should be recorded as the contractor gradually makes a product under a contract if we can be 'reasonably certain' of making at least *some* profit before the contract has finished?

Two alternative approaches have emerged over the years. These are the completed contract method, which delays revenue recognition (and therefore profit) until the end, and the percentage-of-completion method, which allocates revenue over the accounting periods concerned. The effects of these two methods are best shown by a comparative example.

A worked example

The data set out in Table 8.2 pertain to a long-term construction contract with a sales value of €2,100,000, to be received in cash on expected delivery in year 4. From the figures, we must first compute the revenue recorded under the percentage-of-completion method, assuming for simplicity that the degree of completion is determined based on costs incurred. The total expected costs are €1,500,000. Therefore, the total expected profit is €600,000 (being total revenue minus total expected costs: €2,100,000–€1,500,000).

Under the completed contract method, the costs are recorded as inventory until year 4, when all the revenue and profit is recognized (rows 3 and 4 of Table 8.2). Under the percentage method, the revenue is recognized in proportion to costs, as an estimate of degree of completion (row 5). Thus, the profit is allocated over the three years of activity, with none in year 4.

Table 8.2 Data on a construction contract

	20X1	*20X2*	*20X3*	*20X4*
Costs in the year	€500,000	€700,000	€300,000	0
Receipts from customer on delivery	0	0	0	€2,100,000
'completed' revenue	0	0	0	€2,100,000
'completed' profit	0	0	0	€600,000
'%' revenue	€700,000	€980,000	€420,000	
'%' profit	€200,000	€280,000	€120,000	

Why it matters

The choice between completed contract and percentage-of-completion methods matters because there is a direct effect on reported periodic earnings and therefore on the trend of performance over the years. There is also a direct effect on balance sheet figures, on balance sheet relativities and on a variety of commonly calculated ratios. With long-term contracts, the choice may be very significant, because of possible large numerical differences and greater uncertainties arising from extended time periods.

8.4.4 What the rules say about contracts over time

The EU Directive does not deal with revenue under long-term contracts. So, presumably, it allows both the completed contract method and the percentage-of-completion method. Different countries have used this flexibility in particular ways. Table 8.3 illustrates that, at the national level in Europe in the latest available survey, the completed contract method tended to dominate in more prudent Germany, whereas the percentage-of-completion method was normal in the Netherlands and the United Kingdom.

IAS 11 requires the percentage-of-completion method, when the outcome of a contract can be 'estimated reliably'. For a fixed-price contract, this means that:

(a) total contract revenue can be measured reliably;
(b) it is probable that the economic benefits associated with the contract will flow to the enterprise;
(c) both the contract costs to complete the contract and the stage of contract completion at the balance sheet date can be measured reliably;
(d) the contract costs attributable to the contract can be clearly identified and measured reliably so that actual contract costs incurred can be compared with prior estimates.

Table 8.3 Valuation basis of long-term contracts

	Bel	*Den*	*Fra*	*Ger*	*Ire*	*Net*	*UK*	*Total*
Sample size	*50*	*32*	*40*	*49*	*38*	*40*	*50*	*299*
Evidence of long-term contracts	12	9	6	7	2	9	11	56
Valuation basis used for long-term contracts								
Completed contract method	1	3	3	6	–	1	2	16
Percentage-of-completion method	4	5	2	–	1	5	7	24
Both	–	–	1	–	–	1	–	2
Other	1	–	–	–	–	1	–	2
Valuation basis not disclosed	6	1	–	1	1	1	2	12

Source: Adapted from FEE, *European Survey of Published Accounts 1991* (London: Routledge, 1991).

Similar ideas apply under IAS 18 for service contracts. However, IFRS 15 restricts the use of the percentage basis (called 'revenue over a period') to cases where control passes to the customer as production proceeds, e.g. because the customer must always pay for all the work done to date. This would seem to mean that a boat-builder could not take revenue over a period on a contract under which a boat is built in the builder's shipyard and a substantial amount of the price is not due until delivery.

However, other contracts will continue to have revenue recognized over time, such as:

- constructing a building on a customer's land;
- delivering audit services;
- delivering electricity for a year.

8.4.5 Re-measurements and other comprehensive income

Where a company owns listed equities that rise in value, it was noted earlier that it seems relevant and verifiable to record the assets in the balance sheet at the higher values. Are such gains to be treated as income? The IASB concludes that they should indeed be. They meet the definition of income (see 8.4.1). As noted in Chapter 6, two income statements are now to be found under the rules of the IASB, the United Kingdom and the United States. The gains or losses on any revaluations of some financial assets (see Chapter 11) are shown in the first statement, i.e. treated as profit or loss. The same applies to gains or losses on investment properties (see Chapter 9).

However, if a company's other land and buildings are revalued (see Chapter 9), the resulting gains are not treated as 'profit or loss' but go to the second income statement (called 'other comprehensive income'). An example of 2014 is shown as Figure 8.7, which relates to a Dutch bank, ING. The bank presents two separate statements (as is general practice), but we show them joined together. Some of the issues raised by this are too complex to consider at this stage, but note that various rather similar gains and losses appear in both statements. Revaluations of trading investments and investment properties are included near the top in 'Investment income'. However, revaluations of other investments and of the bank's head office and other operating buildings are included near the bottom, after 'Net result', as

Figure 8.7 ING's consolidated statements of profit or loss and other comprehensive income for the year 2014 (€m)

Interest from banking	12,304
Investment income	236
Gains on disposals	195
Commission income	2,293
Trading income	592
Other income/expense	(60)
	15,560
Loan impairments	(1,594)
Staff expenses	(5,788)
Other expenses	(4,471)
Result from continuing operations	3,707
Taxation	(971)
Discontinued operations	(1,296)
Net result	1,440
Other comprehensive income:	
Re-measurement of pensions	(289)
Revaluation of property in own use	(30)
Revaluation of available for sale investments (net)	6,842
Cash flow hedging (net)	248
Share of OCI of associates	43
Exchange rate differences	2,374
Total comprehensive income	10,628

Source: Prepared by the authors from ING's Financial Statements, 2014.

part of 'Other comprehensive income'. Notice how large several of the elements of OCI are.

Unfortunately, there is no clear rationale for the distinction between the gains in one statement and those in the other. For example, all four types of gains mentioned in the previous paragraph are unrealized, in the sense that no sale has yet occurred. At first sight, the top ('profit and loss') part is concerned with operations. However, if the head office were sold after 50 years, any gains would be recorded in profit or loss even though they are not to do with operations. In conclusion, a reform of the income statement is needed, such that there would be only one statement containing all 'income' as defined above (see Section 6.2).

Why it matters *Does a company gain when its investments rise in value, although it has not sold them? The answer seems intuitively to be 'yes'. Should this gain be shown as income? If not, where should it be shown? The readers of financial statements try to use the profit figure to help them to make financial decisions. So, we need answers to these questions. Even if there are several plausible answers, it may be better to impose one of them, so that there is consistency between companies.*

A further interesting complication is that revenues (such as sales) are recorded as gross receipts, whereas gains (such as those on selling non-current assets) are recorded net. So, the sale of inventory at a loss is still recorded as 'revenue'.

8.4.6 Capital maintenance

One of the functions served by accounting for centuries is the calculation of distributable profit. A sole trader likes to calculate how much cash can reasonably be taken from the business as a result of a year's successful operations. This becomes a vital issue when there are several owners. In the context of companies, the issue becomes one of determining the size of dividend payments.

A long-standing tradition of accountants is that dividends should only be paid to the extent that profit has been made. Otherwise, the business will be run down. This principle can be found in the laws of many countries, including EU laws based on the Second company law Directive. Adherence to the principle protects the creditors of a company by restraining the cash outflows to shareholders.

From the accounting equation introduced in Chapter 2 and discussed again in Section 8.2, it is clear that an increase in equity is caused by an increase in net assets. For example, suppose that a retail company buys inventory for €10m cash and sells it for €12m cash in the same year. The net assets rise by €2m, and the corresponding increase in equity appears to suggest that a dividend payment of €2m would be reasonable. However, the retailer perhaps used shops and delivery vans as part of the process of making the profit, so some account should be taken of the need to maintain those assets. This leads to the recognition of any expense of depreciation, as discussed in Chapter 9.

Further, suppose that the retailer's shop has nearly doubled in market value from €80m to €150m. The shop had been bought many years ago with cash contributed by the shareholders. If the retailer sells the shop for €150m cash, is the profit sensibly available for distribution as dividends? The company has cash and profit. However, in order to stay in business at the same level of operations, it will probably need to buy a new shop for at least €150m. If the capital of the company is viewed as including one shop, then the gain cannot be paid out without drastically reducing the company's capital (physical capital maintenance). On the other hand, if the capital is the original €80m contributed by the shareholders, then the excess could be regarded as distributable (financial capital maintenance).

On the whole, accounting works on the basis of financial capital maintenance, but after taking account of damage and wearing out of physical assets that have not yet been sold.

However, under IFRSs, after the inclusion of 'other comprehensive income' (as discussed in Section 8.4.5), it is clear that total comprehensive income contains various gains which could not be distributed without damaging a company's operations. The result is that IFRS income statements do not enable a simple calculation of distributable profit, just as they are not designed to show taxable profit. These matters remain subject to national laws, even if IFRSs are being used for financial reporting.

Summary

- This chapter examines some fundamental issues relating to the recognition and measurement of the elements of financial statements. The implications of basing financial reporting on the definitions of 'asset' and 'liability' are explored. For example, expenses should not be postponed unless they create a recognized asset and they should not be anticipated unless they create a recognized liability.

- The fact that something is an asset or a liability does not automatically lead to its inclusion in a balance sheet. It must still meet the recognition criteria, including being reliably measurable.
- Measurement is initially made at cost, which includes a number of expenses related to the purchase and to subsequent improvement of the asset.
- There are various possibilities for subsequent measurement. Many of these provide measurements that may be more relevant but less verifiable than cost.
- Income recognition depends in principle upon movements in assets and liabilities. However, on a day-to-day basis, practical rules are needed for the exact date of recognition. Also, not all increases in assets are presently treated as income.
- Long-term construction contracts, where production of the product is spread over two or more accounting periods, create additional problems as regards the calculation of periodic financial results. The practice of recognizing profits gradually related to the proportion of completion of the contract is not allowed under some national rules, is required by IAS 11 for certain contracts, but is restricted by IFRS 15.



References and research

The main, relevant IASB documents for this chapter are:

- The Framework.
- IAS 11, *Construction Contracts.*
- IAS 18, *Revenue.*
- IFRS 15, *Revenue from Contracts with Customers*.

The following articles are relevant:

- J. Forker and M. Greenwood, 'European harmonization and the true and fair view: the case of long-term contracts in the UK', *European Accounting Review*, Vol. 4, No. 1, 1995.
- C.W. Nobes, 'On the definitions of income and revenue in IFRS', *Accounting in Europe*, Volume 9, No.1, 2012.

Notes on the research related to recognition and measurement of particular assets and liabilities are included in the following chapters.

? MULTIPLE CHOICE QUESTIONS

Answers to these questions are in Appendix D.

8a. Which of the following costs related to a building is NOT usually treated as an expense but is added to the asset?

A. Repairs.
B. Redecoration.
C. Fitting new safety equipment.
D. Cleaning.

8b. Under IFRS, an asset is something:

A. Owned.
B. Used.
C. Owned and controlled.
D. Controlled.

8c. The reason that provisions for future repair expenses cannot generally be recognized under IFRS is because they are usually:

A. Estimates.
B. Owed to third parties.
C. Not probable.
D. Not present obligations.

8d. Which of the following costs are usually recognized as assets under IFRS?

A. Computer software projects.
B. Research projects.
C. Legal costs of setting up a business.
D. Advertising.

8e. Fair value is another name for net realizable value.

A. True.
B. False.

8f. Fair value is another name for value in use.

A. True.
B. False.

8g. Under IFRS, for non-financial companies, most non-current assets are measured at:

A. Fair value.
B. The lower of cost or fair value.
C. Cost less depreciation and impairment.
D. Net realizable value.

8h. A retail store would normally recognize revenue when:

A. An order is made.
B. Cash is received.
C. Cash is received or a customer promises to pay.
D. The product is taken by (or delivered to) the customer.

8i. Under IAS 11, profit on contracts is:

A. Always taken on a percentage-of-completion basis.
B. Never taken on a percentage-of-completion basis.
C. Sometimes taken on a percentage-of-completion basis.
D. Taken on a completed contract basis.

8j. An entity has won a construction contract for $5 million. Work began on 1 November 20X1 and was 20 per cent complete on 31 December 20X1, the entity's balance sheet date. The entity is confident that the contract will yield a profit. The contract was certified as complete by the customer on 31 August 20X2 and $4.5 million was received, the retention of 10 per cent being withheld for one year. The entity is confident that the retention will be received in full. Under IAS 11, what should be recorded as contract revenue in the income statement (prepared in March 20X2) of the entity for the year ended 31 December 20X1?

A. Nothing since the contract is completed in a period of less than one year.
B. Nothing, because the outcome of the contract could not be estimated reliably at such an early stage.
C. $1 million.
D. $0.9 million.

8k. Which of the following is unlikely to be useful in determining the stage of completion of a construction contract?

A. Surveys of work performed.
B. Progress payments received from customers.
C. The proportion that contract costs incurred for work performed to date bear to the estimated total contract costs.
D. Completion of a physical proportion of the contract work.

? EXERCISES

Feedback on the first three of these exercises is given in Appendix E.

8.1. Explain, in a way that is understandable to a non-accountant, the following terms:

a. asset
b. liability
c. income
d. revenue
e. expense
f. equity.

8.2. 'The historical cost convention looks backwards but the going concern convention looks forwards'.

a. Does traditional financial accounting, using the historical cost convention, make the going concern convention (see Chapter 3) unnecessary? Explain your answer fully.
b. Which do you think a shareholder is likely to find more useful: a report on the past or an estimate of the future? Why?

8.3. Please arrange the following five symbols into an equation with no minus signs in it.

A_1 = assets at end of period.
L_1 = liabilities at end of period.
OE_0 = owner's equity at beginning of period.
R_1 = revenues and gains for the period.
E_1 = expenses for the period.

8.4. Why is it necessary to define an expense in terms of changes in an asset (or vice versa) rather than defining the terms independently?

8.5. What general rule can be used to decide whether a payment leads to an expense or to an asset?

8.6. What disadvantages are there in measuring assets on the basis of historical cost?

8.7. What various alternatives to historical cost could be used for the valuation of assets? Which do you prefer?

8.8. 'The four conditions of IAS 11 [see Section 8.4.4] provide entirely adequate safeguards for the use of the percentage-of-completion method for long-term contracts. When these requirements are met, failure to use the method leads to misleading financial statements'. Discuss.

8.9. Explain the meaning of capital maintenance.

Chapter 9

Tangible and intangible non-current assets

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Objectives

After studying this chapter carefully, you should be able to:

- explain the distinction between tangible and intangible assets and why intangibles are becoming more important;
- outline the difference between non-current and current assets;
- decide which payments lead to non-current assets that should be recognized on a balance sheet;
- explain why IFRSs and some other accounting systems require certain leases to be capitalized by the lessee and why perhaps it would be sensible to require this for all leases;
- choose between the methods available for depreciation of non-current assets;
- perform depreciation calculations using different methods;
- distinguish between depreciation and impairment;
- explain why and how assets can be revalued above cost;
- show how investment property might be distinguished from other property and accounted for differently.

9.1 Preamble: a tale of two companies

In 1994, the four largest companies in the world, as measured by sales value, were all Japanese, but the fifth largest was the US company, General Motors. By 1998, none of the top four was Japanese and the largest in the world was General Motors. These international comparisons are difficult, partly because of large exchange rate movements. Therefore, let us concentrate for the moment on the United States.

In both 1994 and 1998, General Motors was the largest US company by sales, although it had fallen to third largest by 2004. Throughout the 1990s, General Motors was also nearly the largest in terms of assets, net assets and profits, but somewhat further down the list in terms of stock market value. It was a typical large US corporation: it used large tangible assets (machines and factories) to make other things you could touch (cars). You could say that it was a bit dull: of the 500 largest US companies, it was below 300th in terms of its return to investors over 10 years. These figures are shown in Table 9.1. Concentrate on the numbers in boxes. By the end of 2008, the audit report for 2008 referred to doubts about whether or not the company was a going concern. After that, it declared bankruptcy and was restructured.

Returning to 1994, a small computer software company called Microsoft was ranked 250th in sales and 262nd in assets. It looked successful because it was ranked 45th in profits, although it was too young to have a 10-year record. Despite its small size, an anticipation of success led the market to value this small young company at 10th in market value rank in the United States.

Table 9.1 A tale of two companies, in numbers

1994/5		
US rank by	*General Motors*	*Microsoft*
Sales	1	250
Assets	3	262
Net assets	4	95
Profits	3	45
Market value	15	10
Return to investors (10 years)	375	(too young)
1998/9		
Sales	1	109
Assets	12	126
Net assets	28	24
Profits	29	11
Market value	42	1
Return to investors (10 years)	304	4
2004/5		
Sales	3	41
Assets	10	51
Net assets	28	8
Profits	46	12
Market value	156	3
Return to investors (10 years)	330	55

Source: Prepared by the authors from the annual reports of companies and from small extracts from http://en.wikipedia.org/wiki/Fortune_Global_500.

By early 1999, Microsoft was the most valuable company in the United States (and the world), although it was still ranked only 109th in terms of sales and 126th in terms of assets. Microsoft uses a very small number of tangible assets, but a lot of unrecognized intangible assets, to make another intangible asset. By 2004, Microsoft had risen to 41st in terms of sales but had lost the top spot in terms of market value (Exxon Mobil and General Electric were above it). At the beginning of 2015, Microsoft was still the third most valuable US company. Another 'intangible' company, Apple, was the most valuable; and yet another, Google, was fifth.

Why it matters

Accounting grew up in a world where tangible items were the main non-current assets to account for and cost was the main measurement basis. General Motors can be accounted for like that. However, Apple, Microsoft and Google are all about intangibles and values. Most of the intangibles have no identifiable cost. Conventional accounting is not well suited to the changes whereby Microsoft became so rapidly more important than General Motors. If we do not want financial reporting to be left behind in a rapidly changing world, we will have to get better at accounting for intangibles and for values.

9.2 Introduction

This chapter examines the recognition and measurement of tangible and intangible non-current assets. The term 'fixed assets' is not generally used in IFRSs. The same is true for US standards, but the term is found in European laws based on the EU accounting Directives. In EU law, a fixed asset is one intended for continuing use in the business, and a current asset is any other asset. This is a somewhat vague definition, which rests upon what the management of a company intends to do. In IFRS, 'current' is defined as meeting any one of four criteria, including being realized or settled within one year (see Chapter 6). Other assets are non-current.

In IFRSs, most tangible non-current assets are referred to as 'property, plant and equipment' (PPE), which is (summary of IAS 16, paragraph 6):

(a) held for use in production or supply of goods or services or for administration;
(b) expected to be used during more than one period.

Some land and buildings fall outside of this definition; e.g. because they are rented out to another company. These 'investment properties' are covered by IAS 40 (see Section 9.8). Also, the definition excludes assets to be sold to customers (inventories), even if they are land, buildings or machines. These are covered by IAS 2.

IAS 38 (paragraph 8) defines an intangible asset that falls under its remit as:

> an identifiable non-monetary asset without physical substance.

This excludes goodwill, which is intangible but not identifiable; it falls under IFRS 3 (see Chapter 14). The implication of the definition is that there are three classes of assets:

- tangible (including PPE, investment properties and inventories);
- intangible;
- monetary (such as cash, receivables and securities).

There are no detailed lists of examples of non-current assets in IAS 16 or IAS 38, nor in the examples of balance sheets in IAS 1. However, the EU Directive contains the following list in its balance sheet formats (Annexes III and IV):

Fixed assets

I. *Intangible assets*
   1. Costs of development
   2. Concessions, patents, licences, trademarks and similar rights and assets
   3. Goodwill
   4. Payments on account

II. *Tangible assets*
   1. Land and buildings
   2. Plant and machinery
   3. Other fixtures and fittings, tools and equipment
   4. Payments on account and tangible assets in course of construction

Activity 9.A

Would the following items usually be non-current assets or current assets?

- Motor vehicles.
- Investments in shares of other companies.

If you answer 'non-current', could they ever be current? If you answer 'current', could they ever be non-current?

Feedback

An enterprise's motor vehicles would be 'non-current'. However, if the enterprise was in the business of selling motor vehicles then those to be sold would be current assets.

An enterprise's investment in shares would often be non-current. This would certainly be the case for investment in subsidiary companies. However, it is possible to buy shares for the purposes of trading or for a temporary store of value. In these cases, the shares would be current assets. Investments are considered in more detail in Chapter 11.

9.3 The recognition of assets

As outlined briefly in Chapter 8, it is necessary first to identify whether items are assets or not and then to decide whether or not to recognize them in a balance sheet. It was explained that, under IFRS, certain items are not thought to be assets (e.g. the set-up costs of a company). Other items may be assets but are not to be recognized as such because it is not probable that benefits will flow or because the assets cannot be measured reliably. For example, IAS 38 specifically rules out the recognition of research costs spent inside the company.

Particular problems are also met with other intangible assets that are created by the company itself, such as brand names or customer lists. According to IAS 38 (paragraph 63) these cannot be capitalized (i.e. recognized as assets) unless they have been bought from somebody else, because otherwise a cost or value is difficult to determine. The same applies even more clearly to any increase in value of

the company itself caused by loyalty of customers or increasing skills of staff. Such internally generated 'goodwill' cannot be capitalized by the company. However, as noted in Chapter 8, certain development expenditure should be capitalized when it is close enough to being productively useful that the benefits from it are probable.

It is easier to deal with any intangible assets that are purchased separately because they are clearly identified and have a clear cost. For example, a company could buy the right to use a brand name in a particular country for a particular period. The same applies to taxi licences, milk quotas, airport landing rights, etc.; all these must have been purchased and should be capitalized.

Sometimes, intangibles are purchased as part of a package of assets or of a whole company. Where the intangibles can be separately identified, the accountants record as many of them as possible. The balance of the purchase cost in excess of the identified net assets purchased is assumed to be an asset, called *goodwill*.

Let us take the example of a company (X) which buys all the shares of another company (Y) for €1m cash. The following assets are bought, the fair values of which can be estimated on the date of the acquisition as:

Land	€300,000
Building	€150,000
Machinery	€90,000
Inventory	€70,000
Receivables	€80,000
Patent	€50,000
Total	€740,000

Assuming that the company is not taking on any liabilities, it seems to be paying €260,000 too much for the assets. The excess is called goodwill.

Real company example

The split of the assets in the balance sheet of L'Oréal (the French cosmetics company) is shown as Table 9.2, illustrating the large proportion (32 per cent) of intangible assets. Goodwill is discussed again as part of group accounting in Chapter 14.

Table 9.2 L'Oréal's assets as at 31 December 2014

	€m	*% of total assets*
Goodwill on consolidation	7,526	24
Other intangible assets	2,715	8
PPE	3,141	10
Investments	9,069	28
Deferred tax assets	838	3
Current assets	8,775	27
Total assets	32,063	100

Source: Authors' own work based on published company financial statements.

Activity 9.B

In the above example of a company apparently paying €260,000 too much for the business, why would it be willing to do so?

Feedback The company is willing to do this because it is buying the business as a going concern that already has other useful features, such as loyal customers for its existing products and trained staff – i.e. the ability to make future profit.

As noted in Section 9.1, intangible assets are often important in the context of many rapidly growing companies. For *tangible* non-current assets, the problems of recognition are generally smaller than for the above intangible assets. This is because it is usually possible physically to identify tangible assets and to establish a cost or value. Although the standards of the IASB (and of most national laws) seem to be more restrictive for intangible assets than for tangible assets, this does not mean that intangible assets cannot be recognized. To summarize our discussion, the sort of intangibles that might be included in an IFRS balance sheet are:

- software and some other development costs (whether purchased from outside or spent internally);
- patents, licences, trademarks and brands that were purchased separately or as part of an acquisition of a company or a package of assets;
- purchased goodwill arising on acquisition of companies or packages of assets.

9.4 Should leased assets be recognized?

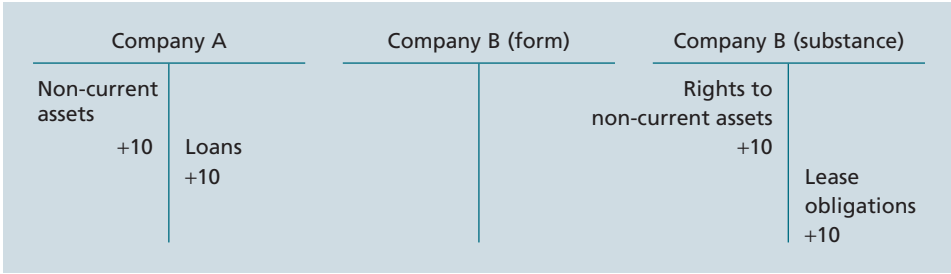
A company may decide to acquire the use of non-current assets without buying them. There may be tax or liquidity advantages in doing this. For example, if an industrial company has little taxable income, it may not be able currently to use the tax depreciation allowances on the purchase of plant and machinery. However, if a financial company buys the assets and hires them to an industrial company, the financial company may be able to gain the tax allowances, thus enabling a lower rental charge.

In the case of certain long-term legal arrangements between the financial company (the lessor) and the industrial company (the lessee), the situation is very much as though the lessee had bought the plant and borrowed money to do so. For example, the lessee may expect to keep the asset for the whole of its productive life and there may be an option to purchase the plant at a future date at a low price from the lessor. In such cases, it can be argued that the commercial substance of the lessee's arrangements is that it has control of the asset and has contracted obligations which are liabilities. This, of course, is not the superficial legal form of the arrangements, because the lessor is still the owner even though the lessee has the exclusive legal right to use the asset for the period of the lease, which might be the whole of the asset's expected life.

For example, consider Company A and Company B. The first has borrowed €10m and bought machines with the money. Company B has borrowed no money, but has long-leased machines that would have cost €10m to buy. If Company B accounts only for the legal form of the arrangement, its financial statements will look unfairly better than company A's (see the first two balance sheets of Figure 9.1). That is, B will seem to have a better profit in relation to assets used (because assets seem smaller) and will show smaller liabilities.

Accountants in the United States were the first to adjust for this problem by capitalizing certain leases – which in our example would mean adjusting company B's

Figure 9.1 Capitalized leases



balance sheet to the position on the right in Figure 9.1. By the 1980s, this had also become standard procedure in some other countries; e.g. in the United Kingdom (SSAP 21) and the Netherlands (Guideline 1.05).

In countries with a more literal interpretation of legal requirements, e.g. Germany and Italy, either leases are not capitalized or the definition of capitalizable leases is such that leases are rarely capitalized in practice. By the late 1980s, many large French groups were capitalizing in their consolidated balance sheets but not in their individual company statements (because of legal and tax issues). The matter is not covered by EU Directives. However, the Spanish law of 1989, which implemented the Fourth Directive, required the capitalization of certain leases. Interestingly, although in most countries capitalized leases are included as tangible non-current assets, under Spanish law they are shown as intangibles. This recognizes the legal point that the company owns the *right* to the assets, not the assets themselves. In terms of the classification of accounting systems suggested in Figure 5.3 earlier, the 'strong equity' systems tend to exhibit capitalization and the 'weak equity' systems do not.

The above discussion concentrates on those leases that are recognized as assets and liabilities of the lessee. These are called 'finance leases' by the IASB and in the United Kingdom and 'capital leases' in the United States. For these leases, the lease payments to the lessor are treated as partly a reduction in lease liability and partly a finance expense. The expense is made to decline each year as the recorded lease liability itself declines. That is, the entries for the lease payments are:

Debit: Finance charge
Debit: Lease liability
Credit: Cash

Also, the asset under a finance lease wears out, so it is depreciated – as with any other asset – over its life (see Section 9.5). So, for finance leases, the lessee records expenses for both finance and depreciation but no rental charge.

The other leases that are not capitalized but are treated as rentals are called 'operating leases'. These are accounted for by recognizing the lease rental payments:

Debit: Lease rental expense
Credit: Cash

Why it matters *For its 1998 group financial statements, the German national airline, Lufthansa, adopted the IFRS approach for the first time. Compared with its previous German*

accounting, this meant capitalizing a number of leases. The effects on the balance sheet of this particular change were to reduce net assets by DM722 million (14 per cent). This makes a large difference to the impression given by the balance sheet. For liabilities, the rise was unclear but would generally be much larger than the net effect (of assets minus liabilities). This has a major effect on gearing ratios (see Chapter 7).

Incidentally, Lufthansa also largely removed its charter airline (Condor) from its balance sheet by a complex partial sale. This hid some of the leases, which would otherwise have made liabilities look even worse.

An obvious question is: where exactly is the dividing line between finance leases and operating leases? IAS 17, *Leases*, defines a finance lease as (paragraph 4):

> a lease that transfers substantially all the risks and rewards incidental to ownership of an asset. Title may or may not eventually be transferred.

This is fairly vague, particularly for auditors and particularly as companies may wish to try to avoid capitalizing leases so that they do not have to show extra liabilities. By contrast, US GAAP contains criteria such as (i) the present value of the lease payments at the start of the lease being 90 per cent or more of the fair value of the asset, and (ii) the lease lasting for 75 per cent or more of the useful life of the asset.

However, where do the 90 per cent and the 75 per cent come from? Why not 88 per cent and 77 per cent? Furthermore, why does the definition of a finance lease refer to risks and rewards, whereas the Framework's definitions of asset and liability (see Chapter 8) do not? It seems that, as the leasing standards were written before the Framework was fully established, they are not really consistent with it.

At the end of 1999, the IASC and several other standard-setters issued proposals for dramatic reform of lease accounting. They concluded that, if the lessee has signed a contract to pay the lessor, there is always a liability. And, if the lessor has signed a contract giving control of the asset to the lessee for a period, the lessee always has an asset. In conclusion, all uncancellable leases should be treated as creating assets and liabilities, current or non-current depending on the precise circumstances. This conclusion is an illustration of putting into effect the Framework's approach that starts with the consideration of assets and liabilities. However, the proposals were controversial and lacked detail. In 2010, the IASB and the FASB issued an Exposure Draft that proposed to put all but short-term leases on the lessee's balance sheet, but progress towards a new standard was very slow. Towards the end of 2015, as this book was being written, the new standard (IFRS 16, proposed for adoption not later than 1 January 2019) had still not appeared.

Often, the capitalization of leases is used as an example of 'substance over form' (see Chapter 3). However, the notion of 'commercial substance over legal form' can now be seen as a potentially misleading contrast. It is much simpler to rely on the definitions of asset and liability, which depend in each case on *legal* rights of control and *legal* obligations to pay money. The recognition of assets and liabilities requires one to identify the relevant legal rights and obligations that are the source of the economic substance.

Why it matters

Under the new leasing standard, a large number of leases presently treated as rentals will appear on balance sheets as assets and liabilities. This will, for example, tend to make ratios of debt to equity (gearing ratios; see Chapter 7) look much higher because liabilities will increase but the increase in assets will not directly affect gearing.

9.5 Depreciation of cost

9.5.1 The basic concept

The topic of the measurement of assets was introduced in Chapter 8. It was explained there that assets are initially recognized at cost. Subsequently, in most parts of the world, the measurement of tangible and intangible assets continues to be based on cost, after taking account of expected wearing out (depreciation) and unexpected loss of value (impairment). This section examines depreciation; the next, impairment.

If a business buys goods or services (e.g. materials, electricity or labour) that are to be used up in the current year in the process of earning profit, they are charged to the income statement. The amount charged in the accounting year is not the amount *paid* in the year but the amount that *relates* to the year. This is a practical working out of the accrual basis, examined in Part 1.

A further result of the accrual basis relates to cases where a company buys goods of significant value that are *not* to be used up in the current year (non-current assets). In such cases the cost should be treated as a capital purchase, not as a current expense. The difference in effect can be seen in the balance sheets of Figure 9.2. The top half of the figure deals with the effect of a current expense (e.g. wages) and the bottom half deals with the purchase of a non-current asset (e.g. a machine).

Figure 9.2 Balance sheet representation of goods that are not used up in the current year

(1) Expenses of 10,000

Assets		*Capital and liabilities*	
Current assets	–10,000 cash	Capital	–10,000 profit

(2) Capital purchase of 10,000

Assets		*Capital and liabilities*	
Non-current assets	+10,000 machine		
Current assets	–10,000 cash		

In the case of an asset that does not wear out and has a potentially unlimited useful life, no expense should ever be charged for using it up. This generally applies to land and might apply to some buildings which are expected to last for hundreds of years. However, for most buildings and for machines, it would be unreasonable to charge nothing against profit for using them up in the business. If a machine will last for 10 years, the cost is spread over 10 years rather than being charged totally to the year of purchase or to the year of disposal or not charged at all.

Activity 9.C

What various reasons might there be for a non-current asset (such as a machine) gradually to become economically less useful?

Feedback An asset may be used up or become less useful for a variety of predictable reasons, which can be divided into two categories:

(a) *physical reasons*: deterioration or wearing out with use; the expiration of a lease or patent; the exhaustion of a mine;
(b) *economic reasons*: the obsolescence of the asset or the product that it makes; a change in company policy leading, for example, to the hiring of machines; expansion of the business, causing an asset to be inadequate in size or performance.

So it seems reasonable to consider that the non-current asset is used up because it has provided the services. Therefore, accountants allocate the cost to expense (in the income statement) over the life of the asset and recognize (in the balance sheet) that the asset is being used up. The 'life' in question is the *useful economic life* to the present owner, which takes into account the fact that a machine may become economically obsolete before it is physically worn out. In the case of PPE, the expense is labelled 'depreciation'.

IAS 16 (paragraph 6) confirms this notion:

> *Depreciation* is the systematic allocation of the depreciable amount of an asset over its useful life.
>
> *Depreciable amount* is the cost of an asset, or other amount substituted for cost, less its residual value.

So, depreciation aims to distribute the cost of a non-current asset, less salvage value (if any), over the estimated useful life of the asset in a systematic and rational manner. It is a process of allocation, not of valuation.

The laws around Europe also contain instructions consistent with this, based on the EU's Directive (Article 12 in the 2013 revision).

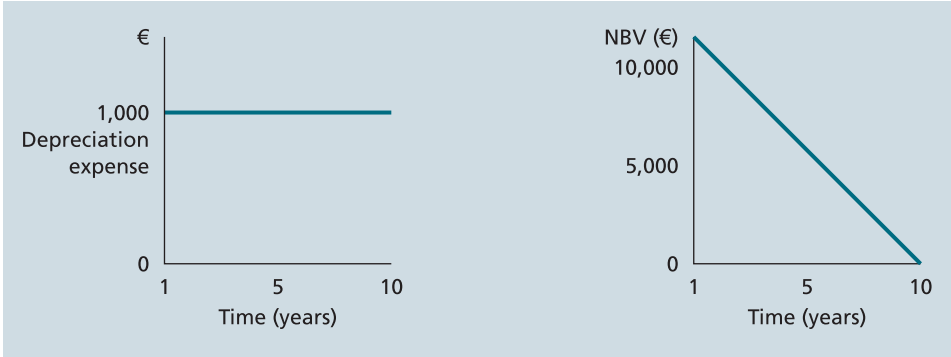
As an example of depreciation, suppose that a €10,000 machine is estimated to last 10 years and to be worthless at the end. An obvious and simple method of depreciation would be to allocate €1,000 of the cost as an expense for each of the 10 years. For example:

1 January 20X2	Purchase	machine	+10,000
		cash	−10,000
31 December 20X2	Depreciation recognized	machine	−1,000
		profit	−1,000

So the machine stands at 10,000 − 1,000 = 9,000 in the balance sheet. This €9,000 is the amount of the cost not yet treated as an expense. It is called the *carrying value* or sometimes the *net book value* (*NBV*) or the *written-down value* – although it is not, of course, a 'value' in any market sense. This method of depreciation is called the *straight-line* or *fixed instalment* or *constant charge method*. It is illustrated in Figure 9.3.

Activity 9.D Suppose that, for another machine costing €10,000, a scrap value (residual value) of €3,000 was estimated and its life was expected to be 7 years. What would the annual depreciation charge be then?

Figure 9.3 Straight-line depreciation



Feedback Again, it would be €1,000, as shown in Table 9.3. At the end of year 6 in the example of Table 9.3, the balance sheet or the Notes would show:

	€
Fixed asset: cost	10,000
Cumulative depreciation	6,000
	4,000

Table 9.3 Straight-line depreciation

End of year	*Depreciation charge recognized*	*NBV*
0	–	10,000
1	1,000	9,000
2	1,000	8,000
3	1,000	7,000
4	1,000	6,000
5	1,000	5,000
6	1,000	4,000
7	1,000	3,000

9.5.2 What depreciation is *not* for

Having examined the basic concept, it is useful now to make clear what depreciation is *not* for, under the three headings below. Many non-accountants misunderstand this.

Not for valuation

First, depreciation is not supposed to be a valuation technique. Although amounts of depreciation are deducted from the cost of non-current assets in order to show a net book value (NBV) on a balance sheet, that NBV is not supposed to represent the amount for which the assets could be sold at the balance sheet date. The NBV is merely the cost that has so far not been allocated as an expense to the income statement.

In principle, of course, it would be possible to allocate depreciation on the basis of declining market values. However, this leads to all the problems of estimations – e.g. the expense of annual valuations, the unreliability of the estimates and the difficulty of auditing them. Furthermore, some assets decline in value very rapidly and it is not clear that allocation of cost over useful lives should be based on that process. For example, specialized assets such as power stations or telephone exchanges may be effectively unmarketable immediately after they are bought and motor cars lose a large proportion of value in their first month on the road. But even though they lose value rapidly, they do not generally become less useful to the business so rapidly.

Another approach would be that the value of an asset to a firm is not the market value but the discounted expected net cash inflows from the asset (the 'value in use' of Chapter 8). One needs to identify the net inflows of the company with and without the asset in order to measure the net contributions of the asset.

The net cash inflows of the asset will be called R_1 in year 1, R_n in year n and so on. It has been briefly mentioned in Chapter 8 that future flows need to be discounted in order to assess their present values. The present value of an asset (PV_0) can therefore be given by:

$$PV_0 = \frac{R_1}{1 + r} + \frac{R_2}{(1 + r)^2} + \ldots + \frac{R_n}{(1 + r)^n},$$

where n is the life of the asset and r is the appropriate discount rate. This rate may be the cost of capital or the rate of return on funds (see Chapter 17). The above equation can be restated as:

$$PV_0 = \sum_{t=1}^{t=n} \frac{R_1}{(1 + r)^t},$$

where t is the year. One year later the asset's value (PV_1) will be given by:

$$PV_1 = \sum_{t=2}^{t=n} \frac{R_t}{(1 + r)^{t-1}},$$

and the depreciation for the year (measured by loss of value) will be $PV_0 - PV_1$.

There are, of course, great practical difficulties in isolating the net cash flows or cost savings of an asset after purchase. However, if it could be done it would lead to a justifiable current measure of the using up of the asset's value during the year, taking into account repairs and maintenance or deterioration in performance caused by lack of them. However, this would not be the allocation of cost and would not fit with the conventional workings of accounting.

A more general point, about using any of these 'valuation' methods to calculate depreciation, is that it is not obvious why one should not then just value all the assets at fair value or PV, treat all the gains or losses as some sort of income/expense and forget about depreciation as a concept.

Not for replacement

The second potential misunderstanding about depreciation is that it is a mechanism for providing funds for the replacement of the depreciating asset. The double entry for depreciation is:

Debit: Depreciation expense

Credit: Value adjustment (or allowance) for depreciation.

The credit entry is stored separately from the asset, so that the original cost and the accumulating depreciation allowance can be seen in the accounting records. In the balance sheet, it is usual to show the two amounts netted off, called the depreciated cost, the net book value or the written-down value. It is best to see the accumulating credit balance as a value adjustment or allowance against the asset. However, the amount is often called a 'provision', which is not consistent with the IASB's use of that word to mean a type of liability (see Chapter 11).

The above double entry shows that there is no direct effect on cash or investments (except for any tax reduction; see below). Unless amounts of cash that are equivalent to the depreciation charges are put into a tin box or another easily accessible store (e.g. an investment fund), an amount equalling the cost will not be specifically available in liquid form at the end of the asset's life. Even if cash is available, the price of a replacement asset may have risen, so the cash will be insufficient. Also, in many cases the company will not want to buy a similar asset but one that is technologically more advanced, bigger or concerned with the production of completely different goods.

Nevertheless, depreciation may help with replacement because it may help to maintain the original capital (in terms of historical money), because depreciation reduces profit available for distribution as dividends. So, less cash may be distributed and this will build up in the company, perhaps converted into a variety of different assets such as receivables, inventory and even other non-current assets.

Let us look at an example of how charging depreciation may aid replacement in the extreme cases where either:

(a) no depreciation is charged (Company A); or
(b) depreciation *is* charged, so both profit and dividends fall and the assets that are consequently undistributed are kept as current assets (Company B).

The two companies are assumed to be identical in other ways and both distribute all their profits. They start by buying a non-current asset for €10,000, which will last for 10 years and have no scrap value. There are also €10,000 of current assets. Figure 9.4 shows the situation after the first year. If this continues for another 9 years, Company A will have a worthless non-current asset and €10,000 of current assets and will see that its capital is only €10,000. Company B will have a worthless non-current asset but €20,000 of current assets because it distributed €10,000 less 'profits' than Company A did. So, B can purchase another non-current asset and continue business with its capital intact; A will have a serious financial problem. In essence, depreciation assists replacement by ensuring that profit is only measured or distributed after some form of maintenance of capital.

A well-run business has an overall cash plan for future months and years. Included in this is the expected need to replace assets. The assets that will be bought as replacements may be identical but more expensive or they may be entirely different. It would be unusual, and probably commercially unwise, for a business to set aside amounts of money in liquid or time-matched investments in order to be prepared for the replacement of assets. These funds could be better used elsewhere

Figure 9.4 The effect on assets of not charging depreciation

Company A

Gross profit	5,000	
less Expenses	(3,000)	
Net profit	2,000	distributed

Balance sheet

Non-current assets	10,000	Capital	20,000
		Profit	2,000
Current assets	10,000	*less* Distribution	(2,000)
	20,000		20,000

Company B

Gross profit	5,000	
less Expenses	(3,000)	
less Depreciation	(1,000)	
Net profit	1,000	distributed

Balance sheet

Non-current assets	10,000	Capital	20,000
less Depreciation	(1,000)	Profit	1,000
Current assets	11,000	*less* Distribution	(1,000)
	20,000		20,000

in the business and it is not until the time for replacement approaches that a good impression of the type and cost of replacement assets is obtainable.

Not for tax purposes

A major international difference is that depreciation in some countries has been closely linked with taxation. At first sight, this might seem obvious for any country. However, in Anglo-Saxon countries and in Denmark, the Netherlands and Norway, there is a long tradition of having differences between tax depreciation and accounting depreciation. At the extreme, in the United Kingdom or South Africa, the depreciation expenses charged in the income statement are not allowable at all as tax-deductible expenses for the calculation of taxable income. The tax calculations are done quite separately and 'capital allowances', which amount to depreciation for tax purposes, are allowed instead. In the United States and a few continental European countries, the separation between tax depreciation and accounting depreciation is not so clear, but differences are common (leading to deferred taxation; see Chapter 12).

However, in most continental European countries, there is a close relationship between tax and accounting depreciation. Technically, in the majority of those countries, the tax figures should be based on the accounting figures rather than the other way round. For example, in Germany, the *Steuerbilanz* (tax statements) should be based on the *Handelsbilanz* (commercial statements); this is the authoritative principle or the *Massgeblichkeitsprinzip* (as mentioned in Chapter 5). The principle was weakened for consolidated statements from 2003 and for other accounting from 2009. However, in practice in Germany and several other countries, since the tax rules will allow only certain maximum charges for tax purposes, the accounting depreciation charges are still chosen to coincide with these maxima. So, the accounting figures end up being based on tax rules (the *umgekehrtes Massgeblichkeitsprinzip*, or, reverse authoritative principle). These expenses are often larger than accountants might have chosen on grounds of fairness. As a French example, the parent company statements of L'Oréal in 2014 refer to

'accelerated tax-driven' amortization of intangible assets and depreciation of tangible assets (p. 185).

In many countries, governments offer accelerated tax depreciation in order to encourage investment in certain types of assets or certain regions. For example, this has applied to the eastern *Länder* of Germany, to certain Greek islands and to the Highlands of Scotland. In Germany and countries like it (see Chapter 5), such accelerated depreciation must be recorded in the appropriate financial statements in order to be allowable for tax purposes.

However, under IFRS, it is clear that depreciation is an expense designed for financial reporting purposes rather than for tax calculations. If tax authorities wish to follow the accounting calculations, they may of course do so, but this should not, in principle, be allowed to affect how enterprises measure depreciation in financial statements.

9.5.3 Allocation methods

Activity 9.E

The straight-line method of allocation was used earlier in the chapter for a basic illustration of depreciation. Referring to the earlier discussion of the definition of depreciation (see Section 9.5.1), one can see that straight-line allocation is 'systematic' – but does it produce a sensible result?

Feedback

In order to answer this question, it is necessary to recall why depreciation is being charged. Depreciation is a charge designed to recognize the loss of service that an asset has suffered in any year. As has been said, it is an example of the results of using the matching convention. Let us look at different types of assets with this in mind.

1. Leases, patents and some buildings can be said to require depreciation because of the passing of time. In this case, straight-line depreciation seems to be satisfactory.
2. Other assets have increasing repairs and maintenance. So, if straight-line depreciation is used, the total expense per year relating to an asset increases over its life. Therefore, if a reasonably constant total charge for an asset's services is to be charged in the income statement, a declining depreciation charge may be appropriate.
3. Some assets wear out in proportion to their use. Therefore, it may be appropriate to charge depreciation in line with this, at different amounts in different periods.

Declining charge

For type-2 assets in Activity 9.E, it may be rational to have a declining depreciation charge. There are several ways of producing this systematically. The reducing balance method (or the constant percentage on reducing balance method) is one of them. With 20 per cent depreciation, this would give a situation as shown in Table 9.4. So, the net book value (written-down value) at the end of the third year will be 5,120 and the charge in the third year will be 1,280.

How many years would it take to write down the asset to zero? The answer, inconveniently, is that it would take an infinite number of years. However, if there is a scrap value, this problem does not arise. If there is no scrap value (residual value), a small figure to which the asset will be written down may be chosen. The residual at that point will be an extra depreciation charge for the final year.

Table 9.4 The reducing balance method

	Cost	10,000
Year 1	*less* 20% depreciation	2,000
	NBV	8,000
Year 2	*less* 20% depreciation	1,600
	NBV	6,400
Year 3	*less* 20% depreciation	1,280
	NBV	5,120

To find the appropriate percentage to use for a given net cost and a given useful life, a formula may be used:

$$r = 1 - \sqrt[n]{\frac{S}{K}}$$

where r is the depreciation rate, n is the life of the asset, S is the scrap value and K is the gross cost. This formula may be simply derived, as in Table 9.5, which shows that, at the end of an asset's life, $S = K(1 - r)n$, which thus gives the above equation.

Table 9.5 The reducing balance formula

End of year	*NBV*	*Standardized form of NBV*
0	K	$K(1-r)^0$
1	$K-Kr$	$K(1-r)^1$
2	$(K-Kr)-(K-Kr)r$	$K(1-r)^2$
3	etc.	etc.

As an example, let us use the asset costing 10,000, which will have a scrap value of 3,000 and a life of seven years. Applying the above formula, we obtain:

$$r = 1 - \sqrt[7]{\frac{3{,}000}{10{,}000}} = 0.158 \text{ or } 15.8 \text{ per cent}$$

The detailed results of depreciation year by year for our example are tabulated in Table 9.6, repeating the straight-line results for comparison. It can be seen that more depreciation is charged in the earlier years using the reducing balance method. This helps to stabilize the total charge (of depreciation plus maintenance) for the contribution of the machine to earning profits.

Another way of producing systematically declining charges for depreciation is to use the sum of digits method. For this, one merely adds up the digits of the number of years of useful life. For example, for a useful life of six years the sum of digits is 21 (i.e. $6 + 5 + 4 + 3 + 2 + 1$). The charge for year 1 will be 6/21, that for year 2 will be 5/21 and so on.

Another method that can be used to obtain a declining charge is the double declining balance method. Here, the straight-line depreciation rate is worked out and then doubled and applied on a reducing balance basis.

One of these three declining charge methods might be appropriate for assets that are expected to have considerable repair and maintenance costs in later years.

Table 9.6 Depreciation methods contrasted

	Straight-line		*Reducing balance*	
Year	*Charge*	*NBV*	*Charge*	*NBV*
0	–	10,000	–	10,000
1	1,000	9,000	1,580	8,420
2	1,000	8,000	1,330	7,090
3	1,000	7,000	1,120	5,970
4	1,000	6,000	940	5,030
5	1,000	5,000	790	4,240
6	1,000	4,000	670	3,570
7	1,000	3,000	570[a]	3,000

[a] Adjusted for rounding differences.

The total amount allocated will, of course, be the same in all these declining charge methods and, for that matter, in the straight-line method. However, the amounts allocated to particular periods will vary with the method chosen.

It may be that the market value of most machines actually declines in a way that is more similar to the result of declining charge depreciation than of straight-line depreciation. However, within the context of an historical cost system, this is not really an argument in favour of a declining charge method, since the main aim is to get a fair yearly allocation of cost against profit over the whole life of the asset. Nevertheless, if the business is very uncertain about the useful life of the asset or the date of likely sale, there is an argument for rapid depreciation and for keeping the written-down value fairly close to the market value at all times rather than just at the estimated end of life. In these cases a declining charge method may be more suitable.

Usage

Assets that come to the end of their useful lives as a result mainly of wearing out through use may more rationally be depreciated on the basis of usage. According to the usage method, if the asset concerned is expected to produce 100,000 units or to run for 20,000 hours, the depreciation charge for the year will be the proportion of the original cost that the usage of the year bears to the total expected usage. For example, in the case of a machine costing €20,000 that is expected to produce 100,000 units, the usage may turn out to be as given in Table 9.7, leading to the annual depreciation charges shown (assuming zero residual value).

Table 9.7 The usage method

Accounting year	*Units produced*	*Depreciation charge (€)*
1	15,000	3,000
2	35,000	7,000
3	20,000	4,000
4	20,000	4,000
5	10,000	2,000
	100,000	20,000

The revaluation method

Some assets are difficult to depreciate by using any of the above methods (namely straight-line, declining charge and usage). These assets are such things as tools or crates, for which it may be unnecessary to keep item-by-item records. The assets may be capable of a long life, but in practice their lives are short because of damage, breakage, theft, loss and so on. In addition, their individual values are immaterial in the context of a whole company. Thus, it would be inefficient to record the purchase, the yearly depreciation charges, the disposal and adjustments to depreciation on disposal. In such instances, depreciation is charged using the revaluation method. This method involves valuing the set of similar assets at the beginning of the year, adding assets purchased and deducting a valuation of the set at the year end. This gives a measure of the using up of the type of asset, which is charged to the profit and loss account as depreciation. The year-end valuation is recorded as a non-current asset in the balance sheet.

9.5.4 Methods used in practice

Straight-line depreciation is the most commonly used method in practice throughout Europe, particularly for buildings. This applies whether under national rules or under IFRS. Practice is not surveyed frequently and Table 9.8 shows the most recently available widespread survey relating to the depreciation of plant and machinery under national rules. There seems to be no reason why the predominance of the straight-line method would have changed.

Table 9.8 shows the importance of the reducing balance method for plant and machinery in Germany and France, at the date of the publication. This is due largely to the close connection of tax and accounting. In these countries the reducing balance method is allowed for both accounting and tax, but depreciation has to be charged as an accounting expense in order to be tax-deductible. Companies generally want to charge depreciation as fast as possible for tax purposes, and using a reducing balance achieves this faster than straight-line depreciation. This can

Table 9.8 Depreciation of plant and machinery

	Bel	*Den*	*Fra*	*Ger*	*Gre*	*Ire*	*Lux*	*Net*	*Swe*	*UK*	*Total*
Sample size	*50*	*32*	*40*	*49*	*30*	*38*	*12*	*40*	*9*	*50*	*350*
Evidence of PPE depreciation in income statement	45	32	32	46	30	33	11	32	9	47	317
Basis for depreciation[a]											
Amortization											
Straight-line	30	29	28	36	30	29	11	30	9	47	279
Reducing balance	3	3	15	32	–	2	1	–	–	–	56
Other	4	–	1	6	–	2	–	2	–	–	15
Other	–	1	1	4	–	–	–	–	–	–	6
Basis not disclosed	8	–	2	–	–	–	–	–	–	–	10

[a] More than one answer possible.

Source: Adapted from FEE, *European Survey of Published Accounts 1991* (London: Routledge, 1991).

even lead to inconsistent accounting policies over the life of an asset, as illustrated for Germany in the box below for 'moveable assets' (i.e. non-current assets other than land and buildings). Both the earlier policy of declining balance depreciation and the recent changes are directly related to German tax regulations, and this is an example of how tax policies can adversely affect financial reporting. For large German companies at least, reducing balance is now less common. Under IFRS, straight-line is by far the most common throughout Europe.

A German depreciation policy under national rules

Both moveable and immovable fixed assets are depreciated using the straight-line method. Declining balance depreciation of additions from previous years is continued. For declining balance depreciations, a systematic transition to straight-line depreciation takes place if this results in higher depreciation amounts.

The weighted average depreciation periods were as follows:

	2014	*2013*
Buildings and structural installations	23 years	23 years
Machinery and technical equipment	11	11
Factory and office equipment and other facilities	9	10

Impairments of the lower fair value are made when there is an other-than-temporary impairment.

Source: Extracted from 2014 Financial Statements of BASF SE.

Why it matters *Depreciation expenses are very much a matter of judgement. Preparers of financial statements may choose unreasonably rapid expensing (in order to reduce tax bills quickly) or unreasonably slow expensing (in order to make the assets and the profit look higher in early years). To take the example of unreasonably rapid expensing, this could make net assets significantly lower and, to start with, profits significantly lower. This would affect gearing and profit ratios, which might influence financial decisions.*

In principle, these points about France and Germany should not affect consolidated financial statements prepared under IFRS. If consolidated statements are irrelevant for tax purposes and individual company financial statements are tax-driven and use national accounting regulations, there should be no influence by either one or the other. For example, in the consolidated IFRS statements of BASF, the company refers to straight-line depreciation only, unlike the mixture reported in the box here. However, if both are prepared by the same set of accountants, based on the same underlying records, some influence of tax rules on IFRS practice may exist (see Gee *et al.*, 2010).

9.5.5 Practical difficulties

Assuming that depreciation is being calculated as an allocation of the historical cost of the asset, measurements or estimations will need to be made in the areas set out in this section.

Useful economic life

The causes of wearing out were mentioned earlier. IAS 16 gives some guidance on determining depreciable life (paragraph 57):

> The useful life of an asset is defined in terms of the asset's expected utility to the entity. The asset management policy of the entity may involve the disposal of assets after a specified time or after consumption of a certain proportion of the future economic benefits embodied in the asset. Therefore, the useful life of an asset may be shorter than its economic life.

This also makes it clear that 'useful life' relates to the use of the asset in the enterprise, not its total life, which may be longer.

The estimation of useful lives involves considerable judgement, which is likely to turn out to be wrong in any particular case. IAS 16 requires reviews of lives, followed by adjustments to depreciation to correct for errors in estimates. In practice, mis-estimation (or use of tax-based lives) often leads to the continued ownership and use by a business of fully depreciated assets. Strictly, the lack of any continued depreciation charge for them must mean that earlier charges were unfairly high and present charges (i.e. zero) are unfairly low.

Intangible assets generally wear out because of the passing of time rather than usage, so the word 'amortization' is used instead of depreciation. For certain intangible assets, the estimation of the life of an asset may be particularly difficult. Unless the intangible depends on a fixed-term legal right, it may be difficult to observe the wearing out of an intangible. Under most national laws a limit (e.g. 20 years) is often imposed. However, IAS 38 requires (paragraph 97) that the cost of an intangible asset with a finite useful life shall be allocated on a systematic basis over its useful life, but (paragraph 88) an intangible asset should be regarded as having an indefinite useful life when there is no foreseeable limit to the periods of expected future net cash flow generation. Note that indefinite is not the same as infinite. Intangible assets with an indefinite useful life (e.g. perhaps purchased brands) cannot, under IFRS, be depreciated. Instead, an impairment test, at least annually, is required (see Section 9.6).

As an example of the subjectivity inevitably involved, a typical accounting policy for research and development costs might be as follows:

> Research and development costs are expensed as they are incurred, except for certain development costs, which are capitalized when it is probable that a development project will generate future economic benefits, and certain criteria, including commercial and technical feasibility, have been met. Capitalized development costs, comprising direct labour and related overhead, are amortized on a systematic basis over their expected useful lives between three and five years.
>
> Capitalized development costs are subject to regular assessments of recoverability based on anticipated future revenues, including the impact of changes in technology. Unamortized capitalized development costs determined to be in excess of their recoverable amounts are expensed immediately.

Residual value and disposal

As explained earlier for straight-line depreciation, if there is expected to be a residual value to an asset, the asset should gradually be written down to this rather than

being written down to zero. That is, the *net* cost (i.e. cost less residual value) should be allocated over the useful life of the asset. In practice, estimates of residual value are difficult and it is often assumed that there will be no residual value.

IAS 16 requires re-estimations of residual value at current prices, leading to the cessation of depreciation if price levels rise substantially, i.e. explicitly recognizing that the correctly calculated annual expense charge for depreciation could be zero.

Mid-year purchases

What depreciation should be charged on an asset bought part way through an accounting year? There are two possibilities: either (i) the appropriate proportion (perhaps by month) of one year's depreciation is charged in the years of acquisition and disposal; or (ii) a whole year's depreciation is charged for only those assets that are on hand at the end of the year. The first is theoretically preferable, but as long as the second method is used consistently, it should only lead to significant distortion when the business has few assets or has just acquired or disposed of a very valuable asset.

9.6 Impairment

As explained in the previous section, depreciation is designed to allocate the cost of a non-current asset against income over the asset's life. However, negative events sometimes occur unexpectedly and these may make this systematic allocation inadequate. There is then a danger that the carrying value of the asset (usually the depreciated cost) may overstate what the asset is worth to the business or to anybody else.

Activity 9.F

What sort of events might happen to cause an impairment in the value of an asset below its depreciated cost?

Feedback

An asset may, for example, be physically damaged or may suffer rapid economic obsolescence.

European laws based on the EU Directive try to cope with this by requiring companies to take account of any 'permanent diminution in value' of a fixed asset. However, this is a vague concept and would tend to lead companies to have frequent diminutions in Germany (where they are tax-deductible) and rare diminutions in the UK (where they are not).

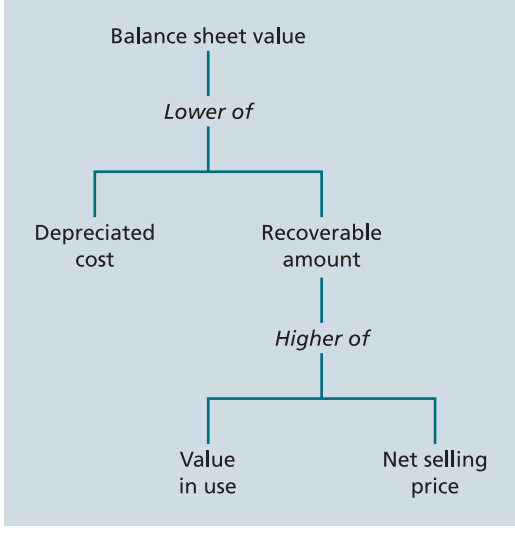
IAS 36 tries to impose standard practice for companies using IFRSs by providing a method of measuring the size of impairment. If there is any indication of impairment of an asset, the enterprise must compare the asset's carrying value, as normally calculated for the balance sheet date, with what it is worth to the business: its 'recoverable amount'. Normally, for a non-current asset, the recoverable amount is the future benefits from using it. These can be valued by discounting the expected future net cash flows. This 'value in use' or 'economic value' involves considerable estimation, as mentioned in Chapter 8. In practice, it may be impossible to make reasonable estimates for individual assets, so impairment tests are carried out on groups

of assets (called 'cash-generating units') for which independent cash flows can be measured. The quotations in Section 9.5 both refer to this process of impairment.

One of the cash flows that will come from an asset is from its eventual disposal. However, sometimes the asset is to be sold immediately, so that the recoverable amount is the expected net selling price, which is defined in much the same way as the net realizable value. Presumably, the enterprise will only sell a non-current asset if the expected net selling price exceeds the expected value in use.

Figure 9.5 summarizes the resulting valuation method for a non-current asset. On the left-hand branch is the usual carrying amount before any impairment: depreciated cost. Usually, this depreciated cost will end up being the balance sheet value because it is lower than the recoverable amount (on the right-hand branch), which is itself the higher of two values. Normally, a non-current asset is not to be sold immediately, so the value in use is higher. Consequently, the rule usually boils down to: the lower of depreciated cost and value in use. Nevertheless, the net selling price may be easier to determine and, as long as it is above depreciated cost, there is no impairment required.

Figure 9.5 Determining carrying values



When there is an impairment, the difference between depreciated cost and the recoverable amount is an *impairment loss*, which is charged against income just as depreciation is.

Terminology

Activity 9.G

If you speak a Latin-based language (such as French, Spanish, Italian, Portuguese or Romanian), how would you translate the French term *dépréciation* into English, in the context of accounting? If you speak a Germanic language (such as German, Dutch or a Scandinavian language), how would you translate the German term *Abschreibung* into English, in the context of accounting?

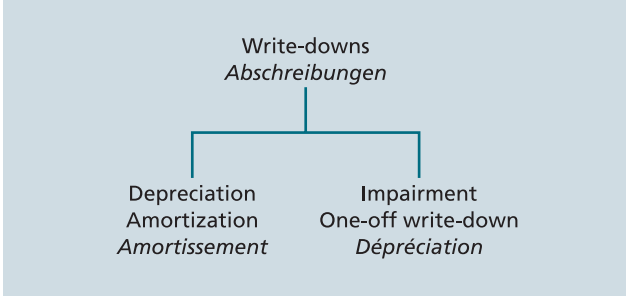
Feedback If you translated *dépréciation* as 'depreciation' or 'amortization', you would be making a common mistake. If you translated *Abschreibung* as 'depreciation', you would have missed half of its meaning. See the text below.

Having now examined depreciation and impairment, it is worth noting some potential international confusion in terminology. The English term 'depreciation' means, in the context of accounting, the systematic allocation of cost over useful life, not 'loss of value'. The term 'amortization' has the same meaning, but tends to be used for intangible assets. By contrast, 'impairment' *is* about the loss of value.

The French term *amortissement* (and connected terms in other Latin languages) means depreciation/amortization. The '*mort*' part of the term refers to dying. However, the French term *dépréciation* does *not* mean depreciation but a loss of value or one-off write-down, of which an impairment is an example.

The German term *Abschreibung* (and connected terms in other Germanic languages) should not be translated as depreciation/amortization because it means any writing off of values, including both depreciation and impairment. The relationship between the terms is illustrated in Figure 9.6.

Figure 9.6 Terminology needs to be translated carefully



Why it matters *Depreciation can be a very large expense. For example, for the Dutch company Heineken, depreciation was equivalent to 46 per cent of the pre-tax profits in 2002 (before it adopted IFRS), partly because it values at replacement cost. However, as usual, the calculation of the depreciation expense relies on estimates of life and residual value. There are also choices about method. It would have been easy to re-estimate Heineken's depreciation upwards by 10 per cent, in which case its profit would have fallen by 5 per cent.*

9.7 Measurement based on fair value

9.7.1 An alternative to cost

The initial measurement (at the date of purchase) of all the assets discussed in this chapter is at cost. This is the case under IFRS and all the national systems. When it comes to subsequent measurement (at any balance sheet date), this chapter has been written, so far, in the context of majority practice for PPE and intangible

assets: to retain historical cost. However, Chapter 8 pointed out some disadvantages of this and some alternatives that might provide information of greater relevance.

The national accounting rules of several European countries, including the Netherlands, Denmark and the United Kingdom, allow revaluations above cost. In some countries, revaluations have occasionally been required by law, e.g. in France in 1978, in Italy in 1991 and in Spain in 1996. However, under the national rules of the United States and Germany, revaluation of tangible and intangible assets above cost is not allowed. Under IAS 16, both treatments are allowed. There is similar permission in IAS 38 regarding some intangibles, provided certain tough conditions are fulfilled (paragraphs 75–87). Whereas the various national rules contained versions of revaluation (which were not always kept up to date), IFRS requires any 'remeasurement' to be at fair value (see Chapter 8) and to be made at each balance sheet date.

In principle, the previous national practices of companies should not be relevant under IFRS. In practice, many national habits have been carried into IFRS, particularly the choice of options. For example, Dutch companies often revalued land and buildings before IFRS but German companies never did so. Under IFRS, German companies still use cost (or lower), whereas some Dutch companies revalue. ING, the Dutch bank, reports as follows in its 2014 statements (by 'real estate investments', ING means investment property, which we discuss in Section 9.8):

> **REAL ESTATE INVESTMENTS**
> Real estate investments are recognised at fair value at the balance sheet date. Changes in the carrying amount resulting from revaluations are recognised in the profit and loss account. On disposal the difference between the sale proceeds and book value is recognised in the profit and loss account.
>
> **PROPERTY AND EQUIPMENT**
> **Property in own use**
> Land and buildings held for own use are stated at fair value at the balance sheet date. Increases in the carrying amount arising on revaluation of land and buildings held for own use are credited to the revaluation reserve in shareholders' equity . . . Depreciation is recognised based on the fair value and the estimated useful life (in general 20–50 years). Depreciation is calculated on a straight-line basis. On disposal the related revaluation reserve is transferred to retained earnings.

The reason for allowing revaluation of various assets is that a current valuation probably provides more relevant information. However, the exact rationale is unclear, as can be illustrated by looking at three practical problems:

- where to put the revaluation gain;
- whether or not to depreciate revalued assets;
- how to measure the gain on sale.

9.7.2 Revaluation gains

Under IFRS requirements, the revaluation gains on PPE and intangibles are not recorded in the 'profit or loss' part of the income statement, perhaps because

they are not 'realized' – although this concept is also unclear, as explained in Chapter 8. Instead, the gains are recorded as other comprehensive income (OCI) (see Chapters 6 and 8). Note that ING's description of its treatment of 'Property in own use' above is out-of-date. The gains do end up in a reserve, but they must now be recognized first as other comprehensive income (OCI).

An example may be helpful. Suppose that a company buys land for €500,000 cash at the beginning of 20X1 and adopts the revaluation approach. By the end of 20X1, the fair value of the land is €800,000. The resulting effects on the financial statements will be worked out as in Figure 9.7. As can be seen, the gain of €300,000 is not recorded in profit or loss.

Figure 9.7 Revaluation of land

Effects on balance sheet as at 31.12.20X1

Land	Cost	+500,000	Equity: revaluation gain	+300,000
	Revaluation	+300,000		
	Fair value	=800,000		
	Cash	–500,000		

Income statement for 20X1

Other comprehensive income for 20X1

Revaluation gain	+300,000

9.7.3 Depreciation of revalued assets

Under IASs 16 or 38, a revaluation does not imply that any previous depreciation was unnecessary. In fact, an upwards valuation leads to *more* depreciation because a more valuable asset is being worn out. This suggests that the revaluation is really seen as an updating of the cost of the asset. This also explains why the revaluation gain is not treated as profit or loss. However, perhaps the revaluation should then have been based on replacement cost rather than on fair value (see Section 8.3.3).

9.7.4 Gains on sale

Under IASs 16 or 38, the revalued amount of the asset is treated as its new cost. That is:

$$\text{Gain on sale} = \text{Proceeds of sale} - \text{Net book value}$$

To continue the example from before, suppose that the revalued land carried at €800,000 is sold in 20X2 for €600,000 cash, because the previous estimate of fair value was wrong or because the value has since fallen. The resulting effects on the financial statements are shown in Figure 9.8. Clearly, the land falls to zero in the balance sheet, as it has been sold, and cash rises by €600,000. This means that a loss of €200,000 is recorded in profit or loss. In conclusion, the land was bought for €500,000 and sold for €600,000 and the only result ever recorded as profit or loss is a loss of €200,000!

Figure 9.8 Sale of revalued land

Effects on balance sheet as at 31.12.20X2

Land	Book value	800,000	Equity: loss	–200,000
		–800,000		
		0		
	Cash	+600,000		

Income statement for 20X2

	Loss	+200,000

Other comprehensive income for 20X2

This seems rather strange, because it is clear that there is now a realized gain of €100,000 that never appears in profit or loss. The previously recorded revaluation gain of €300,000 was recorded as OCI and is still not recognized in profit or loss. ING (above) states that the gain is moved into retained earnings, but not through profit or loss. A further conclusion is that the profit or loss is not a statement of realized gains and losses – and we are not sure what it is. This reinforces the need, mentioned in Chapter 8, to combine profit or loss and OCI as 'comprehensive

income' and for the IASB to explain what OCI is supposed to mean. Some progress towards that was made in the 2015 Exposure Draft on the Framework. Profit or loss is explained as a measure of the performance for the period, and OCI is explained as certain re-measurements which would obscure the picture.

9.8 Investment properties

Under the national rules of most countries, including the United States, properties held for rental or capital gain are treated in the same way as other properties. However, such 'investment properties' have been treated separately in the UK and in a few other countries since the 1970s. These properties might be office blocks that the enterprise owns but does not occupy. The offices could be, for example, rented out under a five-year renewable contract.

The argument for a different treatment of such properties is that the really interesting fact about them is their fair value, which can be determined with reasonable reliability because it depends upon the stream of rental income. It should be remembered that the objective for balance sheets is that they should be *relevant* and represent faithfully, which includes being *verifiable* (see Chapter 3). Since, in this case, the fair value is more relevant than cost and is reasonably verifiable, it should be used in the balance sheet. Its use in the United Kingdom and elsewhere led to an option in IAS 40, *Investment Property*.

There are two interesting features of the valuation option in IAS 40. First, since the properties are being held at fair value, the concept of depreciation makes no sense because depreciation is the allocation of cost. The revaluation at each balance sheet date takes account of the wearing out that has occurred in the period. In effect, both depreciation and impairment are being subsumed into continual revaluations.

The second interesting feature of the valuation option in IAS 40 is that the gains and losses caused by constant revaluation are treated as part of the performance of the company and are taken to the 'profit or loss' part of the income statement, as shown in the ING example above. This may be partly because IAS 40 is a more recent standard and partly because the fair value of investment property can often be estimated reasonably reliably from its rental receipts.

It should be noted that there are therefore two major differences between the IAS 40 value option for investment property and the IAS 16 value option for other property. Under IAS 16, as explained earlier, properties can be revalued upwards but the gain goes to OCI and the depreciation expense is still charged – indeed, charged at a higher level.

9.9 A mix of values

There is an interesting mixture of valuation methods in this chapter, which could all end up in the same balance sheet for different assets:

- cost (for some land);
- depreciated cost (for most other non-current assets);

- fair value (for some land and buildings, especially investment property);
- value in use, i.e. discounted cash flows (for most impaired non-current assets);
- net selling price (for impaired non-current assets to be sold soon).

This is a good illustration of the fact that IFRSs and any national system contain a 'mixed model' of costs and values. IFRSs require or allow more use of values than most systems.

Why it matters

The various 'values' of non-current assets are added together on a balance sheet to show such totals as 'net assets' and 'total assets'. These are used to assess the company's position and its performance (see Chapter 7 and Part 3). If the 'values' are measured on several different bases, it is difficult to interpret the meaning of the totals.

Summary

- This chapter concerns tangible non-current assets (property, plant and equipment, and investment property) and intangible fixed assets. If such items meet the definition of 'asset', they should be recognized in the balance sheet if the benefits are probable and if the asset can be measured reliably. This cuts out goodwill, research, brands or customer lists if they were internally generated.
- If assets, including intangibles, are bought individually or as part of a going concern, they should be recognized separately if possible.
- Assets do not have to be owned; control of the resources is what matters. Consequently, certain leased assets are treated as finance leases and capitalized. The present cut-off between finance and operating leases seems difficult to defend.
- The cost of assets with limited useful lives must be depreciated in a systematic way against income over their lives. Depreciation is not designed as a technique for valuation or to help replacement or to calculate taxable income.
- Allocation methods include straight-line, reducing balance, sum of digits and usage. In practice, the straight-line method is the most common, except where reducing balance is used to accelerate tax deductions.
- There is considerable judgement needed in the estimation of useful lives and residual value.
- Sometimes assets suffer impairments of value that are not captured by systematic depreciation. When this occurs, the assets are usually written down to their value in use, based on discounted cash flows.
- Although most assets are measured at cost, revaluation is allowed in some countries and under the IFRS regime. The revaluations of PPE or intangibles are treated as a new cost for the calculation of depreciation and any gain on sale.
- Investment properties can be treated on a fair value basis, with gains going to profit or loss and with no depreciation charges.

References and research

Here are a few examples of English-language publications that are of relevance to the topics of this chapter. The IASB documents of greatest relevance are:

- IAS 16, *Property, Plant and Equipment*
- IAS 17, *Leases*
- IAS 36, *Impairment of Assets*
- IAS 38, *Intangible Assets*
- IAS 40, *Investment Property*
- IFRS 16, Leases

Research on the issues of this chapter can be found in these articles.

- A. Burlaud, M. Messina and P. Walton, 'Depreciation: concepts and practices in France and the UK', *European Accounting Review*, Vol. 5, No. 2, 1996.
- S. Basu and G. Waymire, 'Has the importance of intangibles really grown? And if so, why?', *Accounting and Business Research*, Vol. 38, No. 3, 2008.
- L. Collins, 'Revaluation of assets in France: the interaction between professional practice, theory and political necessity', *European Accounting Review*, Vol. 3, No. 1, 1994.
- N. Garrod and I. Sieringhaus, 'European Union accounting harmonization: the case of leased assets in the United Kingdom and Germany', *European Accounting Review*, Vol. 4, No. 1, 1995.
- M., Gee, A. Haller and C. Nobes, 'The influence of tax on IFRS consolidated statements: the convergence of Germany and the UK', *Accounting in Europe*, Vol. 7, No. 2, 2010.
- D.J. Skinner, 'Accounting for intangibles: a critical review of policy recommendations', *Accounting and Business Research*, Vol. 38, No. 3, 2008.

? MULTIPLE CHOICE QUESTIONS

Answers to these questions are in Appendix D.

9a. Motor vehicles are necessarily non-current (fixed) assets when:

A. They are intended for continuing use in the business.
B. They are more than one year old.
C. They are parked with the handbrake on.
D. None of the above.

9b. For a lease to be considered as a finance (capital) lease, the contract must include the eventual transfer of legal title.

A. True.
B. False.

9c. Depreciation of a non-current asset is an estimate of the loss in value of the asset over the accounting period.

A. True.
B. False.

9d. A firm buys a delivery van on 1 January 20X1 for €60,000. The estimated physical life is 10 years, but the firm has a policy of trading in all vans after 5 years, when the trade-in price is usually about 20 per cent of the original cost. Using straight-line depreciation, the expense for year 3 will be:

A. €4,800.
B. €6,000.
C. €9,600.
D. €12,000.

9e. If the firm in question 9d was to use the reducing balance method at a rate of 30 per cent each year, the depreciation for year 3 would be:

A. €7,056.
B. €8,820.
C. €14,400.
D. €18,000.

9f. Under IAS 36, any necessary impairment charge will be equal to:

A. Carrying value after depreciation at the current balance sheet date less the lower of net selling price and value in use.
B. Carrying value after depreciation at the previous balance sheet date less the lower of net selling price and value in use.
C. Carrying value after depreciation at the current balance sheet date less the higher of net selling price and value in use.
D. Carrying value after depreciation at the previous balance sheet date less the higher of net selling price and value in use.

9g. Fair value is another name for recoverable amount.

A. True.
B. False.

9h. Recoverable amount is the lower of net realizable value and economic value (value in use).

A. True.
B. False.

9i. Under IAS 16, if the chosen measurement policy of fair value results in an increased valuation of a property, the effect on reported earnings will be an increase.

A. True.
B. False.

9j. Under IAS 40, if the chosen measurement policy of fair value results in an increased valuation of a property, the effect on reported earnings will be a decrease.

A. True.
B. False.

? EXERCISES

Feedback on the first six of these exercises is given in Appendix E.

9.1. What are the essential criteria used to distinguish a non-current asset from other assets?

9.2. 'What is relevant to investors is information about the future. Since this is not reliable, financial accountants give them irrelevant information instead'. Discuss.

9.3. Costa Co. uses three identical pieces of machinery in its factory. The cash price of these machines is €8,000 each and their estimated lives four years. These were all brought into use on the same date by the following means:

a. machine 1 was rented from Brava Co. at a cost of €250 per month payable in advance and terminable at any time by either party;
b. machine 2 was rented from Blanca Co. at a cost of eight half-yearly payments in advance at €1,500;
c. machine 3 was rented from Sol Co. at a cost of six half-yearly payments in advance at €1,500.

Are the above machines rented by operating lease or by finance lease according to the current IASB rules?

9.4. For each of machines 1, 2 and 3 in Exercise 9.3, outline the effect on reported profits and on the balance sheet, as included in the published financial statements.

9.5. 'The idea of "substance over form" supports the recording of a finance lease as an asset, even though there is no legal ownership. This suggests that the idea of substance over form is a dangerous one'. Discuss.

9.6. Does research expenditure give rise to an asset? Explain your answer.

9.7. In Chapter 3, the following question was asked as Question 3.7:

> On 21 December 20X7, your client paid €10,000 for an advertising campaign. The advertisements will be heard on local radio stations between 1 January and 31 January 20X8. Your client believes that, as a result, sales will increase by 60 per cent in 20X8 (over 20X7 levels) and by 40 per cent in 20X9 (over 20X7 levels). There will be no further benefits.
>
> Write a memorandum to your client explaining your views on how this item should be treated in the year-end financial statements for the three years. Your answer should include explicit reference to relevant traditional accounting conventions and to the requirements of users of published financial statements.

Now that we have investigated the relevant issues in more detail, what is your opinion of the answer? If you remember how you answered before, you may like to compare your answers.

9.8. A company borrows money at 10 per cent interest in order to finance the building of a new factory. Suggest arguments for and against the proposition that the interest costs should be capitalized and regarded as part of the 'cost' of the factory. Which set of arguments do you prefer?

9.9. Provide in your own words:

a. an explanation of what depreciation is;
b. an explanation of the net book value (NBV) of a partially depreciated non-current asset.

9.10. The payments set out in Table 9.9 have been made during the year in relation to a non-current asset bought at the beginning of the year.

Table 9.9 Example non-current asset payments

Item	*€*	*€*
Cost as in supplier's list	12,000	
Less agreed discount	1,000	
		11,000
Delivery charge		100
Erection charge		200
Maintenance charge		400
Additional component to increase capacity		500
Replacement parts		600

What cost figure should be used as the basis for the depreciation charge for the year and why?

9.11. Outline three different depreciation methods and appraise them in the context of the definition and objectives of depreciation.

9.12. The following actual and estimated figures are available.

Cost	€12,000
Useful life	4 years
Scrap value	€2,000

Based on these figures, evaluate the following.

a. Calculate annual depreciation under the straight-line method.
b. Calculate the depreciation charge for each of the four years under the reducing balance method using a depreciation percentage of 40 per cent.
c. If the estimated scrap value turns out to be correct and the asset is sold on the first day of year 5, list and contrast the effect on reported profit for each of the five years under each method.

9.13. Are depreciation expenses either too subjective or too arbitrary to provide useful information?

Chapter 10

Inventories

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Objectives

After studying this chapter carefully you should be able to:

- explain the nature of inventory and outline methods of its physical quantification;
- define, calculate and appraise a variety of methods of valuing inventory under historical cost;
- outline regulatory requirements for inventory valuation;
- summarize practice under IFRSs.

10.1 Introduction

This chapter considers issues relating to the counting and measurement of inventories. Inventories are current assets, tangible in nature. They mostly are, or become, part of the product to be sold by an enterprise. As discussed in Part 1, in most industries accounting is based on the recording of transactions and the estimation of income and expense, rather than on valuations. Consequently, when calculating the depreciation of assets as analysed in the previous chapter, greater attention is paid to the meaning of the depreciation charge in the income statement than to the resulting written-down value of the depreciated asset in the balance sheet. The written-down value of a non-current asset is not supposed to represent the potential sale value of the asset at the balance sheet date. However, inventory is a current asset which will soon be sold, so balance sheet considerations are important. Inventory valuation affects the apparent liquidity of the company, because the figure for inventory is included in some of the ratios discussed in Chapter 7.

The valuation of the inventory which is still in the company at the end of an accounting period (the closing inventory) also directly affects the profit figure. For example, for a new retail company with no opening inventory, the gross profit (i.e. the margin on sales before charging operating expenses) might be:

	Sales for the period	1,000
−	Purchases for the period	−800
+	Closing inventory at the end of period	+50
=	Gross profit	= 250

This can be rearranged as:

Sales for the period		1,000
Purchases	(800)	
Closing inventory	50	
Cost of sales		(750)
Gross profit		250

Purchases of materials in the period are all treated initially as expenses in this example. However, the materials are not all used up in the accounting period. In order to take account of the existence of closing inventory, it is necessary to make an adjustment that reduces the expenses. Although the total profit of all accounting periods is not affected by the valuation of inventory (because one year's closing inventory is the next year's opening inventory), the profit of any individual year *is* affected.

Since the aim is to find a fair figure for profit for the year, there must be an attempt to match the charge for using inventory against the sales that relate to it. There are many ways of valuing the closing inventory, some of which cause fairer charges for the inventory used than others do. Any overvaluation of closing inventory by 1 euro leads to an overstatement of profit by 1 euro in the year in question. However, this would also make next year's opening inventory too large and therefore next year's profit too small by the same amount.

Activity 10.A

Table 10.1 gives summarized gross profit calculations for two years for the same enterprise.

Table 10.1 Gross profit calculations

	Year 1		*Year 2*	
Sales (revenue)		2,000		3,000
Opening inventory	800		950	
Purchases	1,600		2,100	
	2,400		3,050	
less Closing inventory	950		1,150	
Cost of sales (expense)		1,450		1,900
Gross profit		550		1,100

After the end of year 2, it is discovered that an error was made in the inventory valuation at the end of year 1, so the figure of 950 is revised to 850. You are asked to re-draft Table 10.1 and comment on the results.

Feedback

The revised figures should be as shown in Table 10.2.

Table 10.2 Revised gross profit calculations

	Year 1		*Year 2*	
Sales (revenue)		2,000		3,000
Opening inventory	800		850	
Purchases	1,600		2,100	
	2,400		2,950	
less Closing inventory	850		1,150	
Cost of sales (expense)		1,550		1,800
Gross profit		450		1,200

This demonstrates that the total result over the two years, i.e. 1,650 gross profit, is the same, whatever figure for year 1 closing inventory is used.

Why it matters

Activity 10.A does not imply that inventory valuation is unimportant. It affects ratios and interpretation of the year 1 position and results, as already stated. Furthermore, it affects the apparent trend of performance over the years. Table 10.1 suggested that gross profit had doubled between the years; Table 10.2 shows that it nearly trebled.

Inventory is usually split into categories, typically:

- raw materials;
- work-in-progress;
- finished goods.

A manufacturing business may have all three types, whereas a retail business may have only the last in the list.

A language point is worth making here. The word 'inventory' is used in North America and some other English-speaking areas of the world. It is also the word found in IASB statements. It is used in many translated annual reports of continental European companies, which tend to use a mid-Atlantic version of English. However, in law in the United Kingdom and Ireland, the word 'stock' is used instead. This can lead to particular confusion, because 'stock' in US terminology means 'share'. A short comparative glossary for this point is shown as Table 10.3.

Table 10.3 Comparative usage of the term 'stock'

United States	*United Kingdom law*
Inventory	Stock
Work-in-process	Work-in-progress
Stock	Shares
Common stock	Ordinary shares

10.2 Counting inventory

Before *valuing* an inventory, it is necessary to know how much there is. It is also useful to know what type of inventories there are. Consider a simple case where a business owns finished goods only, because it runs a wholesale warehouse. There are several ways of estimating the quantity of inventory on hand at a year end; and two of them are considered in this section.

10.2.1 Periodic counts

With *periodic counting*, warehouse staff, perhaps assisted by administrative staff, physically count and record all items of inventory on the premises. This is a major exercise, so it is generally only done at the end of accounting periods. The auditors will probably wish to advise on procedures, attend the count and check the results for a few types of inventory. Adjustments have to be made for goods on the premises that do not belong to the firm and for goods off the premises that do. Also, there will be adjustments for inventory movements if the actual count is done on a day that is not the accounting year end, perhaps because a weekend is more convenient.

10.2.2 Perpetual inventory

When using the *perpetual inventory* method, a record is kept item by item of all inventory movements as they occur. Therefore, a figure for the amount of inventory of each type on hand at any moment should be easy to calculate. This is supplemented by occasional counts of selected items to see if the inventory records are accurate. This avoids a massive and disruptive effort at the year end. Inventory control systems are run by computers, which record sales and purchases and produce

invoices and lists of receivables. They can also report current inventory figures, slow-moving lines, reorder possibilities and so on.

Note that the periodic count gives a figure for usage during the year by residual, which obscures any pilfering and breakages. On the other hand, the perpetual inventory method counts up usage during the year but leaves closing inventory as a residual figure. It is therefore better to run a perpetual system with occasional physical checks. The accounting records must be adjusted to the actual physical inventory in cases of discrepancy.

10.3 Valuation of inventory at historical cost

Like any other asset, inventory can in principle be valued either on an entry value basis or an exit value basis, as outlined in Chapter 8. The most common basis for the valuation of inventory is the input basis of historical cost, which we consider first. Once an entity has established the quantity of inventory, the key problem is how to evaluate the 'cost' of an item at each and every stage in the production process, how to determine the cost of items sold and, therefore, the cost of items not yet sold (i.e. still in inventory). The principle is that the cost of inventories should comprise all costs of purchase, costs of conversion and other costs incurred in bringing the inventories to their present location and condition.

There are practical problems here. The inclusion of 'direct' items should not present difficulties, because such costs can be related to particular inventory 'directly' by definition. These costs include the materials and labour associated with a machine or process that produces a particular product. However, a major difficulty for a manufacturing company is the appropriate allocation of overhead costs (i.e. indirect costs) to particular items or products. Such costs include general factory depreciation or maintenance. Allocating these to units of output necessarily introduces assumptions and approximations: decisions have to be made about which overheads are 'attributable' to the present condition and location of an item of inventory. So, for any item of inventory that is not still in its original raw material state, it is a problem to determine the cost of a unit, or even of a batch, of production. Methods in common use include accumulating the costs at the level of job, process or batch. There are also other techniques, which are discussed in Section 10.5.

For financial accounting purposes, cost should include the appropriate proportion of production overheads (as illustrated below). Other overheads (e.g. administration and selling) should *not* be included, according to the relevant International Accounting Standard (IAS 2), but may be included in some national systems. Let us look at a simple example of overhead absorption, using the following facts:

Direct cost: Labour	€3 per unit
Materials	€2 per unit
Direct manufacturing overheads (specific supervisors and machines)	€40,000
Indirect manufacturing overheads (rent, factory managers, etc.)	€60,000
Administrative overheads of the rest of the company	€80,000
Selling overheads	€20,000

If the year's production were 20,000 units and this type of production used one-third of the factory, the cost per unit for goods that had fully passed through production would be €8, i.e.:

Direct costs	€5	
Direct manufacturing overheads	€2	(i.e. €40,000 ÷ 20,000)
Indirect manufacturing overheads	€1	(i.e. €60,000 × one-third ÷ 20,000)
Other overheads	nil	
Total	€8	

This 'cost' of €8 is used for financial accounting purposes. For management accounting, other methods of calculating costs might be used, e.g. concentrating on direct costs only or including all overheads.

10.4 Inventory flow

Another difficulty, in determining the cost of particular units, arises when many identical items have been purchased or made at different times and therefore at different unit costs. Consider the following transactions:

Purchases	January	10 units at €25 each
	February	15 units at €30 each
	April	20 units at €35 each
Sales	March	15 units at €50 each
	May	18 units at €60 each

It is clear that the total purchases figure is €1,400, and total sales €1,830; but how do we calculate closing inventory, cost of sales and gross profit for the period? There are several ways of doing this, based on different assumptions as to which unit has been sold or which unit is deemed to have been sold. Four possibilities are discussed below: unit cost; first in, first out (FIFO); last in, first out (LIFO) and weighted average cost.

10.4.1 Unit cost

Here, we identify the actual physical units of production that have moved in or out. In order to use this method, each unit must be individually distinguishable, e.g. by serial number. This is often impracticable and would be easiest in a business that produces a small number of very large things, such as an aeroplane manufacturer. In these circumstances, we simply add up the recorded costs of (i) those units that have been sold to give cost of sales, and (ii) those units left in the factory to give closing inventory. This needs no detailed illustration. However, there are still two problems with valuing using this assumption. First, as noted earlier, many costs are overhead costs: i.e. the costs are incurred for the processing of not only all these units but perhaps other types of units as well and they are therefore difficult

to allocate to individual types of inventory let alone to individual units. Second, reported profit can be manipulated by choosing which out of several similar units to sell; if the business wished to defer some profit until next year, the most expensive units (perhaps the most recently produced ones) should be sold.

10.4.2 First in, first out

As implied in Section 10.4.1 above, in many cases it is inconvenient or impossible to identify the units being sold and so some assumption is necessary. Under FIFO, it is assumed, for accounting purposes, that the units moving out are the ones that have been in the longest (i.e. came in first). The units remaining will therefore be regarded as representing the latest units purchased.

Activity 10.B

Calculate the cost of sales and gross profit, based on a FIFO inventory cost assumption, from the data given at the start of Section 10.4 concerning purchases and sales from January to May. Assume that a perpetual inventory system is used, i.e. with continuous recalculation.

Feedback

Table 10.4 Calculating cost of sales (FIFO method)

		Inventory quantity			*Value*	*Cost of sales*
January	+	10	at €25	= +	€250	
February	+	15	at €30	= +	450	
February end total		25			700	
March	−	10	at €25 (Jan.)	= −	250	
	−	5	at €30 (Feb.)	= −	150	400
March end total		10	at €30	= +	300	
April	+	20	at €35	= +	700	
April end total		30			1,000	
May	−	10	at €30 (Feb.)	= −	300	
	−	8	at €35 (Apr.)	= −	280	580
May end total		12	at €35		420	
						€980

On the FIFO basis, the cost of sales (see Table 10.4) = €980. Notice that the calculation always assumes that the oldest (in this case, cheapest) inventory is sold. The value of sales is €750 + €1,080 = €1,830. Purchases amount to € (250 + 450 + 700) = €1,400. The closing inventory is assumed to be the most recently purchased, as calculated at the bottom of the 'Value' column. This gives:

Sales		€1,830
Purchases	€1,400	
Closing inventory	€420	
Cost of sales		€980
Gross profit		€850

10.4.3 Last in, first out

The LIFO basis reverses the assumption made for FIFO. We act, for accounting purposes, as if the units moving out are the ones that came in most recently. The units remaining will therefore be regarded as the earliest units purchased. It is important to stress that the accounting assumption need not be related to the actual physical movement of the inventory.

Activity 10.C Calculate the cost of sales and gross profit, based on a LIFO inventory cost assumption, using the data given at the start of Section 10.4.

Feedback

Table 10.5 Calculating cost of sales (LIFO method)

	Inventory quantity		*Value*	*Cost of sales*
January	+ 10	at €25	=+ €250	
February	+ 15	at €30	=+ 450	
February end total	25		700	
March	− 15	at €30 (Feb.)	=− 450	450
March end total	10		=+ 250	
April	+ 20	at €35	=+ 700	
April end total	30		950	
May	− 18	at €35 (Apr.)	=− 630	630
May end total	2	at €35		
	10	at €25	320	
				€1,080

This gives:

Sales		1,830
Purchases	1,400	
Closing inventory	320	
Cost of sales (Table 10.5)		1,080
Gross profit		€750

10.4.4 Weighted average cost

Here we apply the average cost, weighted according to the different proportions at the different cost levels, to the items in inventory.

Activity 10.D Calculate the cost of sales and gross profit, based on the weighted average inventory cost assumption, using the data given at the start of Section 10.4.

Feedback

Table 10.6 Calculating cost of sales (weighted average method)

	Inventory quantity		*Value*	*Cost of sales*
January	+ 10	at €25	=+ €250	
February	+ 15	at €30	=+ 450	
February end total	25	at €28[a]	700	
March	− 15	at €28	=− 420	420
March end total	10	at €28	=+ 280	
April	+ 20	at €35	=+ 700	
April end total	30	at €32⅔[b]	980	
May	− 18	at €32⅔	=− 588	588
May end total	12	at €32⅔	= 392	
				€1,008

[a]Working $\frac{(10 \times 25) + (15 \times 30)}{(10 + 15)} = 28$

[b]Working $\frac{(10 \times 28) + (20 \times 35)}{(10 + 20)} = 32\,^{2}/_{3}$

Calculations similar to those in Activities 10.B and 10.C give:

Sales		1,830
Purchases	1,400	
Closing inventory	392	
Cost of sales (Table 10.6)		1,008
Gross profit		€822

The illustration above shows the fully worked out method, involving continuous calculations. In practice, a figure for average cost of purchases is often used, particularly in manual systems, rather than one for an average cost of inventory. In other words, the average cost of purchases over a whole period is used as an approximation to the true weighted average. This approximation reduces the need for calculation to a periodic, maybe even annual, requirement.

10.4.5 Synthesis

The summarized income statements, and closing inventory figures, from Activities 10.B to 10.D are given in tabular form in Table 10.7. As can be seen, the reported gross profit in our example firm, and therefore obviously the net profit,

Table 10.7 Summarized results of Activities 10.B to 10.D

	FIFO €		*LIFO €*		*Wt. average €*	
Sales		1,830		1,830		1,830
Purchases	1,400		1,400		1,400	1,150
Closing inventory	420		320		392	
Cost of sales		980		1,080		1,008
Gross profit		850		750		822

differs according to the cost assumption policy that has been chosen. The closing inventory figure (including both parts in the case of the base inventory method) also varies by a corresponding amount. These differences directly affect the reported impression of the year's activities. They also affect a number of ratios discussed in Chapter 7 and in Part 3.

It is important to remember that these differences arise solely because of changes in the accounting assumptions and they do not reflect any differences in the underlying reality. All of these possible results are derived by a strict application of the historical cost principle. It should also be remembered, however, that last year's closing inventory is this year's opening inventory. In the second year, it is the difference between the opening inventory of year 2 and the closing inventory of year 2 that is deducted from sales to affect the gross profit. Consistent differences between differently calculated inventory figures will cancel out when year-end balance sheet figures are being compared.

Activity 10.E

The most commonly considered inventory cost assumptions are the FIFO, LIFO and weighted average methods. Which seems preferable?

Feedback

Inevitably, the response to this question is influenced by the chosen criteria. One rational criterion would be the suggestion that up-to-date historical costs are better than out-of-date historical costs. From a profit calculation perspective, LIFO matches more recent costs against current revenue levels, whereas FIFO matches older costs against current revenue levels. This sounds like an argument in favour of LIFO. From a balance sheet perspective, however, FIFO leaves the latest historical cost figures in the balance sheet, i.e. the closing inventory is based on historical costs dated closer to the balance sheet date under FIFO than under other methods. This sounds like an argument for FIFO.

Weighted average is essentially a compromise between FIFO and LIFO. It is therefore less 'better' in one sense and less 'worse' in another. Of course, if tax bills are based on the method chosen for financial reporting, then LIFO would be preferred if prices are rising.

10.5 Other cost methods

10.5.1 Standard cost

For the purposes of cost accounting, a business may have established a series of standard costs for its inventories at various levels of completion. These costs may be used for inventory valuation. Further reference to standard costs is left to books on cost accounting.

10.5.2 Base inventory

This approach is based on the idea that a certain minimum level of inventory is necessary in order to remain in business at all. Thus, it can be argued that some of the inventory, viewed in the aggregate, is not really available for sale and should therefore be regarded as a non-current asset. This minimum level, defined by

management, remains at its original cost and the remainder of the inventory above this level is treated as inventory by one of the other methods. Such a method has been used by some oil companies for the oil in pipelines. In our numerical example in Section 10.4, the minimum level might now be set at 10 units.

10.5.3 Retail inventory and gross profit margin

There is another method sometimes used in large shops which have great numbers of different small items. Using this, the inventory is first counted and its total value at selling prices is worked out. Clearly, though, to value inventory at selling prices would be to take profit before sale. In order to avoid this, ratios of cost to price are worked out item by item or class by class and these are applied to the inventories to reduce them to cost. Since current prices and current costs will be used, there will be a result similar to FIFO. This is called the *retail inventory method*.

An alternative method uses a gross profit margin, which is worked out using experience of prior years. Here, the valuation is even quicker, because the inventory cost is worked out by taking the goods bought (at cost) *plus* opening inventory (at cost), *less* the goods sold (at selling price reduced to cost by application of the gross profit margin). So, no count is made. Consequently, this method should only be used as a check on other methods or when no other method is possible (e.g. to value inventory destroyed in a warehouse fire).

10.5.4 Current replacement cost

Historical cost is undoubtedly the most often used type of input valuation basis, and is required by IAS 2. However, an alternative possibility would be to use the current input cost, rather than the historical input cost, for inventory and cost-of-sales purposes. This has the theoretical advantage of using up-to-date cost levels both in closing inventory and in cost of sales (and therefore in calculating gross profit). However, the use of current input cost – often known as current replacement cost – involves more estimation.

10.6 Valuation of inventory using exit values

The use of exit values would rely on the proposition that the value of the inventory to the firm is the future receipts which will arise from selling it. There are several ways in which this exit value could be measured.

1. *Discounted money receipts* can be used when there is a definite amount and time of receipt. This will seldom be the case except for contracts of supply.
2. *Current selling prices* (fair value) may be used when there is a definite price and no significant selling costs or delays. For example, inventories of gold may be valued in this way under IFRSs.
3. *Net realizable value* (NRV) is the estimated current selling price in the ordinary course of business, less costs of completion and less costs to be incurred in marketing, distributing and selling but without deduction for general administration or profit.

There seem to be grounds for using net realizable value when sales prices and other costs are known, particularly for inventories in an advanced state of completion. It can be argued that, if 90 per cent of the work has been done, then to take all the profit before sale is better ('fairer') than taking none. However, conventional accounting is not disposed towards a consistent use of this valuation method, because profit would then be taken before the inventory was sold.

10.7 Practice

IAS 2, *Inventories*, requires entities to measure inventory at the lower of historical cost and net realizable value. Cost, as discussed earlier, comprises all costs necessarily incurred in bringing the inventories to their present location and condition. Net realizable value is the estimated selling price in the ordinary course of business, less any estimated costs of completion and estimated costs necessary to make the sale. The purpose of this 'lower of cost or market' approach is to measure the inventory at cost until there is an impairment.

This 'lower of cost and NRV' is calculated on an item-by-item basis. So, for each separate item we need to determine both cost, under one of the methods discussed earlier, and net realizable value, as defined above. The EU accounting Directives (both the original and the 2013 revision) require the same and therefore so do laws in countries within the European Union. The significance of this 'separate items' point should be noted. Suppose there are three products, A, B and C, with values as shown in Table 10.8. The value for closing inventory is €30, not the lower of €33 and €36. This ensures that any impairment of one type of inventory is not masked by increases in value of other types, which could be seen as a classic example of the prudence convention.

Table 10.8 Lower of cost and NRV by item

Product	*Cost (€)*	*NRV (€)*	*Lower (€)*
A	10	12	10
B	11	15	11
C	12	9	9
Total	33	36	30

There has been considerable debate over several decades as to whether or not restrictions should be placed on the choice of the inventory cost assumption. The EU accounting Directive allows 'weighted average prices, the first in, first out (FIFO) method, the last in, first out (LIFO) method, or some similar method'. IAS 2 (as revised in 1993) had its 'benchmark' requirement, where specific identification is not applicable, as 'by using the first in first out or weighted average cost formulas' but accepted LIFO as an 'allowed alternative'. However, the current version of IAS 2 forbids the use of LIFO from 2005 onwards. It explicitly permits, where specific identification is not applicable, only the FIFO or weighted average cost

formulae (paragraph 25). A typical IFRS policy for inventory valuation for 2015 is as follows:

> Inventories are included in the financial statements at the lower of cost (including raw materials, direct labour, other direct costs and related production overheads) and net realizable value. Cost is generally determined on a first in, first out basis. Net realizable value is the amount that can be realized from the sale of the inventory in the normal course of business after allowing for the costs of realization.

Researchers have found that the choice of FIFO and weighted average varies among IFRS reporters, particularly by country. For example, German companies use weighted average much more than UK companies do. This might be because, for tax reasons, German companies usually use weighted average in unconsolidated statements under German GAAP, and this flows through to consolidated IFRS accounting.

LIFO is not usually allowed under the national rules of several countries (e.g. France and the United Kingdom), but is allowed (and found) in, for example, Germany, Italy and the Netherlands. Moreover, it is a common method in the United States. This is because it is allowed for tax purposes there and, as noted earlier, tends to show lower profits than FIFO or weighted average.

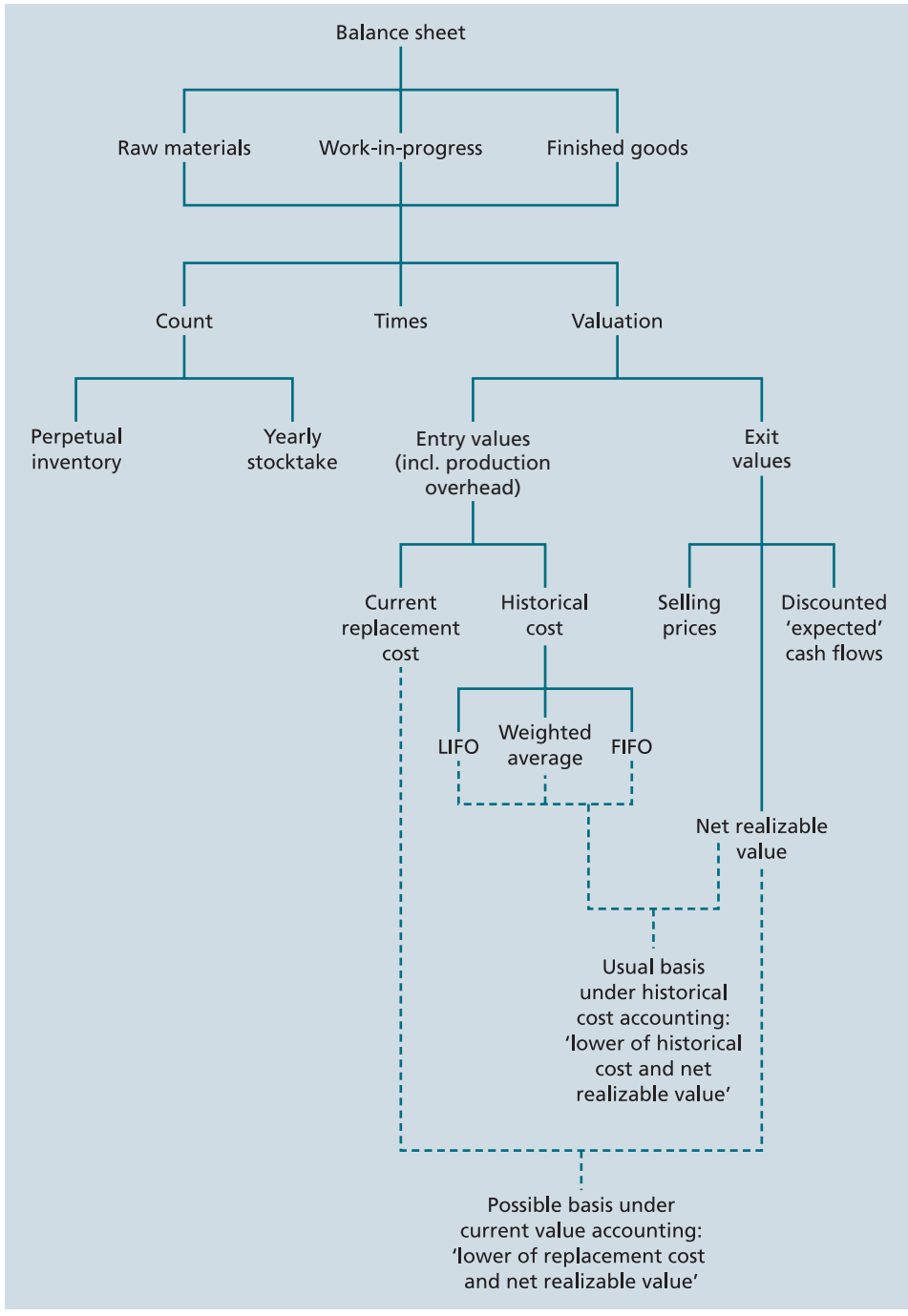
Sometimes, the inventory basis is described as 'the lower of cost or market'. However, this is too vague because, just as 'cost' can mean FIFO or something else, so 'market' has several possible meanings. As explained above, it means net realizable value in IAS 2. However, in German or US national rules, companies use current replacement cost unless NRV is even lower.

Summary

A diagrammatic summary of the various aspects of inventory valuation is given in Figure 10.1.

- Valuation of inventory involves establishing quantities and a monetary amount for each unit. This amount is usually based on historical cost, reduced to net realizable value if this is lower.
- A number of different methods are commonly considered within the historical cost approach, producing different reported results for both inventory and gross profit. The preferable method depends on the criteria chosen as significant.
- IAS 2 requires inventory to be measured at the lower of cost and NRV; and it does not allow LIFO as a way of measuring cost.
- Alternatives to historical costs would be possible. Exit values are not generally used except to account for damage or other loss of value. Current replacement cost is sometimes used as a version of 'market' price.

Figure 10.1 Inventory valuation



References and research

The important IASB document that is relevant is IAS 2, *Inventories*.
The following papers extend relevant considerations in an international context:

- D. Pfaff, 'On the allocation of overhead costs', *European Accounting Review*, Vol. 3, No. 1, 1994.
- C.W. Nobes, 'The continued survival of international differences under IFRS', *Accounting and Business Research*, Vol. 43, No. 2, 2013.

MULTIPLE CHOICE QUESTIONS

Answers to these questions are in Appendix D.

10a. The following figures relate to the production of product X:

Direct cost: Labour	€6 per unit
Materials	€4 per unit
Direct manufacturing overheads	€80,000
Indirect manufacturing overheads	€120,000
Other company overheads	€160,000
Selling costs	€40,000

If the year's production is 20,000 units and this product uses 25 per cent of total factory production, the unit cost for product X in accordance with IAS 2 is:

A. €10.
B. €14.
C. €15.50.
D. €17.50.

10b. A company buys and sells units of product P as follows:

1 January	buy	2 at	€30
1 February	buy	3 at	€40
1 March	sell	1 at	€60

Under a FIFO method, the gross profit on the sold item is:

A. €20.
B. €24.
C. €25.
D. €30.

10c. If the company in 10b uses LIFO, the gross profit is:

A. €20.
B. €24.
C. €25.
D. €30.

10d. If the company in 10b uses the weighted average method, the gross profit is:

A. €20.
B. €24.
C. €25.
D. €30.

? EXERCISES

Feedback on the first three of these exercises is given in Appendix E.

10.1. 'The production cost of inventory is always highly subjective and uncertain, because of the problem of overheads. Since the valuation of an inventory of manufactured items can never be reliable, accountants should concentrate on making it relevant'. Discuss.

10.2. V.O. Lynn commences business on 1 January buying and selling musical instruments. She sells two standard types, violas and cellos, and her transactions for the year are as set out in Table 10.9 (all prices are in euros).

Table 10.9 Sale/purchase transactions for V.O. Lynn

	Violas		*Cellos*	
	Buy	*Sell*	*Buy*	*Sell*
1 January	2 at 400		2 at 600	
31 March		1 at 600		
30 April	1 at 350		1 at 700	
30 June		1 at 600		1 at 1,000
31 July	2 at 300		1 at 800	
30 September		3 at 500		2 at 1,100
30 November	1 at 250		1 at 900	

You are aware that the cost to V.O. Lynn of the instruments is changed on 1 April, 1 July and 1 October, but will not change again until 1 January following.

a. Prepare a statement showing gross profit and closing inventory valuation, separately for each type of instrument, under each of the following assumptions:
   i. FIFO;
   ii. LIFO;
   iii. weighted average (separately for each transaction);
   iv. replacement cost (assuming that this is equivalent to the most recent price).

b. At a time of rising prices (i.e. using the cellos as an example), comment on the usefulness of each of the methods.

10.3. Marcus Co. has been in operation for three years. The purchases and sales information in Table 10.10 represents the company's activities for these three years.

Table 10.10 Sale/purchase transactions for Marcus Co.

	20X1	*20X2*	*20X3*
Sales (unit)	12,000 @ €50	20,000 @ €60	18,000 @ €65
Purchases (units)	4,000 @ €20	8,000 @ €35	7,000 @ €40
	7,000 @ €20	4,000 @ €30	5,000 @ €35
	8,000 @ €30	1,000 @ €40	8,000 @ €25

Prepare a schedule illustrating the number of units held at the end of each of the three years shown.

10.4. Using the information contained in Exercise 10.3 above, calculate the value of the year-end inventories using FIFO and LIFO. Also, prepare profit and loss accounts showing the gross profit under each of the valuation methods for all three years.

10.5. R and A are brothers. Recently, their aunt died leaving them €1,000 each. Initially, they intended setting up in partnership selling pils and lager. However, R felt that there was no future in the lager market, whereas A expected that lager sales would boom. After an argument, the brothers decided to set up their own separate businesses, R trading in pils and A in lager.

The following shows the transactions undertaken by R in their first trading period:

Purchases	260 pils at €1.25 each.
Purchases	100 pils at €1.50 each.
Purchases	200 pils at €3.75 each.
Then, sales	300 pils at €4.00 each.

Whilst R was finding that prices were rising swiftly in the market for pils, A by shrewd buying was able to obtain a lower price per unit for each successive purchase he made. The transactions that A undertook in the trading period were:

Purchases	200 lager at €1.75 each.
Purchases	200 lager at €1.70 each.
Purchases	200 lager at €1.55 each.
Then, sales	500 lager at €2.00 each.

a. At the end of the period both brothers wish to withdraw all their profits (all transactions were made in cash). How much will each brother be able to withdraw:
   i. calculating profit on a FIFO basis;
   ii. calculating profit on a LIFO basis?

b. After withdrawing all profits in cash, what ability has each brother to replenish the stock of the goods he trades in? What assumptions do you need to make in answering this question?

10.6. A firm buys and sells a single commodity. During a particular accounting period it makes a number of purchases of the commodity at different prices. Explain how assumptions made regarding which units were sold will affect the firm's reported profit for the period.

10.7. What is meant by 'lower of cost and net realizable value'? What difficulties exist in the application of this measurement basis?

Chapter 11

Financial assets, liabilities and equity

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Objectives

After studying this chapter carefully, you should be able to:

- outline the definitions, recognition and measurement of financial assets (cash, receivables and investments) and financial liabilities;
- know when different types of investments should be measured in different ways and when to record gains and losses;
- explain that there are two main types of liabilities (payables and provisions) and outline the current practices relating to their recognition and measurement;
- list the components of an entity's residual equity;
- explain the differences in the meanings of accounting terms such as allowance, provision, fund and reserve;
- distinguish between debt and equity securities, while understanding that securities can have features of both.

11.1 Introduction

As explained earlier in this book, the items in a balance sheet can be summarized under the headings of three main elements: assets, liabilities and equity. Chapter 8 looked at the definition of assets and liabilities and some ideas relating to their recognition. Chapters 9 and 10 concentrated on the recognition and measurement of a number of particular types of tangible and intangible assets. This chapter includes coverage of the other main type of asset: financial assets, such as cash, receivables and investments. Figure 11.1 gives examples of the various types of asset. As for tangible assets, monetary assets can be current or non-current.

Figure 11.1 Types of asset

	Tangible	Intangible	Financial
Non-current	Head office Leased machine	Patents Brands Goodwill	Long-term investment
Current	Inventory		Cash Receivables

The treatment of financial assets is closely linked to the treatment of financial liabilities, which are also examined in this chapter. The IASB has four important standards on financial assets and liabilities: IAS 32 (on presentation issues), IAS 39 (on recognition and measurement), IFRS 7 (on disclosures) and, IFRS 9, which updates and changes some aspects of IAS 39. However, IFRS 9 is not compulsory until 2018. Transitional provisions and possible partial early adoption specifications are complicated. Further, the standard has not been adopted yet in the EU, so we generally refer to IAS 39 here. Another standard of great relevance is IFRS 13 which defines and explains 'fair value'. Although this applies to other types of asset, it is particularly important for financial items. This chapter also looks at other types of liability (e.g. provisions) and at equity, which is the residual interest in the net assets of the company. Equity itself is generally divided into various categories. As will be explained, some financial instruments contain elements of both liabilities and equity. The term 'financial instrument' can encompass any financial asset, financial liability or equity instrument.

Since there is no standard format of a balance sheet in IAS 1, it may be helpful to refer to the standard European headings, as illustrated earlier in Table 8.1. For convenience, this is repeated here in a simplified form as Table 11.1.

This chapter deals with the financial assets (non-current and current investments, receivables and cash) and with all the items on the right-hand side of a balance sheet.

Table 11.1 Main headings on an EU balance sheet

Assets	*Capital and liabilities*
Non-current assets	*Equity*
Intangible assets	Subscribed capital
Tangible assets	Share premium
Investments	Revaluation reserve
	Legal reserve
Current assets	Profit or loss reserves
Inventories	
Receivables	*Provisions*
Investments	
Cash	*Creditors* (non-current and current)

11.2 Cash and receivables

There are fewer problems of recognition and measurement with cash than with many other assets. If an entity controls some cash, there will clearly be a future benefit in the shape of things that can be bought. Again, apart from the problems of foreign currency (see Chapter 15), the value of cash is generally its face value.

However, there are some difficulties of definition. For example, suppose that the entity deposits most of its spare cash with a bank in a 48-hour notice deposit account. Is that cash? The heading 'cash' in a balance sheet generally means 'cash at hand and in the bank'. Nevertheless, if money were deposited with the bank for a fixed two-year term in order to gain a higher level of interest, the entity would have an investment rather than cash.

In other words, some dividing line has to be invented between 'cash' and 'investments'. For a balance sheet, the cut-off between current financial assets and non-current is one year. However, in IFRS cash flow statements (see Chapter 13), the focus of attention is 'cash and cash equivalents', which generally includes investments of up to three months' maturity that are convertible to known amounts of cash.

Real-world example

Practice differs from one company to another, even under IFRS. The current assets of Bayer and Nokia are shown as Figure 11.2. As can be seen, Bayer includes 'cash equivalents' with cash, but Nokia does not. So, the two 'cash' figures cannot be directly compared.

Generally, when amounts of money are due from persons or entities, they are called receivables (IAS 1 and US English) or debtors (in UK law). As usual, it is necessary to check that there is an asset. Often this will be easy, because there may be a contractual right to receive a specified amount of cash on a particular date.

This will also give a good start to the process of measuring the asset. Generally, short-term receivables are valued at the amounts expected to be received, after making allowance for any likely non-payment by the debtors. These allowances against

Figure 11.2 Abbreviated current assets of Bayer and Nokia, €bn, 31 Dec. 2014

Bayer	
Inventories	8.5
Trade accounts receivable	9.1
Other financial assets	0.1
Other receivables	1.5
Claims for income tax refunds	0.1
Cash and cash equivalents	1.9
Total	22.2
Nokia	
Inventories	1.3
Accounts receivable	3.4
Prepaid expenses and accrued income	0.9
Current income tax assets	0.1
Other financial assets	0.3
Investments at fair value through profit and loss, liquid assests	0.4
Available-for-sale investments, liquid assets	2.1
Available-for-sale investments, cash equivalents	2.7
Bank and cash	2.5
Total	13.7

Source: Authors' own work based on published financial accounts.

(or impairments of) the value of receivables for possible bad debts can be split into specific and general categories. The first of these relates to identified debtors who are unlikely to pay because of bankruptcy or other reasons. The second (general allowances) are often calculated in terms of a percentage of the total receivables, based on the experience of previous years. Sometimes, these various allowances against the value of receivables are called 'provisions' or 'reserves'. This is unhelpful because those terms also have other meanings (see Chapter 8 and Section 11.4.3).

In most countries, the setting up or increase of specific allowances is a tax-deductible expense. By contrast, in several countries (e.g. Denmark, France, the United Kingdom and the United States) a general allowance is not tax-deductible because it is too easy for the taxpayer to manipulate it. Nevertheless, in some of the countries where tax and financial reporting numbers are kept closely in line (e.g. Germany, Italy and Japan), general allowances are indeed tax-deductible, which may lead to deliberate inflation of them. The disclosures of Japanese companies before convergence with IFRS make this the most obvious, as in the box below.

Allowances against receivables

Allowance for doubtful receivables is provided at the maximum amount that could be charged to income under Japanese income tax regulations, as adjusted to correspond to receivables after eliminating intercompany balances.

Source: Matsushita published financial statements for 1999.

In cases where fixed amounts of money are to be received after a considerable period, it is necessary to ask if the face value of these amounts represents a fair valuation. The market value of amounts to be received in one year's time would be less than their face value.

Activity 11.A

How much would an entity be willing to pay now in order to gain the completely certain receipt of €100,000 in exactly 5 years' time? Assume that the current (and expected) rate of interest on government bonds is 5 per cent.

Feedback

A rational entity would be willing to pay noticeably less than €100,000 even if the expected receipt was not risky. The value could be obtained by discounting the sum at 5 per cent for 5 years. For 1 year, the discounted value (or net present value, NPV) would be:

$$€100{,}000 \times \frac{100}{105} = €95{,}238$$

For five years, the NPV would be

$$€100{,}000 \times \left(\frac{100}{105}\right)^5 = €78{,}353$$

IAS 39 (paragraph AG 64) or IFRS 9 (paragraph 5.1.1) require that such financial assets are measured at fair value (see Chapter 8). This means that account should be taken of the time value of money for those receivables that are not short-term. This has not been the traditional practice in most countries. However, in Germany, there has been a long history of taking account of this in order to reduce the value of receivables (e.g. see box below). However, given that payables were not discounted, this discounting of receivables might be seen rather as an indication of prudence and a desire to reduce taxable income.

Receivables and other assets

These are generally carried at their nominal value. Notes receivable and loan receivables generating no or low interest income are discounted to their present values. For risks of collectability, transfer risks and general credit risks, appropriate valuation allowances and write-downs are carried out to take into account lower fair values.

Source: 2014 Financial Statements of BASF SE

11.3 Investments

11.3.1 Types of investment

The most common financial investments that many companies have, apart from deposits with banks, are holdings of the debt securities of states or of other companies (e.g. debentures) or of the equity securities of other companies (e.g. ordinary shares). The securities become the financial assets (investments) of the entities or persons

that acquire them. The nature of these securities is discussed in more detail later for the purposes of examining accounting for them by the entity that issues them.

Under EU national laws, investments are divided into 'fixed' (or 'non-current') and 'current' (as in Table 11.1) on the basis of whether or not they are intended by a company's directors for continuing use in the business. Then, fixed asset investments are usually valued at cost, less any impairment in value that takes account of the long-term rather than the immediate market value (see Chapter 9). By contrast, current assets are valued at the lower of cost and net realizable value.

The problem with this conventional approach is that it rests on a vague distinction between fixed and current that cannot be easily checked by auditors or relied upon by users. Just how long is 'continuing'? Banks and insurance companies tend not to use this fixed/current distinction, but they have used a similar trading/investment split. Under IFRS, the measurement of financial assets is also based on a split into two main types, as will be explained.

Why it matters

Suppose that the fixed/current distinction is based on the intentions of directors, as above. Suppose also that a company has bought a large amount of investments early in the year. Because of a stock market crash near the year end, the market value of the investments falls. If the directors want to make the financial statements look as good as possible, they will intend (or say they intend) to keep the investments for several years. They can then classify all the investments as 'fixed' and thereby avoid the use of any temporarily low net realizable value in the balance sheet and any resulting loss in the income statement. They would have to argue that the low value was unlikely to be permanent.

However, the directors may want to take account of the fallen market value, because the loss would be tax-deductible (e.g. in Germany) or because they want to show lower profits in order to avoid a claim for wage rises. If so, they can say that the investments are current assets.

11.3.2 Towards fair value

It may seem unsatisfactory that identical pieces of paper can be valued in different ways by the same company, depending on the plans (or alleged plans) of a company's management. Admittedly, reference to the intentions of directors is the general basis for the determination of the fixed/current distinction. However, it is usually obvious in any particular entity whether materials are inventory or fixed assets. It is not obvious when looking at investments.

Returning to the 'Why it matters' problem above, it is not only losses that can be postponed or taken quickly. The same applies to gains. On this subject, try Activity 11.B.

Activity 11.B

Suppose that a non-financial company started the year with no investments but with cash of 100. It then buys some listed shares for 10. The result is shown in part A of Figure 11.3. Then, suppose that the investment does well so that its market value rises to 15. Has the company made a gain?

Feedback

Under the national accounting rules in many countries (e.g. EU countries), the implied gain of 5 is neither realized nor recognized. However, supposing that a company *wants*

Figure 11.3 Purchase, sale and repurchase of investments

A. Balance sheet effects after purchase

Investments	0		
	+ 10		
	10		
Cash	100		
	− 10		
	90		

B. Balance sheet effects after sale and re-purchase

Investments	10	Profit	+5
	− 10		
	+ 15		
	15		
Cash	90		
	+ 15		
	− 15		
	90		

to record a profit. All it has to do is to telephone the stockbroker and request a sale followed by an immediate repurchase of some other investment for the same amount as the sale. Ignoring any tax effects, the results will be as in part B of Figure 11.3. After this transaction, the company has the same amount of investments and the same amount of cash as before, but the telephone call produced an increase in the recorded figure for the investments of 5 and the recognition of profit of 5. It would, therefore, be possible to allow unrealized profits to build up for years and then to sell the investments when a profit was needed to cover up a trading loss.

The real position is often even worse than that examined in Activity 11.B. Suppose that a company had a large number of investments, some with unrecognized gains and some with unrecognized losses. Then it could sell particular investments in order to achieve a desired amount of recognized gain or loss.

Why it matters

The conclusion from this discussion is that financial reporting would be more relevant if there were continual use of current market values for investments, irrespective of whether or not the investments are sold. This would ensure the immediate reporting of all such gains and losses, independently of management action and possible manipulation. Of course, there would be major problems of cash flow for taxpayers if the tax system followed this approach and demanded tax on unsold investments – as has happened in many countries (e.g. France and Italy) – if the gains were included in the financial statements.

Although current values may be more relevant, are they sufficiently verifiable? This is the classic problem examined in Chapters 3 and 8. Fortunately, for some investments (e.g. listed shares) there is a market price published in newspapers;

this is both verifiable and relevant. As explained below, in the case of some such investments, they are valued at current prices (fair value) by banks and other financial institutions in several countries and this is now required for companies in general by IAS 39 or IFRS 9.

Under IFRSs, the same applies to derivative instruments, e.g. forward dollar contracts. Since derivative contracts are usually signed at market prices, their net value on the date of signing is about zero. Under those national accounting systems which use cost only, derivatives are therefore not recorded at all. However, when prices move (e.g. the value of the dollar), a derivative contract can be worth a large amount, either positive or negative. IAS 39 and IFRS 9 require derivatives to be recognized, and measured at fair value.

However, IAS 39 preserves some of the old idea of basing values on the intentions of the directors, in that those investments intended to be held to maturity are to be valued on a cost basis. Equity investments do not have maturity dates, but most debt investments do. This means that fluctuations in value of bonds can remain unrecognized if directors state that their investments are intended to be held to maturity.

11.3.3 Accounting for gains and losses

When investments are revalued to fair value before they are sold, it is necessary to decide where to show the recognized gains and losses. The examination of income recognition in Section 8.4 began this discussion. Referring back to the example of Figure 11.3, under IAS 39 the investments would be revalued to 15 whether sold or not, and a gain of 5 would be recorded as gain of some sort whether there was a sale or not. Many company managers do not like to show gains and losses until there is a sale because this makes the profit figure more difficult to control. Their wishes were taken into account in IAS 39, in that gains and losses are shown in other comprehensive income (OCI) (see Chapters 6 and 8) if the investments were not for 'trading' but were merely 'available for sale'. This last category is a residual one, containing all the investments not classified as held to maturity or for trading. However, gains and losses on trading and derivative instruments go to profit or loss. The detailed requirements of IAS 39 and IFRS 9 taken together are both extremely complicated and further investigation is beyond the needs of an introductory text.

Figure 11.4 summarizes the IFRS treatments of investments.

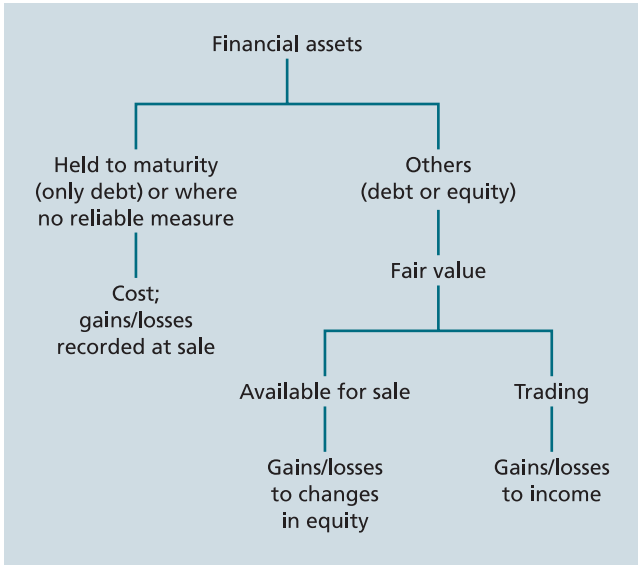
11.4 Liabilities

11.4.1 Definition

As mentioned in earlier chapters, the term 'liability' has a precise definition in the IASB's Framework, which is similar to that in the United States, the United Kingdom and some other countries. As a reminder, the IASB definition is:

> A liability is a present obligation of the entity arising from past events, the settlement of which is expected to result in an outflow from the entity of resources embodying economic benefits.

Figure 11.4 IAS 39's treatment of financial assets



This means that anything in the right-hand column of Table 11.1, excluding 'equity', should meet the definition of 'liability'. The IASB's Exposure Draft of 2015 on the conceptual framework proposed to replace the 'expected' part of definition, such that a liability is an obligation to transfer resources. This will not affect the conclusions in this section.

11.4.2 Payables

Referring to the items on the right of Table 11.1, it will be simpler to start at the bottom with 'creditors'. The figures under 'creditors' or payables are sums legally due to outsiders where their identity and the amount are clear. Consequently, there is generally no doubt that these items are liabilities or can be measured reliably enough to recognize them in the balance sheet. Examples are a bank loan or an unpaid invoice sent by a supplier. Table 11.2 adds detail to Table 11.1 by showing the standard headings for liabilities in one of the balance sheet formats of the EU accounting Directive. These items could be divided into 'non-current' and 'current' on the basis of whether or not they are to be repaid within one year. Such a distinction is generally required as explained in Chapter 6.

The first item under 'creditors' in Table 11.2 is 'debenture loans'. These are amounts due at a fixed face value and a fixed date to persons or entities who have lent money to the company in the past. The piece of paper that acknowledges the debt can be passed from one person to another. In many cases, debentures can be traded on a stock exchange. Some debentures allow the holder to turn them into the company's shares under certain conditions. In this case, their substance is partly debt and partly equity. IAS 32 requires such instruments to be split into these elements.

Table 11.2 Headings of liabilities in the EU Directive

Provisions
1. Provisions for pensions and similar obligations
2. Provisions for taxation
3. Other provisions

Creditors
1. Debenture loans
2. Amounts owed to credit institutions
3. Payments received on account of orders
4. Trade creditors
5. Bills of exchange payable
6. Amounts owed to affiliated undertakings
7. Amounts owed to participating interests
8. Other creditors including tax and social security
9. Accruals and deferred income

The last item, 'accruals and deferred income', also needs some explanation further to that already given in Section 3.2.3. Accruals are a recognition that the business has used up services in the period but not paid for them. For example, suppose that a company pays for a service (e.g. the supply of electricity) once per year. The company's accounting year ends on 31 December 20X1. However, the electricity bill is measured for the year to 31 January 20X2. At the balance sheet date, there has been no bill for most of the year. However, the company has used electricity and will have to pay for it, so an accurate estimate can be made (and recognized) of the relevant expense for 20X1 and the resulting liability in the 20X1 balance sheet.

When it comes to measuring the size of all these creditors, they are normally valued at their face values. If amounts are not to be paid in the near future, there is usually an interest payment to be made to the creditor. In the unlikely event of there being material amounts owing in the long term but with no interest to pay, it would be necessary, under IFRS, to reduce the liability (to net present value) to take account of the time value of money.

11.4.3 Provisions

Provisions are defined by IAS 37 as being liabilities of uncertain timing or amount. A good example is the first entry in Table 11.2: provisions for pensions. Suppose that a company promises to pay a pension to an employee when she retires. The pension entitlement builds up as the employee works for the company for more and more years. The pension will be paid every year from retirement to death and perhaps will be equal to half the final year's salary. Such an entitlement would be called a 'defined benefit pension'.

From the company's point of view, the pension is part of employee compensation; it is a current staff expense with a postponed payment date. Each year, the company should charge a pension staff expense and increase the liability to pay the pension later. The obligation to the employee meets the above definition of liability. However, the exact amount depends on many things, such as the final salary

and how long the employee will live after retirement. Consequently, the company can only *estimate* the amount, so the liability is called a *provision*.

It should be noted that this does *not* mean, in itself, that money or investments have been set aside to cover future payments to the pensioner. It might be a good idea to do this, but it requires the company to take deliberate action that is quite separate from accounting for the liability. If money is sent irrevocably from the company into the hands of independent financial managers who will invest it so as to pay pensioners, this activity is called *funding*. For the balance sheet, the money can no longer be shown as an asset (because it is not controlled) but the fair value of any accumulated fund is set off against the accumulated obligation, because the fund can only be used to pay the pensioners, so this reduces the probable size of the company's liability. The balance sheet then shows the balance of the unfunded obligation (the deficit) as a provision.

It is vital not to confuse a provision with a fund. A provision is an obligation to pay money. A fund is a pile of assets (money or investments). Internationally, the scope for confusion is considerable; e.g. the Italian for 'provision' is *fondo* and the Italian for 'fund' is *fondo*. Other language points are considered at the end of this chapter.

Other examples of provisions are estimates of liabilities to pay tax bills or, in the case of a mining company, to pay for cleaning up the environment after extracting minerals from the earth. Also, a company should recognize a provision for its obligation for future repair costs for products as a result of warranties given at the time of sale.

Real-world example

At the end of 2011, BP showed provisions of $26.4bn, including $15.3bn of expected costs of clearing up the enormous oil spill in the Gulf of Mexico which happened in 2010. These provisions amounted to 23 per cent of the size of the company's net assets. By the end of 2014, despite many payouts, the provision for the Gulf of Mexico spill was still showing at $8.6bn.

It is obvious that a considerable degree of subjective estimation is likely to be involved here. A provision should generally be calculated on the basis of experience of the issue at hand, such as previous typical breakdown costs or previously experienced clean-up costs, but further adjustments should be made to take account of known or likely changes in circumstances.

A particularly controversial issue in the area of provisions is the degree to which anticipated expenses and losses should be provided for. The EU Directive (originally Article 20, now Article 12), on which laws in EU countries are based, states that 'provisions' cover:

1. liabilities likely to be incurred or certain to be incurred but of uncertain amount or timing;
2. at the option of each country's lawmaker, the heading can also cover charges likely or certain to be incurred in the future.

This seems to allow the creation of provisions for trading losses, currency translation losses or repair expenses of an ensuing year. As discussed in Section 8.2, such items generally do not meet the definition of a liability under IFRS requirements, so

they should not be provided for in IFRS balance sheets. However, even in IFRSs, the position is not entirely clear. Some expected outflows are recognized as liabilities even if the entity could escape them. For example, under IAS 19, pension liabilities are recognized even if a company could reduce them or cancel them by sacking all its staff immediately, which it has no intention of doing.

Activity 11.C

Suppose that a company has a 31 December 20X1 year end. It has had a very bad year and its directors decide at a Board meeting on 15 December 20X1 to close down half the factories and to lay off half the staff at the end of January 20X2. Detailed plans are made and minuted at the Board meeting. However, in order to avoid an unhappy Christmas, the plans are kept secret until 7 January 20X2. When the financial statements for 20X1 are prepared in February 20X2, should the balance sheet record a provision for the large restructuring and redundancy costs?

Feedback

The traditional (and prudent) answer in some continental European countries would be 'yes' and there would be no problem in fitting such a provision into the EU Directive's definition (as above). However, is there a liability at the balance sheet date? (Refer back to the definition of 'liability' at the beginning of this section.) The Board's decision is the past event. There is expected to be a future outflow of resources, but the same could be said for next year's wages bill, which we would not expect to charge this year. Is there an obligation to a third party on 31 December 20X1? The answer, depending on the exact circumstances, seems to be 'no, not yet'. The Board could have changed its mind on 6 January. Therefore, no provision should be recognized under IFRS requirements or under other similar sets of rules, although the Notes to the financial statements must explain the situation.

Why it matters

One of the objectives of the executives of a listed company is to make the earnings figure look as good as possible. However, that does not necessarily mean as high as possible, because they will be thinking about whether or not the earnings can be maintained at the high level in the future periods. Consequently, the executives may be trying to smooth the earnings gently upwards. It will help the executives if provisions can be made and reversed easily because they are vaguely defined. IAS 37 attempts to control this by banning provisions until there is an obligation.

Activity 11.D

In the example discussed earlier in Activity 11.C, would an IFRS balance sheet give a fair presentation if it did not recognize a provision for the expenses of restructuring that had been decided upon by 31 December 20X1 and were likely to be paid early in 20X2?

Feedback

In order to answer this question, it is necessary to remember that the financial statements are prepared using a series of conventions that users are expected to be familiar with. The definition of 'liability' under the IFRS regime has been the same for over 25 years and is published in the IASB's Framework and various standards. Would it be fair to show an item under the heading 'liabilities' that clearly did not meet the definition? Probably not.

Furthermore, it should be noted that, unless everyone sticks to this clear definition, it is very difficult to stop companies from distorting reported profits by choosing to make provisions in good years but not in bad years.

In order to inform the users, IFRS requires disclosures in the Notes about any restructuring proposals when they have been announced or begun by the date that the financial statements have been authorized for issue.

When a provision is recognized, it becomes necessary to measure it. By definition, estimates are needed. The accountant must make the best possible estimates and be prepared to revise them at each balance sheet date in the light of better information. Provisions, such as those for pensions, may extend decades into the future. Fair presentation requires the use of discounting to take account of the time value of money.

IAS 37 (paragraph 36) requires a provision to be measured at the 'best estimate'. This does not mean the most likely outflow. It means the best estimate of what it would cost to be relieved of the liability by making a single payment at the balance sheet date. Consequently, an obligation that is 60 per cent likely to lead to a payment of €10m and 40 per cent likely to lead to a payment of zero should be valued at €6m, or less (because of discounting) if the payment would be delayed significantly into the future.

11.4.4 Contingent liabilities

Suppose that Company X borrows €1m from the bank but is required by the bank to get Company Y to promise to pay the loan back to the bank in the unlikely event that Company X cannot do so. Company Y has thereby guaranteed the loan. Is this guarantee a liability for Company Y? In a sense, there is a legal obligation, but it is unlikely to be called upon. Where there are unlikely outflows caused by obligations or possible obligations, these are called *contingent liabilities* and should be disclosed in the Notes to the financial statements, rather than being recognized as liabilities.

One curious result of all the above is that a 60 per cent chance of paying €10m is measured at €6m but a 40 per cent chance is measured at zero, because it does not meet the recognition criterion of probable outflow.

In 2005, the IASB issued an Exposure Draft proposing to amend IAS 37. This would remove probability from the recognition criteria, so that the 40 per cent obligation would be measured at €4m, as it already would be if assumed as part of a business combination (see Chapter 14). However, IAS 37 has not been amended. Nevertheless, the 2015 ED on the conceptual framework also proposes to move probability from the recognition stage into the measurement stage.

11.5 Equity

As noted several times in this book, the total equity is just the owners' interest in the residual difference between assets and liabilities. However, for various purposes, it is helpful to identify components of equity. For example, it may be useful to know how much could legally be paid out to shareholders. Certain elements of

equity, including share capital under most circumstances, cannot be distributed until the company is closed down. The five headings under 'equity' in Table 11.1 will now be examined. These are not all required by IAS 1, but some companies show them in IFRS statements as well as under national laws.

11.5.1 Subscribed capital

All companies must have some ordinary shares (called 'common stock' in US English). These are the residual equity in the business after all other more specific claims have been considered. In simple terms, ordinary shareholders come last in the queue of claimants on the business' resources and they are entitled to everything 'left over'. A wide variety of other types of share may also exist for any particular business. Non-voting shares are those that do not allow the holders to vote at a company's annual general meeting. Companies may issue different classes of ordinary share where the precise rights of the different classes are defined by the company's constitution. In some countries, e.g. the Netherlands, a certain type of priority shares have dominating voting rights. There can also be preference shares which have preference over the ordinary shares as regards dividends. That is, the preference dividend is a fixed amount which must be paid before any ordinary dividend can be paid. It must be remembered that a dividend is not receivable automatically as of right. Dividends are only receivable by shareholders if distributable profits are available in the company and if the dividends are approved by the shareholders in general meetings. Usually the preference shareholders also have preference as regards the repayment of capital in the event of the company being closed down.

Preference shares may be cumulative, in which case any dividend 'entitlement' not declared in any particular year carries forward to the following year(s) and would need to be settled in the later year together with that year's preference entitlement before the ordinary shareholders could expect any dividend at all. In many jurisdictions, preference shares are no longer popular because it is usually beneficial from a tax point of view to raise loans (on which the interest payments are tax-deductible) rather than to create further preference shares.

Some types of share, particularly preference shares, may be redeemable. This means that they may be paid off and cancelled under terms defined in the original offer document. If a preference share thereby meets the definition of liability, IAS 32 requires it to be shown as a liability and the dividend payment to be shown as an interest expense.

In most countries, shares have a *par value* (or *nominal value*) that distinguishes them from other types of share. This par value may have been the issue price of the type of share when it was first issued many years ago. The share capital figure in the balance sheet is the total number of shares multiplied by this par value.

Sometimes, shares may have been issued without calling immediately for full payment. This means that an amount of the potential share capital would be uncalled or called but not yet paid. Such unreceived share capital is sometimes shown as an asset, leaving the share capital figure at the total par value.

In some jurisdictions, it is possible for companies to use cash in order to buy back their own shares from shareholders. This might be done in order to use the

shares later to give to employees as 'share-based payments' instead of giving them salaries. While the shares are held by the company, they are called 'treasury shares' by IAS 32 ('treasury stock' in US terms or 'own shares' in UK law). Under IAS 32 such shares must not be shown as investments but as negative equity.

Real-world example

The shareholders' equity section from Nokia's balance sheet is shown as Figure 11.5. Nokia has bought back so many of its shares (recorded at prices paid to buy them) that the treasury shares exceed the share capital and share premium (recorded at original amounts received from shareholders). So, it shows a negative share capital, on balance.

Figure 11.5 Nokia's shareholders' funds (2014, €m)

Capital and reserves attributable to equity holders of the parent	
Share capital	245
Share issue premium	439
Treasury shares at cost	– 988
Translation differences	1,099
Fair value and other reserves	22
Reserve for invested non-restricted equity	3,083
Retained earnings	4,710
	8,611
Non-controlling interests	58
Total equity	**8,669**

Source: Authors' own work based on published company accounts.

11.5.2 Share premium

Share premium is called 'additional paid-in capital' or 'capital surplus' in US English. It is an amount received by the company in excess of the par value when the company issued the existing shares to their original shareholders. For example, suppose that a million shares of nominal value €10 each are issued by a company in exchange for €30 million cash. The record of this will be:

Debit: Bank	€30m
Credit: Share capital	€10m
Credit: Share premium	€20m

For the purposes of interpreting a balance sheet, it is generally suitable to add the share premium to the share capital and to treat them identically.

Why it matters

What is the significance of the difference between subscribed capital and share premium? Well, unusually for a 'Why it matters' discussion, it does not *really matter for most purposes. This is really a legal point that does not affect analysis of a going concern company for most purposes. For the calculation of the ratios discussed in Chapter 7, the two elements can be added together as equity capital.*

11.5.3 Revaluation reserve

The third type of equity is the *revaluation reserve*. This represents the extra claims caused when assets are revalued without the gain being taken to profit or loss (e.g. under IAS 16). Depending on practice and legal restrictions, which vary widely in different countries (see Chapter 9), this reserve may be caused by ad hoc revaluation of certain assets or may arise through a more rigorous and formal valuation policy (as under a fair value policy option of IAS 16). Under conventional accounting in most countries, these reserves are generally regarded as not available for distribution as long as the assets remain unsold. Since the gains on revaluation are a type of income, a more modern description of the credit balance is 'accumulated other comprehensive income'.

It would also be possible to set up a separate reserve for accumulated gains and losses on the currency translation of foreign subsidiaries' financial statements (see Chapter 15).

11.5.4 Legal reserve

The heading *legal reserve* refers to undistributable reserves required to be set up by particular laws within a country. For example, French law requires certain companies to set aside 5 per cent of profits each year until the legal reserve equals 10 per cent of share capital. There are somewhat similar laws in most 'macro' countries (see Figure 5.2), such as Belgium, Germany, Italy, Japan and Spain. The purpose of the laws is to protect creditors by restricting the size of distributable profits and thereby inhibiting the company from paying cash out as dividends to shareholders.

Such legal reserves are not found in the United States, the United Kingdom, Denmark or the Netherlands. The requirement for legal reserves in Norway was removed in 1998, which is a symptom of the direction of change in accounting in that country in the 1990s.

There are some language difficulties here. The term 'legal reserve' is not used here to refer to all reserves that are undistributable by law, which would include revaluation reserves. Also, it is helpful not to call these amounts 'statutory reserves' because that raises a confusion between statute law (e.g. a Companies Act) and a company's own private rules, sometimes called its statutes.

11.5.5 Profit or loss reserves

Profit or loss reserves include undistributed profits not shown under other headings above. In a simple company with no legal reserves, this would be all of this year's and previous years' undistributed profits. This could be called 'retained earnings'.

It would be misleading to call this amount the 'distributable profit', which is an amount determined under the laws of each country. For example, if buildings are revalued upwards, depreciation expenses should rise (see Chapter 9). This would reduce profit and loss reserves. However, UK law, for example, requires distributable profit to be calculated ignoring this, so that the legally distributable profit does not depend on whether a company chooses to revalue or not. More importantly, when

dealing with the consolidated financial statements of groups (see Chapter 14), the concept of distributable profit is meaningless in many countries because a group cannot distribute profit. This can only be done by an individual legal entity such as a parent company, although the overall group position will be considered when deciding on dividends.

11.6 Reserves and provisions

A major source of confusion surrounding the issues in this chapter is the international difference in the use of the words 'reserve' and 'provision'. In Section 11.2 it was pointed out that it would be helpful to refer to value adjustments against receivables as 'allowances' or 'impairments' rather than as provisions or reserves. In Section 11.4 it was stressed that provisions are obligations to pay money (liabilities), not funds of money (assets). From Sections 11.4 and 11.5 it should be clear that there is a vital distinction between a provision and a reserve. Setting up a provision for €1 million involves:

Debit: Expense	€1m
Credit: Liability	€1m

Setting up a legal reserve, for example, involves:

Debit: Equity (retained earnings)	€1m
Credit: Equity (legal reserve)	€1m

Why it matters *Setting up a provision in the manner described above makes profit worse by a million and net assets worse by a million, whereas setting up a legal reserve changes nothing of importance for interpreting the financial statements.*

Activity 11.E Examine the right-hand sides of the published balance sheets (of some years ago) of an Italian company (Costa Crociere, as seen before in Figure 8.2) and a French company (Total Oil). The relevant extracts are shown as Table 11.3. What is your opinion of the use of the word 'reserve'?

Feedback The translators have made a mistake here. They have used the English term 'reserve' to mean two vitally different things: reserves and provisions. This is despite the fact that the original Italian used *riserva* and *fondo* and the French used *réserve* and *provision*. The text below will explain why the translators fell into this error.

The terminological confusion is largely caused because of a difference between UK and US usages. In the United Kingdom and under IFRS (in 2015), the distinction between 'reserve' and 'provision' is as used throughout this chapter and seen in Table 11.1. However, in the United States the word 'provision' is seldom used, but the word 'reserve' is used to mean many things. For example, a US company might

Table 11.3 Confusing use of the word 'reserve' on the right-hand side of balance sheets

Costa Crociere (Italy)[a]	*Total Oil (France)*[b]
Stockholders' equity	Shareholders' equity
Capital stock	Common shares
Additional paid-in capital	Paid-in surplus
Legal reserve	Revaluation reserves
Other reserves	Legal reserve
Cumulative translation adjustments	Untaxed reserve
Retained earnings	General reserves
Net income for the year	Retained earnings
	Income for the year
Reserves for risks and charges	
Income taxes	
Other risks and charges	Contingency reserves
	Reserves for financial risks
Reserve for severance indemnity	Reserves for retirement benefits
	Reserves for specific industry risks
Reserve for grants to be received	
Payables	Debt

[a]Abbreviated from Figure 8.2.

[b]Abbreviated from published report for Total Oil. These headings relate to the parent company for 1993. Subsequently, no parent accounts are available in English. The more recent consolidated statements contain the same confusion with the word 'reserve', but less plainly.

refer to a pension reserve (i.e. provision) or a loan loss reserve (i.e. allowance or impairment). This is *not* so confusing to Americans because they generally do not use the word reserve to mean a part of equity. Indeed:

- there are no legal reserves in the United States;
- revaluation reserves relating to available-for-sale investments (see Section 11.3) are shown as 'accumulated other comprehensive income';
- profit or loss reserves are called 'retained earnings'.

The confusion arises when translators fail to spot this UK/US difference. To correct Table 11.3 would require the use of the word 'provision' for the items not shown within the 'equity' heading. This would be normal UK usage and IFRS usage. Table 11.4 summarizes the words used in several languages. The table only deals with the IAS 37 meaning of 'provision'; it does not take account of the unfortunate UK use of the word 'provision' to mean allowance or impairment, or the US use of reserve to mean impairment.

Another expression that is often found, particularly in prudent countries (e.g. Germany or Switzerland) and particularly relating to banks, is 'secret reserves' or 'hidden reserves'. These would arise because a company:

- failed to recognize an asset in its balance sheet; or
- deliberately measured an asset at an unreasonably low value; or
- set up unnecessarily high provisions.

Table 11.4 **Words in various languages for the IFRS terms 'provision' and 'reserve'**

	Provision	*Reserve*
UK English	*Provision*	*Reserve*
US English	*Reserve, Contingency*	*[Element of equity]*
French	*Provision*	*Réserve*
German	*Rückstellung*	*Rücklage*
Italian	*Fondo*	*Riserva*
Danish	*Hensættelse*	*Reserve*
Dutch	*Voorziening*	*Reserve*
Norwegian	*Avsetning*	*Reserve*
Swedish	*Avsättning*	*Reserve*

These actions might have been taken in the name of prudence or, in some countries, in order to get tax deductions. They are illustrated in Activity 11.F below. In all three cases, net assets will consequently be understated and therefore equity will be understated. The amount of understatement could be called a secret reserve.

Of course, most systems of accounting contain some degree of secret reserve. For example, the IFRS regime does not recognize the internally generated asset 'research' and it is normal to value most assets at cost, which is usually below fair value.

Activity 11.F

Suppose that an entity's balance sheet looked as in Figure 11.6. Suppose also that you discover the entity has not done its accounting correctly, because it should have:

- recognized an extra intangible non-current asset at a value of 3;
- not recognized a provision (because there was no obligation at the balance sheet date) of 2.

How would you correct the balance sheet? What difference will it make to a gearing ratio?

Figure 11.6 **Balance sheet containing secret reserves**

Fixed assets	10	Share capital	6
		Reserves	4
Current assets	6		10
		Provisions (long-term)	3
		Loans (long-term)	2
		Current liabilities	1
	16		16

Feedback

Before the corrections, the gearing ratio could be measured as:

$$\frac{\text{Long-term liabilities}}{\text{Equity}} = \frac{3 + 2}{10} = 50 \text{ per cent}$$

To correct the balance sheet, the following adjustments should be made:

- non-current assets + 3; reserves + 3;
- provisions − 2; reserves + 2.

So the total of equity will now be 15, not 10, and the total provisions will be 1, not 3. Consequently, the gearing ratio would become

$$\frac{1 + 2}{15} = 20 \text{ per cent}$$

Among other things, this would make the entity look much safer.

Why it matters

A good time to spot secret reserves is when a company changes from one system of accounting to another. For example, in 1995 Germany's largest bank, the Deutsche Bank, disclosed for the first time financial statements under IFRS as well as under German accounting. The figures for equity were as set out in Table 11.5.

Table 11.5 Deutsche Bank's equity (DM million)

Year	*German HGB*	*IFRS*	*% increase in quoted value*
1994	21,198	25,875	22.1
1995	22,213	28,043	26.2

Source: Compiled by authors from Deutsche Bank's equity figures 1994 and 1995.

So, the analysis of return on net assets or the comparison of debt to equity would have been greatly affected by the disclosure under IFRS of the reserves hidden under conventional German accounting.

11.7 Comparisons of debt and equity

Companies raise finance in several ways. From outside, they can raise funds from their owners by issuing equity securities or from others by issuing debt securities. Loans can also come from a bank. Once in operation, finance can come from retaining profits. For external capital raising, some distinctions are pointed out in Table 11.6.

Table 11.6 External finance

	Debt	*Ordinary shares*
Where from	Non-owners	Owners
Payments out	Interest	Dividend
Amount	Fixed	Variable
Payment compulsory	Yes	No
Expense	Yes	No
Tax-deductible expense	Yes	Not in most countries

Activity 11.G

When preparing the annual report of a company for the year ended 31 December 20X1, the directors generally include information about the dividend that they propose to pay in 20X2 from the profits of 20X1. The Annual General Meeting of the shareholders, held perhaps in March 20X2, needs to vote in favour of the proposal. Under some rules (for example, those of Denmark, the Netherlands and the United Kingdom until 2004), companies included the proposed dividend as a current liability in the 20X1 balance sheet. In other countries (for example, France, Germany, Italy and the United States), companies do not recognize a liability in the 20X1 balance sheet. The size of the proposed dividend could be significant in the context of total current liabilities and in a comparison of the liquidity ratios of companies (see Chapter 7). Which is the better practice?

Feedback

In favour of the recognition of a liability is the very high probability that there will be a cash outflow in the near future. That is useful information to analysts of financial statements. In favour of the lack of recognition is the simple point that there seems to be no legal obligation at the balance sheet date, so there can be no liability. IAS 10, *Events after the Balance Sheet Date*, was revised in 1999 so as to ban recognition of a liability for proposed dividends on equity shares. Information on the proposed dividend can still be given in the Notes or elsewhere in the annual report and it can even be shown on the balance sheet by displaying a part of retained earnings (or profit and loss reserves) as a proposed distribution.

As mentioned before, another complication here is that some securities are superficially equity but actually debt and some are hybrids: partly equity and partly debt. An example of the first case is where a preference share involves a guaranteed payment on redemption at a fixed date. This seems to meet the definition of a liability. Under IAS 32, the superficial form of an instrument should be overlooked in favour of its underlying substance.

For hybrid securities, a whole industry has grown up in recent years, creating various types. Variations on the theme are almost infinite, but the principle usually is that the security is issued in one form, with optional or guaranteed conversion at a later date into another form. For example, debentures may be issued with optional conversion rights into share capital at a predetermined price at some future date. As noted earlier, IFRS requires a convertible debenture to be split into part-debt and part-equity.

So far, most countries' national rules have not followed these modern IFRS ideas but have retained accounting based on the legal form.

Summary

- Even the definition of 'cash' is ambiguous because money in the bank is usually included, depending on the length of deposit.
- Receivables (or debtors) are valued at the amount realistically expected to be received. Allowances or impairments should therefore be made for bad debts. Such allowances are sometimes – confusingly – called provisions or reserves. Also, the time value of money may need to be taken into account by discounting the amounts receivable.

- Under EU laws, investments have traditionally been divided into 'fixed' and 'current', but this rests on the intentions of directors, which can change and are difficult to audit. Cost is usually the basis for valuation under national laws, although a lower market value is often taken into account.
- The fair value of investments might seem more relevant information than cost and, in some cases, it is reliable. IFRS requirements have moved to fair value for some investments, but this creates problematic dividing lines between types of investments and where to show gains and losses on them.
- Liabilities can be divided into 'creditors' (payables) and 'provisions'. Both must meet the definition of liability, although provisions need more estimation in their measurement. In the past, and still in some countries, provisions are recorded even though they do not meet the IFRS definition of liability. This creates secret reserves.
- Equity is the residual of assets net of liabilities, but it can still be split into components. The two basic components are contributions from owners (share capital and share premium) and undistributed gains (various forms of reserves).
- Debt and equity securities are different in a number of ways, but it is possible to disguise one as the other and to create securities with features of both.
- It would be helpful to distinguish clearly between 'provision' (a liability of uncertain amount or timing) and 'reserve' (an element of equity caused by gains). Unfortunately, the words are sometimes used differently, although not in IFRS rules.



References and research

The IASB documents of greatest relevance to the issues of this chapter are:

- IAS 1, *Presentation of Financial Statements*
- IAS 19, *Employee Benefits*
- IAS 32, *Financial Instruments: Presentation*
- IAS 37, *Provisions, Contingent Liabilities and Contingent Assets*
- IAS 39, *Financial Instruments: Recognition and Measurement*
- IFRS 7, *Financial Instruments: Disclosures*
- IFRS 9, *Financial Instruments*
- IFRS 13, *Fair Value Measurement*

An English-language paper looking at one of the chapter's topics in a comparative international way is:

- D. Alexander, S. Archer, P. Delvaille and V. Taupin, 'Provisions and contingencies: an Anglo-French investigation', *European Accounting Review*, Vol. 5, No. 2, 1996.

? MULTIPLE CHOICE QUESTIONS

Answers to these questions are in Appendix D.

11a. In essence, a liability is a future obligation to pay out money, arising from a past event.

A. True.
B. False.

11b. Under IAS 37, a provision is a liability of uncertain timing or amount.

A. True.
B. False.

11c. Under IAS 37, a 'provision for doubtful receivables' is not a provision.

A. True.
B. False.

11d. Which one of the following is correct in IFRS terminology?

A. Provisions and reserves are part of equity.
B. Provisions are part of equity.
C. Reserves are part of equity.
D. Neither provisions nor reserves are part of equity.

? EXERCISES

Feedback on the first four of these exercises is given in Appendix E.

11.1. 'All credit balances included in a balance sheet are either capital and reserves or liabilities, actual or estimated'. Discuss.

11.2. 'The distinction between a prudent approach to the quantification of provisions on the one hand and the creation of secret reserves on the other will always be a matter for human attitude and whim'. Discuss.

11.3. If you owned some listed shares that had just doubled in value, would you say that you had gained and were better off than before?

11.4. 'There is usually no problem with the valuation of receivables because it is clear how much is legally owed to an entity'. Discuss.

11.5. What is the definition of a fixed (or non-current) asset? Why is this difficult to use in the context of investments and why does that matter?

11.6. What uses of the word 'reserve' might be found in practice in various parts of the world?

11.7. Distinguish between debt capital and equity capital and suggest which is likely to be favoured by a company raising finance in a high-taxation environment.

11.8. How might a company seek to raise extra finance in ways other than issuing new debt or equity securities?

Chapter 12

Accounting and taxation

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Objectives

After studying this chapter carefully, you should be able to:

- outline some of the main ways in which corporate taxation can differ internationally;
- explain the distinction between accounting profit and taxable income;
- discuss some major international differences in the tax base and give simple examples;
- outline the rationale for the recognition of deferred tax assets and liabilities in financial statements;
- calculate the amounts of deferred tax for some basic examples.

12.1 Introduction

12.1.1 Rationale for this chapter

There are several related reasons for studying taxation. First, corporate taxation clearly has some significant effects on net profit figures and on other financial reporting matters. In particular, it has been shown earlier (e.g. in Chapter 5) that, in some continental European countries, the rules relating to the taxation of corporate income have a dominant effect on financial accounting measurement and valuation rules in an individual company. As examples:

- there is a strong influence of tax rules on depreciation charges in individual company financial statements in Germany;
- if asset values are changed on a balance sheet, this generally affects tax liabilities for individual companies in France.

By contrast, neither of these two points is true in the United Kingdom under national accounting rules (or under IFRS).

A second major topic is how to account for the effects of the differences between the tax rules and the financial reporting rules. This is a major point under the national accounting rules in those countries where the tax and accounting practices are separated for a number of accounting issues. Further, in any country, for those groups using IFRSs for the preparation of consolidated financial statements, there are likely to be substantial differences between tax and financial reporting. This leads to the topic of deferred tax, which is examined in the fourth section of this chapter.

Third, an understanding of corporate taxation in different countries is a necessary introduction to a study of business finance and management accounting. However, it is often omitted from books on these subjects. Hence there is an introduction here.

12.1.2 Separate taxation for companies

In most countries, it has only been within the last hundred years that companies have begun to be treated differently from individuals for the purposes of taxation. However, the question of whether or not a business is a separate entity from its owner(s) has a long history in disciplines such as accounting, company law and economics. Italian accountants had decided by the thirteenth century that they wished to separate the business from its owners, so that the owners could see more clearly how the business was doing. Consequently, as examined in Chapter 2, the balance sheet of a business shows an amount called ‘capital’ that represents amounts contributed into the business by the owners. During the nineteenth century, various laws were enacted in European countries to the effect that companies have a legal existence independent from that of their owners; these companies may sue and be sued in their own names and the owners are not liable for the debts of a company beyond their capital contributions. Economists have (in micro-economic theory) extended the separation of the owner from the business. When calculating the profit of the business to a sole trader, for example, economists would include

as costs of the business the opportunity costs of the amounts that the owner could have earned from the invested time, the invested property and money if they had been invested outside the business instead.

It was not until the twentieth century that revenue law (i.e. taxation law) caught up with this separation and companies began to be taxed in a different way from individuals. As is frequently the case with taxation, changes were associated with the need to finance warfare. In particular, the rearmament of nations before the two World Wars imposed a heavy burden on government finances, which was partly supported by the revenue from taxes on companies.

Another vital point – certainly in EU countries – is that tax is calculated on the basis of individual legal entities; it is not calculated on the basis of groups of companies, although in particular circumstances companies within a group are allowed to pass losses between themselves or are allowed to pass dividends without their being taxed. This means that consolidated financial statements (as introduced in Chapter 4 and taken further in Chapter 14) are not generally relevant for the purposes of taxation.

This chapter is concerned with the taxation of corporate income, which is the major corporate tax in most countries. However, there are other taxes on corporations in Europe: on property, on share capital, on payroll numbers and so on.

12.1.3 International differences in taxes

Three major types of difference between corporate income taxes concern tax bases, tax systems and tax rates.

The international differences in corporate income tax bases (i.e. definitions of taxable income) are very great. Although in all countries there is some relationship between accounting income and taxable income, in several continental European countries (but, e.g., not Denmark, the Netherlands or Norway) the relationship is much closer than it is in the United Kingdom, the United States or Australia (see Chapter 5). Further, it has been pointed out throughout this book that the underlying measurement of accounting income itself varies substantially by country. These two points, which are of course linked, mean that companies with similar profits in different countries may have very different taxable incomes.

The second basic type of difference lies in tax systems. Once taxable income has been determined, its interaction with a tax system can vary, in particular with respect to the treatment of dividends. Corporations may have both retained and distributed income for tax purposes. If business income is taxed only at the corporate level and only when it is earned, then different shareholders will not pay different rates of personal income tax. If income is taxed only on distribution, taxation may be postponed indefinitely. Alternatively, if income is taxed both when it is earned and when it is distributed, this creates *economic double taxation*, which could be said to be inequitable and inefficient.

The third major international difference is in tax rates. There is a brief section on this later in the chapter.

These differences in tax bases, tax systems and tax rates could lead to several important economic effects, e.g. on dividend policies, investment plans and capital-raising methods. Such matters are not dealt with here and neither are the

important issues of transfer pricing within groups and international double taxation that, in practice, help to determine taxable profits and tax liabilities.

Further international differences arise in the timing of the payment of taxes. For example, in some countries, corporate taxes are paid on a quarterly basis using estimates of taxable income for the year. In other countries, taxes are paid many months after the accounting year end – after the profit figures have been calculated and audited. In many continental countries taxes are not finally settled until a tax audit, which may be some years later.

In some countries, e.g. Italy and Germany, there are regional as well as national corporate income taxes. Both these taxes generally use a similar tax base, but the composite tax rate is, of course, higher.

The taxation of businesses is a very complex area, particularly when a business operates in more than one country. This chapter is only able to introduce some of the issues and therefore leaves out much of the complexity. One complication is that the legal types of businesses differ from country to country, as does the scope of particular business taxes. This chapter deals mainly with companies that can clearly be seen as separate from their owners for tax purposes.

12.2 International differences in the determination of taxable income

12.2.1 Introduction

The obvious way to classify corporate income taxation bases is by degrees of difference between accounting income and taxable income. As should be clear from Chapter 5, the influence of taxation on accounting varies internationally from the small to the dominant. Such is the importance of this difference for accounting that a simple classification of tax bases would look much like a simple classification of accounting systems (see Chapter 5). For example, a two-group classification in either case might put Denmark, the Netherlands, the United Kingdom and the United States in one group and France, Germany and Japan in the other.

In the first of these groups, many adjustments to accounting profit are necessary in order to arrive at the tax base, namely taxable income. In the other group, the needs of taxation have been dominant in the evolution of accounting and auditing. Consequently, the tax base corresponds closely with accounting profit. However, as discussed in many places in this book, several of these continental European countries began in the late 1980s to decouple accounting from tax rules. More recently, the impact of increasing globalization of the finance market and the rise in the influence of the IASB have accelerated this process. Even in Germany, tax and accounting began to move apart, particularly as a result of a law of 2008. For consolidated financial statements, greater separation between tax and accounting is normal. If a German company, for example, uses IFRSs for its consolidated financial reporting, this creates many significant differences between its financial reporting and the way that taxation works in Germany.

Some of the international differences in tax bases are discussed below; in a few cases this summarizes the coverage of topics elsewhere in the book. There is a

concentration here on four EU countries, but these should be taken as examples of how the calculation of taxable income can differ.

12.2.2 Depreciation

Naturally, in all the countries studied in this book the tax authorities take an interest in the amount of depreciation charged in the calculation of taxable income. This concern varies from fairly precise specification of the rates and methods to be used (as in most countries) to an interference only where charges are unreasonable (as in the Netherlands). As has been pointed out in earlier chapters, the vital difference for financial reporting is that tax depreciation is usually kept the same as accounting depreciation in Franco-German countries, but not in countries such as Denmark, the Netherlands, Norway or the United Kingdom.

For example, in the United Kingdom for large companies for 2015/16, machinery is depreciated for tax at 18 per cent per annum on a reducing balance basis. There is complete separation of this scheme of 'capital allowances' from the depreciation charged by companies against accounting profit. Unlike other countries, the United Kingdom does not give any depreciation tax allowance for most buildings. By contrast, the quotation from the German company, Bayer, in Chapter 9 (see Section 9.5.4) illustrated some aspects of tax influence on depreciation.

12.2.3 Capital gains

Capital gains are increases in the value of non-current assets above their cost. The gains are taxed at the point of sale. The taxation of capital gains varies substantially by country. In the United Kingdom, the Netherlands and Germany, capital gains are added to taxable income in full. In France, a few types of long-term capital gains are taxed at a reduced rate. The degree to which taxation on a gain can be postponed by buying a replacement asset (known as *roll-over relief*) also varies internationally.

12.2.4 Dividends received

The degree to which the dividends received by a company must be included has an important effect on its taxable income. In Germany and the United Kingdom, domestic dividends are generally not taxed in the hands of a recipient company. In France, dividend income is fully taxed unless there is a holding of at least 5 per cent.

12.2.5 Interest

Dividends paid are not tax-deductible in most systems and, of course, nor are they considered to be expenses in the calculation of accounting profit. By contrast, interest payments are usually expenses for both accounting and tax purposes. Dividends are a share of post-tax profit paid to the owners of the company, whereas interest is a fixed payment that *must* be paid to outside lenders of money. Consequently, under most types of system, paying out €2,000 in interest is less

expensive for the company in post-tax terms than paying out €2,000 in cash dividends, because the former payment reduces tax by €660 (assuming, e.g., a corporation tax rate of 33 per cent). Equally, as shown below, €1,400 of cash dividends would be worth as much to an individual in some tax systems as €2,000 of gross interest. This is because, although both incomes are taxed, the dividends might receive a tax credit. The example shown in Table 12.1 assumes a corporation tax rate of 33 per cent and a rate of withholding tax and tax credit based on an income tax rate of 30 per cent.

Table 12.1 Comparing the effect of payments of dividends and interest on tax: an example

	Dividend payment €	*Interest payment* €
Net profit before interest and tax	10,000	10,000
less Interest (1,400 net, 600 income tax withheld at source)	–	2,000
Net profit before tax	10,000	8,000
less Tax at 33 per cent	3,300	2,640
Net profit after tax	6,700	5,360
Dividend[a]	1,400	–
Retained profit	5,300	5,360

[a]Equivalent to €2,000 because of a tax credit of €600.

12.2.6 Other taxes

A very important complicating factor in determining overall tax burdens is the existence of other types of tax on companies and the degree of their deductibility for national corporate income tax purposes. In many countries there is some form of payroll tax or social security tax. In the United Kingdom there are local taxes based on an evaluation of owned property. In Germany there are regional income taxes, capital taxes and payroll taxes. In France there is a business licence tax. In general, these taxes are deductible in the calculation of national corporation tax. However, because of these taxes, the total tax burden is much higher than might be thought at first sight in countries such as Germany, where regional taxes are also important.

12.3 Tax rates and tax expense

Tax rates on corporate taxable income differ greatly around the world and they change from year to year. There is a general trend in the world for tax rates to fall. The amount of corporate income tax payable by a company is calculated by multiplying the taxable income (see Section 12.2) by the tax rate. When the tax is paid, it will be recorded in the cash flow statement as a use of cash.

The calculation of the expense in the income statement is complicated by the issue of deferred taxation, which is dealt with in the next section. However, the *presentation* of tax expense in the income statement is straightforward and can be described here.

The tax expense is of sufficient importance that it is nearly always disclosed separately in an income statement. As an example, refer to Figures 6.2 and 6.3, showing Bayer Group's income statements. Figure 6.2 includes the tax expense related to profit or loss, and Figure 6.3 shows separate tax amounts related to the items of other comprehensive income. The effect of tax on the interpretation of financial statements has been referred to in Chapter 7 and is looked at again in Part 3.

Particularly in countries where there is a strong separation of accounting from tax, the location of figures above or below the tax line in an income statement is not a reliable guide as to whether or not an item affects the actual tax bill.

12.4 Deferred tax

Deferred tax is *not* amounts of tax bills that the tax authorities have allowed the taxpayer to postpone. Accounting for deferred tax is the recognition of the tax implied by the figures included in the financial statements. There are major international differences in accounting for deferred tax.

A simple example of deferred tax would occur in the context of a revaluation of non-current assets. Suppose that a Dutch company revalues a holding of land in the balance sheet from €3 million to €9 million. Suppose, also, that the Dutch corporate tax rate on capital gains is 35 per cent, but the Dutch tax rules do not tax capital gains until disposal, which in this case is not intended by the company in the foreseeable future. No tax is payable as a result of revaluing, but accountants might think that the potential liability to tax of €2.1 million (i.e. €6 million revaluation × 35 per cent tax) relates to the period up to the balance sheet date. If so, they might account for the implicitly deferred tax, as in Table 12.2. Since the revaluation is not yet realized, there will be no current tax on the gain.

Table 12.2 Deferred tax on revaluation

Balance sheet adjustments for Dutch company (€m)

Fixed asset +6.0	Revaluation reserve	+3.9
	Deferred tax	+2.1

In the above example, the €6 million of revaluation that is not yet relevant for tax purposes is called a 'temporary difference' under IASB (or US) rules. Under IAS 12, entities should account for deferred tax on temporary differences. A temporary difference is the difference between the carrying value of an asset or liability for financial reporting purposes and its value as recorded in the tax records. In the above example of the Dutch land, the financial reporting carrying value was €9 million and the tax value was €3 million. So, the temporary difference was €6 million.

Under German national accounting rules, upward revaluation is not possible. In several other continental countries, revaluation is legal but would lead to current taxation. Consequently, under the national rules of many continental countries, deferred tax would not arise in such a case. However, if a German, French, etc. group is using IFRS rules in its consolidated statements, the issue could arise in these countries because accounting practices would depart from tax rules.

The largest cause of deferred tax in Anglo-Saxon countries is depreciation. Depending on the industry sector, depreciation can be a large expense and the tax rules can be substantially different from the accounting rules, as outlined in Section 12.2. Table 12.3 sets out a simple case, where there are 100 per cent tax depreciation allowances in the year of purchase of plant and machinery; a 50 per cent corporate income tax rate; the purchase for €10,000 of a machine that is expected to last for five years and a country where tax and accounting are separated. The existence of 100 per cent tax depreciation is not fanciful. This applied for all plant and machinery in the United Kingdom from 1972 to 1984, to certain assets in West Berlin until the end of the 1980s, to capital investments in certain Greek islands and on other occasions. The example would work, of course, with the less extreme tax allowances that are common in Europe.

Table 12.3 Depreciation and tax

Accounting records		*Tax calculations*		
Year	*Depreciation*	*Year*	*Expense*	*Tax reduction*
1	2,000	1	10,000	5,000
2	2,000	2	0	0
3	2,000	3	0	0
4	2,000	4	0	0
5	2,000	5	0	0

In the example in Table 12.3, the accountants assume that the asset will have no residual value and will wear out evenly over time, irrespective of use. Consequently, for accounting purposes, they charge a depreciation expense of €2,000 per year. By contrast, the tax authorities allow an expense of €10,000 in the first year and, if the company takes this, no tax-deductible expense after that. Consequently, there is a reduction in the tax bill of €5,000 in year 1. This cash flow advantage is designed to be an incentive to invest.

Supposing that the company in our example uses the new asset very inefficiently or does not use it at all in the first year, depreciation may still be charged because the asset is depreciating due to the passing of time. The net effect of the inefficient capital purchase on the post-tax accounting profit of year 1 appears to be that the profit *increases* by €3,000 (i.e. depreciation expense of €2,000 and tax reduction of €5,000). Of course, if the company uses the asset effectively, net profit will increase by more than this, as the company should at least be able to earn enough by using the asset to cover the depreciation on it.

The above strange effect on profit is caused by deliberately charging the depreciation expense slowly but taking the tax reduction immediately. However, so far no account has been taken of deferred tax. In order to do so, under IAS 12, it is necessary to calculate the temporary difference. This, as explained earlier, is the difference between the financial reporting carrying value of the asset and its tax value. In the case of the depreciating machine at the end of year 1, the financial reporting carrying value is cost less depreciation (€8,000), whereas the tax written-down value is zero because there is full depreciation for tax purposes. So, there

is a temporary difference of €8,000 and (at the tax rate of 50 per cent) a deferred tax liability of €4,000.

The double entry to give effect to deferred tax accounting in this case would be a debit entry under 'Tax expense' of €4,000 and a credit entry under 'Deferred tax liability' of €4,000. Then the effect of buying the asset (and not using it) on the profit for year 1 would be a *decrease of* €1,000 (i.e. an extra depreciation expense of €2,000, an actual tax reduction of €5,000, but a deferred tax expense of €4,000). This is a more reasonable net profit figure to present.

Activity 12.A

A company commences trading in year 1 and purchases non-current assets in year 1 costing €20,000, in year 2 costing €8,000, in year 3 costing €10,000, in year 4 costing €12,000 and in year 5 costing €14,000. All the assets are depreciated for financial reporting purposes at 10 per cent per annum on cost. Tax depreciation of 25 per cent per annum on the reducing balance is available. The tax rate throughout is 30 per cent.

Complete the following table, to show the annual balance sheet figures for cumulative non-current assets in (a) the accounting records and (b) the tax records and the temporary differences at each balance sheet date, in accordance with IAS 12. Year 1 is already done for you, as shown in Table 12.4.

Table 12.4 Deferred tax calculation (year 1)

	Year	*1*	*2*	*3*	*4*	*5*
		€	€	€	€	€
(a) Accounting balances						
Asset balance 1 January		–				
Additions		20,000				
Depreciation		2,000				
Balance 31 December		18,000				
(b) Tax balances						
Asset balance 1 January		–				
Additions		20,000				
Tax depreciation		5,000				
Balance 31 December		15,000				
Temporary differences		3,000				
Deferred tax balance		900				

Feedback

The completed table should be as shown in Table 12.5. Taking year 2 as an example, the accounting depreciation is €2,800 (10 per cent of total cost of €28,000). The tax depreciation is €5,750 (25 per cent of net balance of €23,000). The temporary difference between accounting asset balance and tax asset balance is €5,950 (€23,200 – €17,250) and the deferred tax liability, provided in full under the liability basis as IAS 12 requires, is €1,785 (30 per cent of €5,950). In year 2 the deferred tax liability has therefore increased from €900 to €1,785, requiring an addition of €885 to the tax charge in the income statement for that year. The figures for the other years are calculated similarly.

Table 12.5 Deferred tax calculation (years 1–5)

Year	*1* €	*2* €	*3* €	*4* €	*5* €
(a) Accounting balances					
Asset balance 1 January	–	18,000	23,200	29,400	36,400
Additions	20,000	8,000	10,000	12,000	14,000
Depreciation	2,000	2,800	3,800	5,000	6,400
Balance 31 December	18,000	23,200	29,400	36,400	44,000
(b) Tax balances					
Asset balance 1 January	–	15,000	17,250	20,437	24,328
Additions	20,000	8,000	10,000	12,000	14,000
Tax depreciation	5,000	5,750	6,813	8,109	9,582
Balance 31 December	15,000	17,250	20,437	24,328	28,746
Temporary differences	3,000	5,950	8,963	12,072	15,254
Deferred tax balance	900	1,785	2,690	3,622	4,576

We have now seen two examples of the possible causes of deferred tax: a revaluation of assets that is not taken into account by the tax system and depreciation running at a faster rate for tax than for accounting. Other examples would include:

- the capitalization of leases (under IAS 17), if the tax system still treats them as operating leases;
- taking profits on long-term contracts as production proceeds (under IAS 11) or 'over time' under IFRS 15, if the tax system only counts profits at completion.

In order to account for deferred tax under IAS 12, it is necessary to look at the values of all the assets and liabilities in the balance sheet and compare them to the tax values that would apply. Large numbers of temporary differences and resulting deferred tax assets and liabilities can arise.

Why it matters

Particular care needs to be taken when carrying out ratio analysis, as discussed in Chapter 7, regarding the treatment of deferred taxation. The balance sheet figures – probably for liabilities and possibly for assets – will be affected by deferred tax practices. After-tax earnings will also be affected, as Activity 12.A showed, and so will shareholders' equity. This affects many ratios, such as earnings per share, gearing and return on equity.

Several causes of deferred tax liabilities were examined above. However, deferred tax assets are also possible. These can be caused, for example, by losses not yet allowed for tax or by provisions (e.g. pensions) not yet counted for tax purposes.

Real-world example

Bayer Group's consolidated balance sheet, shown in Table 6.1 for the year to 31 December 2014, shows four items related to tax. Under 'Non-current assets' there are deferred tax assets caused by such issues as losses and pensions. Under 'Current assets' there are actual claims against the tax authorities. Under 'Non-current liabilities' the deferred tax liabilities are shown including amounts relating to intangibles that are not treated as assets under German tax practice, to create temporary differences. Lastly, under 'Current liabilities' there are amounts soon to be paid to the tax authorities.

Summary

- Corporate taxation is a major influence on some countries' financial accounting practices. A knowledge of corporate taxation is important for international business finance.
- Tax bases for corporate income tax differ in their treatment of depreciation, capital gains, losses, dividends received, certain expenses and many other matters. The importance of taxes other than national corporate income taxation also varies.
- Tax rates also vary greatly internationally and alter frequently. Deferred taxation is a major accounting topic in those countries where there can be substantial differences between taxable income and accounting profit. It also becomes major where a company uses IFRSs for its consolidated statements and therefore moves its accounting away from that which would be used under national taxation rules.



References and research

The relevant standard for the aspect of international accounting dealt with in this chapter is:

- IAS 12, *Income Taxes*.

The following are recommended as further reading:

- S. James and C. Nobes, *The Economics of Taxation* (Birmingham: Fiscal Publications, 2015).
- C.W. Nobes and H.R. Schwencke, 'Modelling the links between tax and financial reporting: a longitudinal examination of Norway over 30 years up to IFRS adoption', *European Accounting Review*, Vol. 15, No. 1, 2006.
- M.A. Gee, A. Haller and C.W. Nobes, 'The influence of tax on IFRS consolidated statements', *Accounting in Europe*, Vol. 7, No. 1, 2010, pp. 97–122.

? MULTIPLE CHOICE QUESTIONS

Answers to these questions are in Appendix D.

12a. Under which country's national accounting system is there the closest link between accounting and tax?

A. Norway.
B. Denmark.
C. Germany.
D. The UK.

12b. In most countries, interest expense is:

A. Taxable.
B. Not tax-deductible.
C. Tax-deductible.
D. Not relevant for tax.

12c. Deferred tax under IAS 12 can best be described as:

A. Tax bills due after more than one year.
B. Amounts only likely to be paid when the company ceases to operate.
C. Tax implied by asset and liability valuations in the balance sheet.
D. Tax implied by the revenues and expenses in the income statement.

12d. Deferred tax assets should only be recognized:

A. If they do not exceed deferred tax liabilities.
B. If they are recoverable beyond reasonable doubt.
C. If there will probably be sufficient taxable profit to use them.
D. If tax rates are expected to fall.

12e. On 31 December 20X1, an entity is carrying an asset in its balance sheet at a value of €6 million (€10 million cost less €4 million accumulated depreciation). Up to this date the entity has been able to charge €8 million as depreciation for determining taxable profit in the current and prior periods. The entity intends to continue using the asset in its business. Taxable income generated by the asset is taxed at 20 per cent.

What deferred tax liability should the entity recognize in its balance sheet of 31 December 20X1?

A. €0.6 million.
B. €0.8 million.
C. €1.2 million.
D. None of the above.

12f. An entity recognizes a liability for £2 million in respect of accrued product warranty costs. For tax purposes, the product warranty costs will be deductible when the entity claims or incurs the costs. The tax rate is 30 per cent and the entity believes that it will earn a minimum of £10 million per year taxable profit for the foreseeable future.

The entity should recognize:

A. Neither a deferred tax asset nor liability.
B. A deferred tax liability of £0.6 million.
C. A deferred tax liability of £1.4 million.
D. A deferred tax asset of £0.6 million.

? EXERCISES

Feedback on the first two of these exercises is given in Appendix E.

12.1. In which countries does taxation tend to have a major influence on published company accounts? Discuss how this influence takes effect and what the position is regarding the treatment of taxation in *consolidated* accounts.

12.2. A company has a group of non-current assets that are summarized in its accounting records as shown in Table 12.6.

Table 12.6 Summarized non-current assets

	Year	*1* €	*2* €	*3* €	*4* €
(a)	*Accounting balances*				
	Asset balance 1 January	10,000	13,500	17,550	22,095
	Additions	5,000	6,000	7,000	–
	Depreciation	1,500	1,950	2,455	2,210
	Balance 31 December	13,500	17,550	22,095	19,885

For tax purposes the asset balance brought forward on 1 January of year 1 is €7,000. Tax depreciation is available at the rate of 20 per cent per annum on the reducing balance basis. The tax rate is 30 per cent in years 1 and 2 but falls to 20 per cent in years 3 and 4.

Prepare a tabular summary of the tax balances relating to this group of assets over the four years of the example, calculate deferred tax balances for each of the four years and show the effect of deferred tax on the income statement for years 2, 3 and 4.

12.3. In Activity 12.A, the balance on the deferred tax liability account is growing every year over the five-year period and, if tax conditions remain stable and annual investment continues to rise, then it will continue to grow. Could it be argued that, because the liability seems not to be leading to an outflow of resources, it fails to meet the IASB definition of a liability?

12.4. Explain the concept of a 'temporary difference' in the context of IASB rules. Why is it thought necessary to account for deferred tax on these differences?

Chapter 13

Cash flow statements

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Objectives

After studying this chapter carefully, you should be able to:

- explain the reasons for publishing cash flow statements;
- describe the main elements of a cash flow statement in accordance with IAS 7;
- explain and illustrate the direct and indirect methods for deriving cash flows from operating activities;
- prepare simple cash flow statements from given data, consistent with IAS 7;
- comment on the meaning of the numbers in simple cash flow statements.

13.1 Introduction

We briefly explored the idea of cash flow statements at the end of Chapter 2 and in Section 6.3. As a reminder, try the following activity.

Activity 13.A

Why are cash flow statements an important element in annual published financial statements and how do the IASB's rules and national laws based on the EU Directives influence their content and presentation?

Feedback

The simple answer to why cash flow statements are important is that adequate liquidity and the availability of cash are vital to the successful operation of a business entity. The income statement and balance sheet do not provide adequate information about these factors, because the accrual basis of accounting is focused on revenues and expenses. Thus the matching principle relates earnings to consumption, not receipts to payments, and a business may be profitable but at the same time have severe cash shortages. Cash flow statements, which are not based on the accruals convention, focus on cash movements over the reporting period and therefore facilitate prediction of possible or likely cash movements in the future.

The EU Fourth Directive makes no mention of cash flow statements, and this is also true of its recent (2013) replacement. This is a function of its origins, as discussed in Part 1, in an era before such statements were common. Thus, most national laws within the EU are also silent on this matter. The IASB, however, has issued IAS 7, *Cash Flow Statements*. This, or national standards like it, are the basis for most practice internationally.

Why it matters

It is important to remember that the traditional accounting process involves uncertainty. Not only is profit determination complex but it is also potentially misleading. In any accounting year, there will be a mixture of complete and incomplete transactions. Transactions are complete when they have led to a final cash settlement, and these transactions cause few profit-measurement difficulties. Considerable problems arise, however, in dealing with the many incomplete transactions. For these, the profit can only be estimated by valuing assets and liabilities at the balance sheet date or by using the accruals concept, whereby revenue and costs are matched with one another so far as possible and dealt with in the income statement of the period to which they relate.

A statement that focuses on changes in cash and other liquid assets rather than on profits has two potential benefits. First, it provides different and additional information on movements and changes in net liquid assets, which assists appraisal of an entity's progress and prospects; and, second, it provides information that is generally more objective (though not necessarily more useful) than that contained in the income statement.

Activity 13.B

Opinion has varied sharply in the last three decades on exactly what aspect of 'liquidity' should best be focused on in published financial statements. Consider the two balance sheet extracts from A Co., as shown in Table 13.1, which focus on working capital, i.e. on net current assets.

Table 13.1 Balance sheet extracts for A Co.

	000s *31.12.X1*	*000s* *31.12.X2*
Inventory	4,600	4,300
Accounts receivable	1,300	2,600
Cash and bank	2,500	1,200
	8,400	8,100
Accounts payable	7,900	6,500
Working capital	500	1,600

Identify the change in liquidity.

Feedback If we look solely at cash, we could state that A had experienced a decrease in cash of 1,300,000 over the year. Looking at working capital (or net current assets), though, indicates an increase of 1,100,000 over the year. It is debatable which figure the users of financial statements should have regard to when making decisions. If the company expects to have to pay its creditors quickly, then the decrease in cash might be alarming. Otherwise, assuming that the debtors will pay, the liquidity has improved.

Up to about 1990, practice was generally focused on working capital, i.e. on the current assets and current liabilities. The original IAS 7, before a revision in 1992, reflected this, referring to funds flow rather than to cash flow. Now, however, the focus is much more closely on cash. More strictly, it is changes in both cash and cash equivalents, i.e. those items so liquid as to be 'nearly cash' (see below), that are analysed.

IAS 7 is uncompromising in that it applies to all entities. It requires that a cash flow statement is presented as an integral part of all sets of financial statements. There is an increasing trend at national level to simplify reporting requirements for smaller businesses (variously defined), and this, coupled with the lack of interest in cash flow statements in the EU Directives, means that they will not always be found in the financial statements of smaller entities.

13.2 An outline of the IAS 7 approach

Statements prepared following IAS 7 distinguish cash flows under three headings: operating activities, investing activities and financing activities. The standard defines these as follows:

- *Operating activities* are the principal revenue-producing activities of the entity and other activities that are not investing or financing activities.
- *Investing activities* are the acquisition and disposal of long-term assets and other investments not included in cash equivalents.
- *Financing activities* are activities that result in changes in the size and composition of the equity capital and borrowings of the entity.

The concept of cash equivalents requires further investigation. According to IAS 7:

> Cash equivalents are held for the purpose of meeting short-term cash commitments rather than for investment or other purposes. For an investment to qualify as a cash equivalent it must be readily convertible to a known amount of cash and be subject to an insignificant risk of changes in value. Thus, an investment normally qualifies as a cash equivalent only when it has a short maturity of, say, three months or less from the date of acquisition. (IAS 7, paragraph 7)

The last sentence of this quotation shows the IASC (the IASB's predecessor) desperately trying to write a 'principle' rather than a 'rule'. The result is a lack of clarity. This might mean entities from other countries that report under IFRS may interpret the definition differently, in accordance with local cultures and characteristics. For example, bank borrowings are generally considered to be financing activities. However, in some cases, bank overdrafts that are repayable on demand form an integral part of an entity's cash management. In these circumstances, bank overdrafts are included as a component of cash and cash equivalents.

It should not be assumed that 'cash and cash equivalents' are interpreted identically in different countries. For example, in the United States the definition of cash equivalents is similar to that in IFRS (except that 'say, three months' becomes a 90-day limit), but under US GAAP the changes in the balances of overdrafts are classified as financing cash flows rather than being included within cash and cash equivalents. Under the old UK standard (replaced for 2015 onwards), cash was defined as cash in hand and deposits receivable on demand (up to 24 hours' notice), less overdrafts repayable on demand.

Cash flows from operating activities are primarily derived from the principal revenue-producing activities of the entity. Therefore, they result from most of the transactions that enter into the determination of net profit or loss. However, cash flows from the sale of productive non-current assets, such as plant, are cash flows from investing activities.

It follows from the above, of course, that the nature of the business, i.e. of the principal revenue-producing activities, may differ significantly from one business to another, in which case the implications of apparently similar transactions may also differ. For example, an entity may hold securities and loans for trading purposes, in which case they are similar to inventory acquired specifically for resale. Therefore, cash flows arising from the purchase and sale of trading securities are classified as operating activities. Similarly, cash advances and loans made by financial institutions such as banks are usually classified as operating activities since they relate to the main revenue-producing activity of that entity.

The definitions of operating, investing and financing activities given earlier make it clear that any activity that is not a financing or investing activity, as defined, is automatically an operating activity.

Investing activities consist essentially of cash payments to acquire, and cash receipts from the eventual disposal of, property, plant and equipment and other long-term productive assets. Money spent on items that are not recognized as assets (e.g. training or advertising) cannot be investing outflows, so must be operating outflows. Financing activities are those relating to the size of the equity capital, whether by capital inflow or capital repayment, or to borrowings (other than any

short-term borrowings included as cash equivalents). Note that interest paid and dividends paid could be interpreted as either operating or as financing activities. In practice, dividends paid are nearly always shown as financing. Similarly, interest and dividends received could be treated as either operating or investing. Taxes paid are generally to be shown as operating flows.

13.3 Reporting cash flows from operating activities

Entities are allowed to use either of two methods to analyse and report cash flows from operating activities. These are:

(a) the direct method, whereby major classes of gross cash receipts and gross cash payments are disclosed; or
(b) the indirect method, whereby net profit or loss is adjusted for the effects of transactions of a non-cash nature, for any deferrals or accruals of past or future operating cash receipts or payments and for items of income or expense associated with investing or financing cash flows.

IAS 7 encourages entities to report cash flows from operating activities using the direct method, but this is not a requirement. The indirect method takes reported net profit and removes non-cash items included in the calculation of that profit figure. The indirect method thus undoes the effects of the accrual basis, but adds no new information beyond that already inherent in the income statement and balance sheet. The direct method, in contrast, amounts to an analysis of the cash records. Therefore, the direct method provides information that may be useful in estimating future cash flows and is not available under the indirect method.

The differences between the methods are best shown by example. Table 13.2 shows the typical headings that might be seen in a direct calculation of operating cash flows. Table 13.3 shows the headings for an indirect calculation.

Table 13.2 Illustration of calculation of cash flow from operating activities by the direct method

Item	€
Cash received from customers	144,750
Cash paid to suppliers and employees	(137,600)
Cash dividend received from associate	900
Other operating cash receipts	10,000
Interest paid in cash	(5,200)
Taxes paid	(4,500)
Net cash from operating activities	8,350

A comparison of the two tables makes it clear that the indirect method is at the same time more complicated for the reader and less informative in terms of actual cash flows than the direct method. As noted above, IAS 7 encourages – but does not require – the use of the direct method and the same applies in US GAAP. In practice, the indirect method is generally widely used in IFRS or US practice and the next section examines this method in more detail. An exception is that most Australian companies use the direct method under the Australian version of IFRS.

Table 13.3 Illustration of calculation of cash flow from operating activities by the indirect method

Item	€	€
Net income		8,000
Adjustments to reconcile net income to net cash provided by operating activities		
Depreciation and amortization	8,600	
Expense for doubtful accounts receivable	750	
Provision for deferred income taxes	1,000	
Undistributed earnings of associate	(2,100)	
Gain on sale of equipment	(2,500)	
Payment received on instalment sale of product	2,500	
Changes in operating assets and liabilities		
Increase in accounts receivable	(7,750)	
Increase in inventory	(4,000)	
Increase in accounts payable	3,850	
Total adjustments to net income		350
Net cash from operating activities		8,350

13.4 The preparation of cash flow statements

A cash flow statement prepared by the indirect method is in essence a reconciliation between the opening and closing cash and cash equivalents of the accounting period. A convenient way to begin is to determine the differences between opening and closing balance sheets. These differences can then be analysed and presented in the desired format, segregating the inflows from the outflows.

Table 13.4 shows summarized balance sheets for the years X1 and X2 and columns for difference, outflow and inflow.

Activity 13.C

Complete the blank columns in Table 13.4. Some of the items are more straightforward than others. Remember that depreciation is an expense, but not a cash movement. The depreciation for the year will have reduced the retained profits.

Table 13.4 Balance sheet differences: (1) basic information

Item	*X1*	*X2*	*Difference*	*Outflow*	*Inflow*
Non-current assets – cost	94	140	+46		
less Depreciation	(22)	(30)	−8		
Inventory	12	16	+4		
Receivables	18	40	+22		
Cash	10	4	−6		
	112	170			
Share capital	70	76	+6		
Retained profits	24	30	+6		
Debentures	0	20	+20		
Payables	18	44	+26		
	112	170			

Feedback The result should be as shown in Table 13.5.

Table 13.5 Balance sheet differences: (2) inflows and outflows

Item	*X1*	*X2*	*Difference*	*Outflow*	*Inflow*
Non-current assets – cost	94	140	+46	46	
less Depreciation	(22)	(30)	–8		8
Inventory	12	16	+4	4	
Receivables	18	40	+22	22	
Cash	10	4	–6		6
	112	170			
Share capital	70	76	+6		6
Retained profits	24	30	+6		6
Debentures	0	20	+20		20
Payables	18	44	+26		26
	112	170		72	72

It is important that the logic of Table 13.5 is fully understood. Non-current assets have increased, i.e. money has been spent on buying new ones. This clearly represents a cash outflow. The argument concerning depreciation is rather more complicated. Depreciation is merely the allocation of cost over different accounting periods and, of itself, involves no cash flows at all. However, the depreciation charge for the year (of 8 in our example) will have been deducted from the profit for the year and, unless this is corrected for, the net cash inflow from operating would be understated by this non-cash charge. In this sense, correcting for the depreciation charge for the year, though not of itself causing any cash movement at all, has the effect of increasing the calculated cash inflows from operations.

As regards the inventory difference, the money tied up in closing inventory has increased by 4, so an outflow of 4 has been necessary to finance this extra amount. With receivables, the entity is owed 22 more than before, i.e. it has received 22 less than a constant receivables figure would indicate – again having the effect of an outflow (strictly, perhaps, a negative inflow). The reduction in the cash balance of 6 is the balancing number.

The remaining items are fairly straightforward. Share capital has increased, by the sale of shares creating a cash inflow. Annual profits will in principle cause net cash inflows. The issue of debentures clearly creates a cash inflow of the amount borrowed. An increase in creditors, of 26, is equivalent to borrowing money of this amount, so it represents a cause of cash increase.

Several simplifying assumptions have been made in this example. It is assumed that non-current assets have been sold and there are no dividends or taxation paid. However, such issues could be dealt with using the logic of the previous paragraphs (see Activity 13.G later).

The next stage is to arrange the inflow and outflow figures in a more helpful way. This should be consistent with the layout headings of IAS 7, i.e.:

- cash flows from operating activities;
- cash flows from investing activities;
- cash flows from financing activities;
- net change in cash or cash equivalents (simplified here to ‘cash’).

This leads to a statement as in Figure 13.1.

So the reduction in cash of 6 is made more understandable. A major cash outflow for non-current assets of 46 has been partly financed by new long-term money of 26 and partly by the effects of daily operations of 14, meaning that cash was reduced on balance by 6.

Figure 13.1 Cash flow statement derived from Table 13.5

Cash flows from operating activities		
Net profit		6
Add back depreciation		8
		14
Changes in current items		
Increase in inventory		(4)
Increase in receivables		(22)
Increase in payables		26
Net cash flow from operations		14
Cash flows from investing activities		
Purchase of non-current assets		(46)
Cash flows from financing activities		
Issue of share capital	6	
Issue of debentures	20	
Net cash flow from financing		26
Net change in cash (14 – 46 + 26)		(6)
Cash at beginning of year		10
Cash at end of year		4
Cash reduction		(6)

Activity 13.D

Assuming that the debentures were issued on 1 January of a particular year and that interest was paid on 31 December, redraft the 'Net cash flow from operations' entry of the cash flow statement in Figure 13.1 using the direct method, given that the balance sheets are as shown in Table 13.5 and the income statements are as in Figure 13.2.

Figure 13.2 Income statements (example)

	Year to 31 Dec X1		*Year to 31 Dec X2*	
Sales		150		250
Opening inventory	8		12	
Purchases	104		180	
	112		192	
Closing inventory	12		16	
Cost of sales		100		176
Gross profit		50		74
Wages and salaries	28		42	
Depreciation	4		8	
Debenture interest	–		2	
Other expenses	14		16	
		46		68
Retained profit for the year		4		6

Feedback Net cash flow is as set out in Table 13.6.

Table 13.6 Net cash flow (example)

Cash receipts from sales in X2 (250 + 18 − 40)	228
Cash paid to suppliers and employees [(180 + 18 − 44) + 42 + 16]	(212)
Cash generated from operations	16
Cash interest paid	(2)
Net cash flow	14

The figures for cash receipts and cash paid to suppliers are the income statement entries adjusted for the change in receivables and the change in payables, respectively.

Now try Activity 13.E for yourself.

Activity 13.E The balance sheet of AN Co. for the year ended 31 March 20X2 is as shown in Figure 13.3. Prepare the cash flow statement for the year ended 31 March 20X2 using the indirect method, given that non-current assets were sold during the year and given the increase in debentures which took place on 1 April 20X1.

Figure 13.3 Balance sheets for AN Co.

	20X1 (€000s)		*20X2* (€000s)	
Non-current assets	160		230	
less Depreciation	44		60	
	116		170	
Current assets				
Inventory	20		25	
Receivables	18		15	
Cash	21		27	
	59		67	
Payable within one year				
Trade payables	21		27	
Taxation	12		16	
Preference dividend	18		20	
	51		63	
Net current assets		8		4
Payable after one year				
Debentures (10 per cent interest)		30		32
Net assets		94		142
Represented by				
Ordinary share capital of €1 shares		27		33
Share premium account		24		30
Retained profits		43		79
		94		142

Feedback The cash flow statement derived from Figure 13.3 would look like that shown in Figure 13.4.

Figure 13.4 Cash flow statement derived from Figure 13.3

		€000
Operating profit		
Increase in retained profits		36.0
Add interest on loans		3.2
Taxation		16.0
Preference dividend		20.0
		75.2
Net cash inflow from operations		
Operating profit		75.2
Depreciation		16.0
Increase in inventory		(5.0)
Decrease in receivables		3.0
Increase in payables		6.0
Interest paid		(3.2)
Taxes paid		(12.0)
		80.0
We therefore have:		
Cash inflow from operating activities		80.0
Cash flows from investing activities		
Purchase of non-current assets		(70.0)
Cash flows from financing activities		
Issue of new shares (6 + 6)	12	
Dividends paid	(18)	
Issue of new debentures	2	
		(4.0)
Net cash flows		6.0
Opening cash balance		21.0
Closing cash balance		27.0
Increase in cash		6.0

Activity 13.F Comment on the implications for AN Co. of the statement prepared in Activity 13.E.

Feedback The broad picture is that cash inflows arise from operations (80) and from new long-term funding (12 + 2). Cash outflows arise from investment in non-current assets (70) and the payment of dividends (18). Most of the new long-term investment has therefore been financed out of the proceeds of day-to-day operations.

A common complication is that some non-current assets are likely to have been sold in the year, as in the next activity.

Activity 13.G

All the information in Activity 13.E, as given in Figure 13.4, still stands except that, additionally, non-current assets originally costing €40,000, with accumulated depreciation of €15,000, have been sold during the year ended 31 March 20X2 for €26,000. Prepare a cash flow statement in the proper format that takes account of this additional information.

Feedback

First of all we need to consider the effects of the new information. The amount spent on new non-current assets can be found:

$$\text{Opening balance at cost} + \text{New cost} - \text{Old cost} = \text{Closing balance at cost.}$$

Hence, in our example:

$$160{,}000 + \text{New cost} - 40{,}000 = 230{,}000$$

and the outflow on new non-current assets is therefore 110,000 to ensure a balance in the equation. Similarly for the depreciation figures in the balance sheet:

$$44{,}000 + \text{Annual charge} - 15{,}000 = 60{,}000$$

and so the annual charge is 31,000.

The resulting cash flow statement would look like that shown in Figure 13.5.

It is important to interpret cash flow statements in the context of the particular entity and take a reasonably long-term view. Borrowing, which will tend to lead to negative figures in the cash flow statement, may be a good thing as long as an excessively high leverage ratio is avoided and as long as long-term profitability is enhanced. Some entities may be structured so as to provide much of their cash needs through a positive cash flow from operations. Different industries may have different typical cash flow structures. For example, large retailers – especially if they buy on credit and sell for cash – may have large positive operating cash flows. Capital-intensive industries may have a greater tendency to raise external finance.

13.5 A real example

In practice, and in the context of consolidated financial statements, published cash flow statements can be rather more complicated. We present in Figure 13.6 the consolidated statement of cash flows for Bayer for the financial year ended 31 December 2014, prepared in accordance with IAS 7.

Study Figure 13.6 carefully. You should be able to explain the rationale behind the movements in Figure 13.6 in the same way as we have done it for you in relation to Table 13.5. There have been some very large transactions during the year, and one can make plausible suggestions about their inter-relationships.

Figure 13.5 Cash flow statement for Activity 13.G

			€000
Operating profit			
Increase in retained profits			36.0
Add interest on loans			3.2
Taxation			16.0
Dividend			20.0
			75.2
Net cash inflow			
Operating profit			75.2
Depreciation			31.0
Profit on disposal			(1.0)
Increase in inventory			(5.0)
Decrease in debtors			3.0
Increase in creditors			6.0
Interest paid			(3.2)
Taxes paid			(12.0)
			94.0
Result			
Cash inflow from operating activities			94
Cash flows from investing activities			
Purchase of non-current assets		(110)	
Disposal of non-current assets		26	
			(84)
Cash flows from financing activities			
Issue of new shares (6 + 6)	12		
Dividends paid	(18)		
Issue of new debentures	2		
			(4)
Net cash flows			6
Opening cash balance			21
Closing cash balance			27
Increase in cash			6

Figure 13.6 Bayer Group's consolidated statement of cash flows

	2014 *€ million*
Income after taxes	3,443
Income taxes	1.082
Financial result	981
Income taxes paid or accrued	(1,315)
Depreciation, amortization and impairments	2,936
Change in pension provisions	(337)
(Gains) losses on retirements of non-current assets	30
Gross cash flow	**6,820**
Decrease (increase) in inventories	(741)
Decrease (increase) in trade accounts receivable	(1.094)
(Decrease) increase in trade accounts payable	518
Changes in other working capital, other non-cash items	307
Net cash provided by (used in) operating activities (net cash flow)	**5,810**
Cash outflows for additions to property, plant, equipment and intangible assets	(2,371)
Cash inflows from sales of property, plant, equipment and other assets	143
Cash inflows from divestitures	304
Cash inflows from (outflows for) non-current financial assets	(10)
Cash outflows for acquisitions less acquired cash	(13,545)
Interest and dividends received	107
Cash inflows from (outflows for) current financial assets	(167)
Net cash provided by (used in) investing activities	**(15,539)**
Dividend payments	(1,739)
Issuances of debt	27,584
Retirements of debt	(15,746)
Interest paid including interest rate swaps	(541)
Interest received from interest rate swaps	179
Cash outflows for the purchase of additional interests in subsidiaries	(1)
Net cash provided by (used in) investing activities	**9,736**
Change in cash and cash equivalents due to business activities	**7**
Cash and cash equivalents at beginning of year	**1,662**
Change in cash and cash equivalents due to exchange rate movements	184
Cash and cash equivalents at end of year	**1,853**

Source: Adapted from Bayer's Annual Report, 2014, p. 231.

Summary

- Cash flow statements provide a different focus from the income statement and balance sheet, giving important insights into cash and liquidity changes and trends.
- Cash flow statements are not always required by law, but they are virtually universal, for listed companies, and are required by IAS 7 and by national regulation in many countries. IAS 7 has had a major influence in this area.
- IAS 7 requires four major sections in a cash flow statement:
  - cash flows from operating activities;
  - cash flows from investing activities;
  - cash flows from financing activities;
  - net change in cash and cash equivalents.
- Cash flows from operating activities may be prepared using either the direct or the indirect method. In practice the indirect method generally predominates.
- Practice in the usage and interpretation of cash flow statements is required.



References and research

The key reference is IAS 7, *Cash Flow Statements*.
Some specific suggestions for reading are as follows:

- G. Gebhardt and A. Heilmann, 'Compliance with German and international accounting standards in Germany: evidence from cash flow statements', *The Economics and Politics of Accounting: International Perspectives on Trends, Policy and Practice* (C. Leuz, D. Pfaff and A. Hopwood, Chapter 4.2), Oxford: Oxford University Press, 2004.
- C. Yap, 'Users' perceptions of the need for cash flow statements: Australian evidence', *European Accounting Review*, Vol. 6, No. 4, 1997.

? MULTIPLE CHOICE QUESTIONS

Answers to these questions are in Appendix D.

13a. Under IFRS, a cash flow statement is:

A. Optional.
B. Compulsory for listed companies only.
C. Not required.
D. Compulsory.

13b. Under IAS 7, a cash flow statement focuses on changes in:

A. Cash.
B. Net current assets.
C. Current assets.
D. Cash and cash equivalents.

13c. Which of the following is *unlikely* to be treated as an operating cash flow?

A. Cash payments for contracts held for dealing or trading purposes.
B. Cash payments to acquire interests in joint ventures.
C. Cash receipts of an insurance company for premiums.
D. Cash receipts from royalties.

13d. Cash flows arising from dividends received and paid should be classified:

A. In a consistent manner from period to period and disclosed separately.
B. As operating activities and disclosed separately.
C. As investing activities and disclosed separately
D. As financing activities and disclosed separately.

13e. Which of the following is *unlikely* to be treated as a financing cash flow?

A. Cash receipts from the sale of debt of another entity.
B. Cash receipts from issuing equity instruments.
C. Cash payments by a lessee for the reduction of the outstanding liability relating to a finance lease.
D. All of the above.

13f. In a cash flow statement, which one of the following might appear as an investing cash *inflow*?

A. Revaluation of plant, property and equipment.
B. Profit on the disposal of plant, property and equipment.
C. Purchase of a brand.
D. Proceeds on the disposal of plant, property and equipment.

13g. Which of the following should be excluded from the cash flow statement?

A. The acquisition of long-term assets by signing a finance lease.
B. The conversion of debt to equity.
C. The issue of shares to acquire another entity in a business combination.
D. All of the above.

? EXERCISES

Feedback on the first two of these exercises is given in Appendix E.

13.1. 'Expenses and revenues are subjective; cash flows are facts. Therefore cash flow statements cannot mislead'. Discuss.

13.2. Study Figure 13.6. Write a short report on Bayer's management of its cash flows over the period reported.

13.3. The balance sheet of Dot Co. for the year ended 31 December 20X2, together with comparative figures for the previous year, is shown in Figure 13.7 (all figures €000).

Figure 13.7 Balance sheet for Dot Co.

		20X1		*20X2*
Non-current assets		180		270
Less depreciation		(56)		(90)
		124		180
Current assets				
Inventory	42		50	
Receivables	33		40	
Cash	11		–	
		86		90
Payable within one year				
Trade and operating payables	(24)		(33)	
Taxation	(17)		(19)	
Other accruals	(26)		(28)	
Bank overdraft	–	(67)	(10)	(90)
Net current assets		19		–
Net assets		143		180
Represented by				
Ordinary share capital €1 shares		20		25
Share premium account		8		10
Retained profits		55		65
Shareholders' fund		83		100
Debentures (15 per cent interest)		60		80
Capital employed		143		180

You are informed that there were no sales of non-current assets during 20X2 and new shares and debentures issued in 20X2 were issued on 1 January.

Calculate operating profit and net cash flow from operations and prepare a cash flow statement for the year 20X2, consistent with IAS 7, as far as the available information permits. Comment on the implications of the statement.

13.4. Repeat Exercise 13.3, but this time work on the assumption that non-current assets that had originally cost €30,000, with accumulated depreciation of €12,000, had been sold during the year ended 31 December 20X2 for €11,000.

Chapter 14

Group accounting

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Objectives

After careful study of this chapter, you should be able to:

- outline the idea of the group for financial reporting purposes;
- distinguish between the concepts of control, joint control and significant influence;
- explain why it may be useful to produce separate sets of financial statements for an investor and for its group;
- prepare simple consolidated balance sheets, taking account of non-controlling interests and intercompany transactions;
- explain the different possible treatments of goodwill arising on consolidation;
- outline the equity method.

14.1 Introduction: the group

As explained briefly in Chapter 1, the economic world is dominated by enterprises that are structured as groups, each comprising a large number of separate legal entities. The reasons for such complex structures include the following:

- the various entities in the group need to be legally separate because they operate in several countries under different laws;
- there are tax advantages in being separate or there would be tax disadvantages in combining formerly separate entities;
- the legal structures may partially reflect a hierarchical organizational structure or the way in which the group was put together over time.

So far in this book, the discussion has largely been set in the context of an individual legal entity. However, for the purpose of looking at the financial statements of nearly all the world's most important economic entities, which are groups, we must now change this approach. Since the components of a group act together as though they were a single economic entity, it makes sense for accountants to prepare financial statements for a group on this basis, which does not just mean adding all the figures of the group companies together, as will be explained. In many countries, financial statements are available both for the group and for the individual legal parts of it.

Why it matters

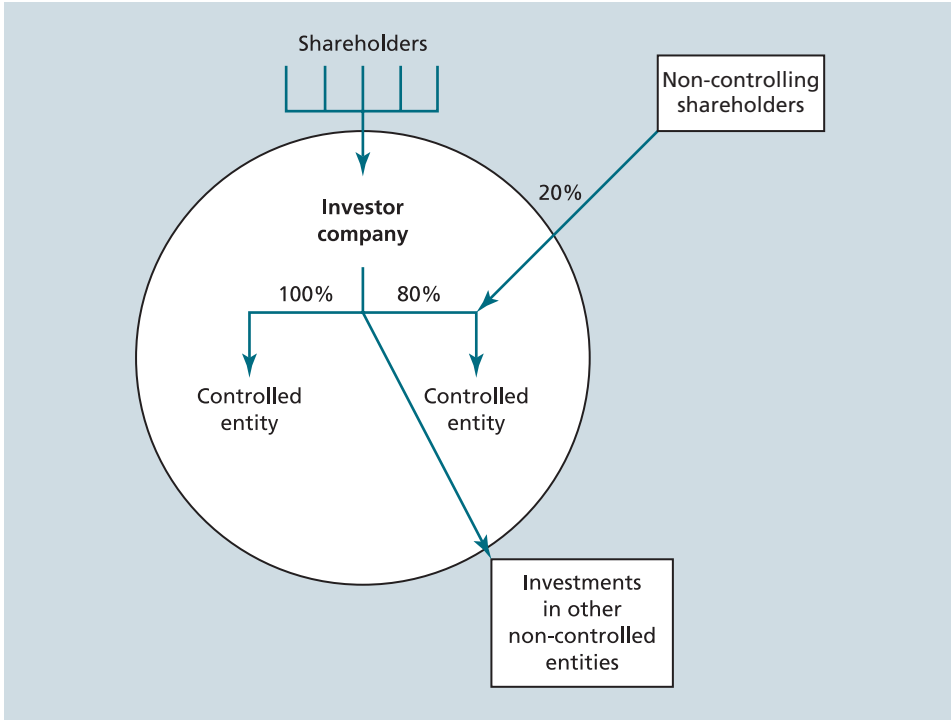
Suppose that a company has several subsidiaries but its shareholders or lenders look only at the unconsolidated financial statements of the company as a legal entity. As explained later, in many countries (e.g. France, Germany and the UK), the unconsolidated balance sheet would show the subsidiaries as investments (generally at cost) and the income statement would only show dividend income. If the parent sold some inventory to a subsidiary at an artificially high price, profits would be shown in the parent's income statement. If the subsidiaries borrowed large amounts of money for the group, this would not show up in the parent's balance sheet. In other words, the parent's statements give a misleading picture of the performance of the operational economic entity.

Some possible relationships between an investor company and the entities in which it owns shares are shown in Figure 14.1. The circle in Figure 14.1 is the perimeter of the group for accounting purposes. The key question is: where should we draw the perimeter; what is in the group? This chapter considers that question, then how to account for the group and things connected to it.

Since the group's financial statements are designed to present the group companies as if they were a single entity, the assets and liabilities in the group's balance sheet must meet the definition of asset and liability (see Chapter 8) from the group's point of view. For example, for an item to appear as an asset it must be controlled by the group. This implies that for an entity to be included in the group its financial and operating policies must be controlled by the investor company. IFRS 10 (Appendix A) defines a *subsidiary* as:

> An entity that is controlled by another entity . . . An investor controls an investee when the investor is exposed, or has rights, to variable returns from its involvement

Figure 14.1 A group (1)



with the investee and has the ability to affect those returns through its power over the investee.

There is clearly a close connection between control and the ownership of voting shares. It is almost always the case that if company X owns more than half the voting shares of company Y, then X controls Y and so is the parent of Y. In some jurisdictions, the identification of a subsidiary rests on this ownership of the majority of the voting shares (as in the United States).

Why it matters

Groups might wish to hide their liabilities in order to present a better picture. If it is possible to set up controlled entities that are not consolidated, then the group can arrange for these entities to borrow money or to sign a finance lease contract without it showing up as liabilities on the group balance sheet. This was one of the major features of the bad accounting by the US company Enron before it collapsed in 2001.

However, IFRS 10 and most European laws make it clear that all controlled entities are subsidiaries and control can exist with a holding of less than a majority of the voting shares, if somehow in practice there is power to appoint the majority of Board directors or to control the majority of votes on the Board. For example, if company X owns 48 per cent of voting shares of company Y and all the other shares are owned by thousands of small shareholders who do not use their

votes, then company X will probably be able to control the Board appointments of company Y.

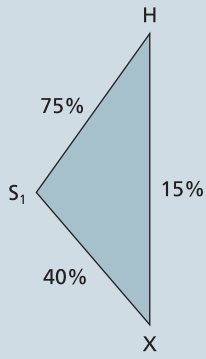
In line with this, under the national law in France there is a presumption that ownership of 40 per cent or more of the voting shares means there is control. Of course, it would be easy to overcome the presumption if it can be shown that 55 per cent is owned by one other shareholder.

Activity 14.A

There are three cases of relationships below. Wherever S_1 or S_2 appear, they are subsidiaries of H.

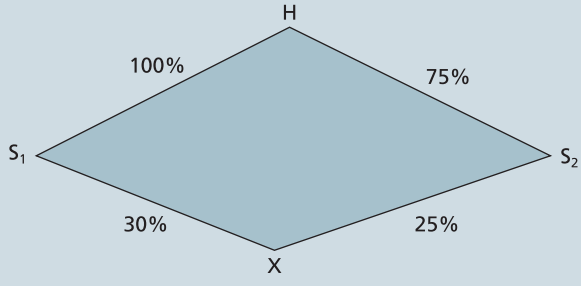
1. H owns 75 per cent of the voting shares of S_1, which in turn owns 40 per cent of the voting shares of X. H also owns directly 15 per cent of the voting shares of X. The relationships are easier to see if a diagram is drawn, so this is given in Figure 14.2.

Figure 14.2 Example of interrelationships of ownership of three companies



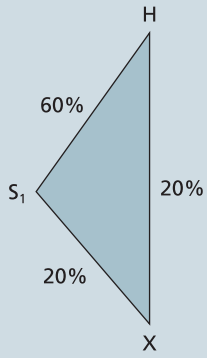
2. H owns 100 per cent of the voting shares of S_1, which in turn owns 30 per cent of X. H also owns 75 per cent of S_2, which in turn owns 25 per cent of X. This relationship is shown in Figure 14.3.

Figure 14.3 Example of interrelationships of ownership of four companies



3. H owns 60 per cent of the voting shares of S_1, which in turn owns 20 per cent of the voting shares of X. H also owns directly 20 per cent of the voting shares of X. This relationship is shown in Figure 14.4.

Figure 14.4 **Example of interrelationships of ownership of three companies**



In which of these three cases is X also part of the group?

Feedback

1. S_1 is a subsidiary of H (75 per cent ownership); X is not a subsidiary of S_1 (assuming no dominant influence in practice). H has an ownership share of:

$$\begin{aligned}&[75\% \times (40\% \text{ of } X)] + (15\% \text{ of } X)\\ &= 30\% + 15\%\\ &= 45\%.\end{aligned}$$

   This might seem to imply no subsidiary relationship. However, H *controls* S_1 and thus controls 40 per cent of X plus its own holding of 15 per cent. Therefore, X *is* a subsidiary of H.

2. S_1 and S_2 are subsidiaries of H, which therefore has an ownership share of:

$$\begin{aligned}&(100\% \times 30\% \text{ of } X) + (75\% \times 25\% \text{ of } X)\\ &= 30\% + 18.75\%\\ &= 48.75\%.\end{aligned}$$

   However, H controls $(30\% + 25\%) = 55\%$ of X. Thus X is a subsidiary of H.

3. S_1 is a subsidiary of H.

$$\begin{aligned}&\text{H owns: } (60\% \times 20\% \text{ of } X) + 20\% = 32\% \text{ of } X\\ &\text{H controls: } 20\% + (\text{via } S_1) + 20\% = 40\% \text{ of } X\end{aligned}$$

Thus X is *not* a subsidiary of H (assuming no control in practice).

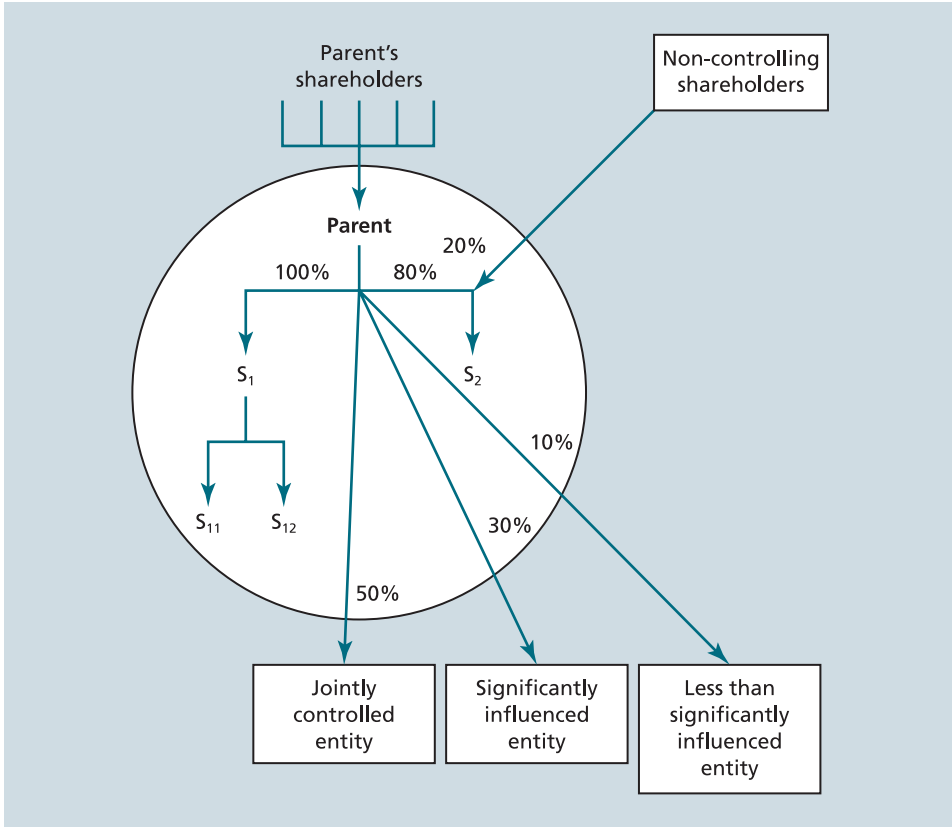
14.2 Investments related to the group

In addition to the entities controlled by the group, there may be other investments outside the group, as shown in Figure 14.1. In more detail, these might be as shown in Figure 14.5.

The jointly controlled entity in Figure 14.5 may have one other shareholder owning the other half of the shares. There is more difficulty with applying the concept of control here. Such an entity is called a 'joint venture' (JV). It occurs under

IFRS where two or more venturers have a contract to control the venture by unanimous agreement. Under French rules, joint ventures are seen as partly within the group, not as in Figure 14.5. Consequently, under French rules, joint ventures are consolidated in proportion to the holding. By contrast, in the US and UK rules, joint venture entities are seen as outside the group. In the national rules of most European countries, both views are allowed. This was the case in the former IAS 31, which was in force until (and including) 2012. However, IFRSs 10 and 11 treat joint venture entities as outside of the group and they do not allow proportional consolidation of them. In some groups this involved a major change of practice.

Figure 14.5 A group (2)



Activity 14.B

If a company owns 25 per cent of the shares in a joint venture (JV), does it control the assets of the JV? If not, does it control a quarter of the assets? Is the case different if the parent owns exactly one-half?

Feedback

As noted earlier, control is defined by the IASB as power to affect the variable returns from an investee. At its most basic, the question becomes: could the investor determine the dividend policy of the JV? The answer is 'no' in both the 25 per cent and the 50 per cent cases. Consequently, the JV is not in the group. This seems to mean that proportional consolidation is inconsistent with the concept of 'control', on which group accounting is generally based. This is why IFRS no longer allows proportional consolidation.

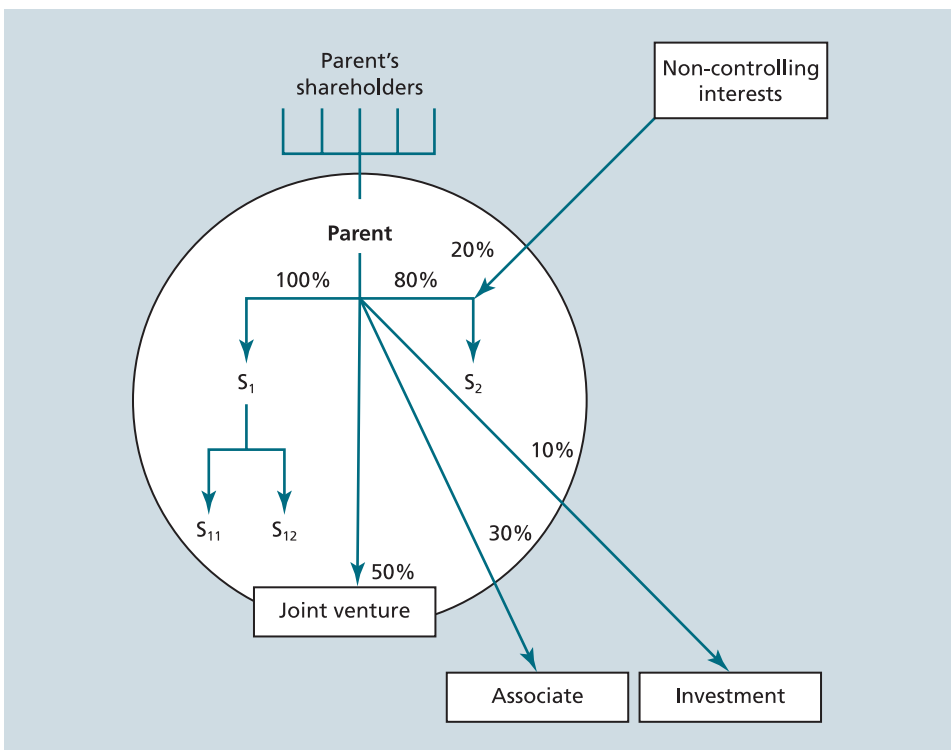
The other investments identified in Figure 14.5 are clearly not part of the group because they are not controlled. However, one of these (in addition to the joint venture) is included in a special category of entities over which an investor exercises 'significant influence' without control. This influence is generally presumed to exist when an investor has at least a 20 per cent holding in the voting shares of the other company. Evidence of significant influence would include the ability to appoint at least one director to the Board of the associate. In the domestic rules of some countries, the presumption of significant influence starts at a lower threshold, e.g. at 3 per cent for holdings in listed companies in Spanish law and at 10 per cent for such holdings in Italian law. Such investments are called 'associates' and are accounted for in a particular way, as described later.

Putting all these terms together, the group and its connected companies can be redrawn as in Figure 14.6. The parent has a series of subsidiaries, such as S_1 and S_2, which themselves can be parents of subsidiaries, such as S_{11} and S_{12}. Not all subsidiaries are wholly owned by their parents. For example, S_2 is 80 per cent owned by the parent and 20 per cent owned by other shareholders who are said to have a *non-controlling interest* (or minority interest) in the group.

A typical policy statement for the year to 31 December 2015 reads as follows (the term 'equity method' being explained below):

> The consolidated financial statements include Pubco's parent company ('Parent Company') and each of those entities over which the Group exercises control. Control over an entity is presumed to exist when the Group owns, directly

Figure 14.6 A group (3)



or indirectly through subsidiaries, over 50% of the voting rights of the entity; or when the Group by other means is exposed, or has rights, to variable returns from its involvement with the investee and has the ability to affect those returns through its power over the investee.

The Group's share of profits and losses of associates and joint ventures, over which the Group exercises significant influence, is included in the consolidated income statement in accordance with the equity method of accounting. Significant influence is generally presumed to exist when the Group owns, directly or indirectly through subsidiaries, over 20% of the voting rights of the entity.

Notice the clear statement that percentage of ownership is not the only criterion.

14.3 Accounting for the group

In the example of Figure 14.6, there are eight legally separate entities (the parent, four subsidiaries, one joint venture, one associate and one other investment). These can all borrow money and own buildings. They all pay tax and dividends. In most countries, it is thought useful to present separate sets of financial statements for several – or for all – of the legal entities in the group, as well as presenting the consolidated statements.

14.3.1 The parent's financial statements

In many countries (e.g. those in the EU) IFRS is only allowed or required for consolidated financial statements. Therefore, it is common for parent statements to be prepared under national accounting rules. This might suit a country's system of calculating taxable income and distributable income, which are issues for individual entities not groups. Given that investors are usually only interested in consolidated statements, it makes sense to concentrate on harmonizing these by adopting IFRS.

In the parent's financial statements, the practice is to account for the direct legal arrangements. In the above case of Figure 14.6, the parent company owns and controls its investments in the other seven entities. Consequently, in the parent's balance sheet the investments would be shown as non-current investments rather than showing all the individual assets and liabilities that the parent controls through its control of some of the other entities. Also, in the parent's income statement, accountants show just a single line of 'income from investments' rather than the sales, wages, interest, etc. of the investees.

Generally, in the parent's balance sheet, the valuation of the controlled and significantly influenced investments is at cost (less any impairment; see Chapters 9 and 11) and the income is measured at the level of dividends flowing from the investments. This is also allowed under IFRS (by IAS 27), although it is also possible to show these investments at fair value as available-for-sale financial assets (see Chapter 11).

However, under the national basis of a few countries, such as Denmark, the Netherlands and Norway, the influence of the parent over the other entities is seen as sufficient to justify taking credit for its share of profit, not just for the dividends

received. In a balance sheet, the parent then includes the excess of profit over dividends as an increase in value of the investment. This is called the *equity method*. It is important to learn about it for consolidated accounting in nearly all countries (see Section 14.5, where a fuller explanation is given).

Let us take an example. Suppose that a parent buys all of the shares of a company for €100 million. The double entry for this would be:

Debit:	Investment	€100m
Credit:	Cash	€100m

It is assumed for the moment that no goodwill is involved here – in other words, that the cost of the shares equals the value of the subsidiary's equity (net assets) at the date of acquisition.

Suppose that, in the first year, the new subsidiary makes a profit of €20 million and pays a dividend of one-quarter of that. The effects on the parent if the equity method were to be applied would be:

Debit:	Cash	€5m
Debit:	Investment	€15m
Credit:	Income	€20m

So the investment would now be shown at €115 million, which reflects the fact that the subsidiary's equity has grown by €15 million as a result of its undistributed profit.

This method is applied in investor company statements that follow national rules in Denmark, the Netherlands and Norway, not only to investments in subsidiaries but also to others that are at least 'significantly influenced', namely joint ventures and associates. This has also been allowed under IFRS from 2014.

14.3.2 Consolidated balance sheets

In addition to the eight legal entities in Figure 14.6, there is also the economic entity of the group as a whole. For reasons mentioned in Section 14.1, it is now thought to be essential to show the position for the whole group as a single entity. This idea is taken to an extreme in the United States because that country has the clearest view that investors are the users of financial statements. In the United States, it is normal to present financial statements for the group only and not to bother about publishing the statements of the parent and the other legal entities. An element of this can be found in some continental European countries, which exempt a subsidiary from having to publish financial statements if the parent company guarantees all the subsidiary's debts. Similarly, under UK law, parent companies are exempted from various aspects of reporting, e.g. the cash flow statement.

Activity 14.C

Let us now move on to the preparation of consolidated statements. Consider the situation shown in Table 14.1, in which Big Co. acquired the whole of the 50,000 issued ordinary share capital of Little Co. at a price of €2.5 per share (i.e. €125,000 cash) as at 30 June, at which date their respective balance sheets were as shown.

Table 14.1 Balance sheets for Big Co. and Little Co.

	Big Co. (€)	*Little Co. (€)*
Land and buildings	50,000	25,000
Plant	40,000	20,000
Investment in Little Co.	125,000	–
Sundry other assets	20,000	15,000
	235,000	60,000
€1 ordinary shares	150,000	50,000
Reserves	85,000	10,000
	235,000	60,000

As at this date, the estimated market values of Little Co. assets were different from those recorded in the balance sheet:

Land and buildings	€30,000
Plant	€22,000
Sundry other assets	€15,000
Total	€67,000

Think first about the statements of Big (the parent company) in isolation. If these statements were sent to the shareholders of Big, how useful would that information be?

Feedback

In Big's balance sheet, the shareholding in Little will normally appear as an investment at historical cost. However, as with any other asset in a balance sheet, the use of historical cost would not normally give the shareholders of Big a good indication of the value of the subsidiary or of the underlying assets. In Big's income statement, the only reference to the subsidiary would be 'dividends received from Little' (assuming there were any) and, of course, this would give no clear indication of the subsidiary's profit. The holding company's financial statements would give no meaningful information about the whole group's activities.

Therefore, group statements are prepared by adding together (*consolidating*) the position and results for all the components of the group. The basic process of consolidation takes the balance sheet of Big Co. as the starting point. In order to show the group as a single entity, the 'Investment in Little' entry must be removed and replaced by the assets and liabilities of Little that it represents, with any remaining excess shown as 'Goodwill on consolidation'. So, the goodwill is what Big paid, less the identifiable (net) items which it bought. This procedure means that the resulting group balance sheet shows no 'Investment in Little', because a group cannot own an investment in itself.

The above procedure leaves a crucial question unresolved, because two alternative values are available for the net assets (i.e. assets – liabilities) of Little Co.: (a) the figures taken from Little's own accounting records as shown in its balance sheet (largely based on historical cost) or (b) the current market values or 'fair values' of Little's assets and liabilities. It is clearly arithmetically possible to use either

set of figures, as the goodwill arising on consolidation is simply a balancing number. It is now the practice in most countries, and required under IFRS 3, *Business Combinations*, to use the fair values rather than the book values. In effect, the method estimates how much the individual parts of the net assets would have cost at the date of acquisition by the group. This whole procedure of accounting for the business combination of Big Co. and Little Co. is called acquisition accounting or the purchase method.

Activity 14.D

Redraw the balance sheet of Little Co. from Table 14.1 in order to show how it would be shown for the purposes of preparing the consolidated balance sheet.

Feedback

The current values shown in Activity 14.C would be used to replace those in Table 14.1. The result would be Table 14.2. The reserves now include a revaluation reserve of €7,000. In most countries, this redrawn balance sheet would not be published. It would only be used within the group as part of the process of preparing the consolidated statements.

Table 14.2 Redrawn balance sheet of Little Co. (€)

Land and buildings	30,000
Plant	22,000
Sundry other assets	15,000
	67,000
€1 ordinary shares	50,000
Reserves	17,000
	67,000

This use of revalued amounts in the consolidated statements does not mean that the consolidated balance sheet departs from the cost model: as mentioned above, the fair value of the subsidiary's incoming assets is an estimate of what it would have cost to buy them individually at the date when the subsidiary was bought. The resulting consolidated balance sheet, starting from Table 14.1 but using the fair values as revised in Table 14.2, is shown in Table 14.3. Note that, in this simple case, there are no liabilities.

Table 14.3 Big and Little consolidated balance sheet (€000s)

Land and buildings	80	(50 + 30)
Plant	62	(40 + 22)
Sundry other assets	35	(20 + 15)
Goodwill on consolidation	58	(125 – 67)
	235	
Ordinary share capital	150	(150 + 50 – 50)
Reserves	85	(85 + 17 – 17)
	235	

As with any consolidation, only the holding company's share capital is shown as the capital of the group. The subsidiary's own share capital reflects internal financing within the group. This is 'netted off' against the investment in the

subsidiary as shown in the assets of the holding company's individual balance sheet, as part of the 'goodwill on consolidation' calculation. The €50,000 + €17,000 of equity at the bottom of Table 14.2 is set off in the goodwill calculation.

The figure called 'goodwill on consolidation' can be thought of in a number of ways. At its simplest, it is merely a number – as a difference created by the bookkeeping. This idea can be seen in the Italian expression for the number: *differenza da consolidamento*. Another way of looking at it is that the goodwill is a premium on top of the separate values of the net assets. This idea comes through in the French term: *écart d'acquisition*. In the above example, the goodwill is, as usual, what Big paid, less the net assets that it bought. Big bought 100 per cent of the ownership interest in Little, paying €125,000 for a collection of resources (net assets) that appear to be worth only €67,000 even at current values. So, the goodwill is €58,000.

The next question to ask is whether the goodwill is an asset to be recognized in the group's balance sheet or not. Consider the IASB's definition of an asset (seen in earlier chapters):

> An asset is a resource controlled by the entity as a result of past events and from which future economic events are expected to flow to the entity.

Such an item should be incorporated in the balance sheet if:

(a) it is probable that any future economic benefit associated with the item will flow to or from the entity;
(b) the item has a cost or value that can be measured with reliability.

Why did Big pay €125,000? There are two possible reasons: first, the directors of Big are stupid or interested in expansion at any cost; second, the directors of Big believe the purchase to be worth at least €125,000. Ignoring the first possibility, it follows that:

(a) the goodwill on consolidation results from a past transaction;
(b) Big believes that this goodwill on consolidation will probably lead to benefits in the future;
(c) the cost of the goodwill can be measured by subtracting the fair value of the identifiable net assets from the investment in shares.

The remaining issue in determining whether or not the goodwill is a recognizable asset is if Big *controls* the resources. If the resources are seen as the loyal customers, trained staff, monopoly position, etc., it seems that these are *not* controlled because the customers and the staff could leave and the monopoly position could be worn away or legislated against. If the goodwill is the 'going concern' element, Big does seem to control that.

Anyway, most accounting systems, including IFRS, treat the goodwill as an asset that should be capitalized. In the domestic rules of some countries, such as Germany and the Netherlands, it is legally possible to write off goodwill against reserves immediately on acquisition, thereby never showing it as an asset.

14.3.3 Subsequent treatment of goodwill

As with other items shown as assets, goodwill presumably wears out. However, because it is not quite clear what the goodwill is, there are problems in assessing its useful economic life. Nevertheless, there seems to be a good argument that the

elements of goodwill bought at the date of acquisition do wear out: eventually the customers die, the staff retire and fashions change. In a fast-moving industry, goodwill may have a short life.

The EU Fourth Directive (Articles 34.1 and 37.2) suggested a life of five years but allowed longer. Until 2005, UK and IFRS standards imposed a rebuttable presumption of a limit of 20 years but longer periods could be used if a company could make a special case; but then an annual test of impairment had to be carried out (see Section 9.6). In order to eliminate charges based on an arbitrary length of life, the US standard-setter (the FASB) changed its rule in 2001 to require annual impairment calculations instead of amortization. This approach is now followed by the IASB under IFRS 3, applicable from 2005. However, this can be criticized because it does not separate the initially purchased goodwill from that subsequently arising; so, as long as the cost of the initial goodwill is exceeded by the value of all the goodwill at any subsequent date, no impairment is recognized.

The 2013 Directive requires amortization over the useful life or if, as is often the case with goodwill, this life cannot be 'reliably estimated', 'within' a period of between five and ten years at the member state's option (Article 12, para. 11).

There is also a major practical problem of annually measuring the 'value' of an asset that is as intangible as goodwill. This is done by assessing the value of the subsidiary (or set of subsidiaries to which the goodwill has been allocated). As long as the subsidiary still seems to be worth at least as much as when it was bought, then the accountants assume that there is no impairment of goodwill.

One issue that is *not* relevant here is taxation. This is because goodwill on consolidation and therefore amortization expenses related to it, occurs only in consolidated statements. Such statements are not relevant for taxation in most countries because tax works primarily on the basis of individual legal entities, such as a parent company. Consequently, the amortization or impairment of goodwill on consolidation is not relevant for tax.

Why it matters

Using the example of Big Co. and Little Co., as in Table 14.3, four different treatments of goodwill can be illustrated:

1. *amortize over 20 years;*
2. *amortize over 5 years;*
3. *write off to reserves;*
4. *impairment only.*

Table 14.4 shows the position for the first three of these after two years, ignoring the effects of all other changes such as depreciating other assets, making profit or paying dividends. In Case 1, the initial goodwill of 58 has been amortized for two years at 20 per cent per year; in Case 2, the same has occurred at 5 per cent per year. Of course, the readers of the financial statements will also be interested in the group's profit figures. These will look best for Case 3 (because there is no amortization expense, since goodwill is written off against reserves, so there is no asset to amortize). The profit will be lowest for Case 2.

Case 4 (impairment only) might look even better because goodwill would remain at 58 (and reserves would be 85) unless the group suffered adverse conditions leading to an impairment.

Table 14.4 Big Co. and Little Co.: three different balance sheets after two years (€000)

	Case 1	*Case 2*	*Case 3*
Goodwill on consolidation	34.8	52.2	0
Land and buildings	80	80	80
Plant	62	62	62
Sundry other assets	35	35	35
	211.8	229.2	177
Ordinary share capital	150	150	150
Reserves	61.8	79.2	27
	211.8	229.2	177

14.3.4 Consolidated income statements

As for the consolidated balance sheet, so for the consolidated income statement the idea is to present a picture of the group as though it were a single entity. For many items in the group's income statement, this is straightforward. For example, the consolidated wages expense is the total of the wages expenses of all the group enterprises. Similarly, the consolidated sales figure is the total of the whole group's sales figures to outsiders. There is a complication in that some sales may be made to other members of the group. These need to be eliminated, as examined below in Section 14.3.6.

One expense that appears in the consolidated income statement but will not have appeared in the income statements of any component of the group is any amortization or impairment of goodwill arising on consolidation.

14.3.5 Non-controlling interests

It is now time to add an extra complication into the discussion of group accounting. Suppose that the holding company (or parent company) buys less than the whole of the shares in the subsidiary. This leaves a *non-controlling* set of shareholders (sometimes called 'minority interests') in the subsidiary who are not shareholders in the parent. In some countries, such as the United States up until 2010, consolidation is performed by taking the view of the parent company shareholders (the *parent company approach*). Although the consolidation process begins by adding together all the resources and results of the controlled entities, the proportion of the resources and results that is not actually owned by the parent (the non-controlling interests) are then shown:

(a) in the balance sheet, separately from shareholders' funds and liabilities;
(b) in the income statement, as a reduction in net profits (or the reverse, if the subsidiary made a loss), to arrive at earnings attributable to the shareholders of the parent company.

The non-controlling interests, shown as (a) above, represent a claim on the group resources by those *outside* the controlling ownership interest, which is the interest of the owners of the parent.

However, according to the IASB's Framework, the non-controlling interest must be equity because it does not fit the definition of a liability, because there is no obligation to pay share capital and reserves to the non-controlling shareholders. Therefore, IFRS 10 requires non-controlling interests to be shown as part of group equity though separately from the parent shareholders' equity. The same applies in US GAAP from 2010.

In order to highlight one issue at a time, the example in Tables 14.1 to 14.3 had no non-controlling interest, because the subsidiary was wholly owned. However, consider the companies H and S, as shown at 31 December 20X8 in Table 14.5. Suppose that H had purchased 80 per cent of the 8,000 shares of S for cash at 31 December 20X7 at a price of €1.50 per share, when the balance on S's reserves had stood at €2,000. At that date, then, the net assets and shareholders' funds (the equity) of S were €10,000 (i.e. €8,000 + €2,000). The purchase price was €9,600 (i.e. 80 per cent × €1.50 × 8,000 shares).

Table 14.5 Balance sheets of H and S at 31 December 20X8

	H	*S*
Plant and machinery	60,000	5,000
Investment in S	9,600	–
Sundry current assets	35,000	6,000
	104,600	11,000
€1 ordinary shares	40,000	8,000
Reserves	64,600	3,000
	104,600	11,000

Since all of the assets of S (all of which are *controlled* by H) are being brought in, it is necessary to account for the non-controlling 20 per cent claim. The consolidated balance sheet as at 31 December 20X8 would be as shown in Figure 14.7. The non-controlling interest of €2,200 is calculated as in Note 3 but can also be seen to be equal to 20 per cent of the non-controlling initial stake, i.e. 20 per cent of (€8,000 + €2,000) = €2,000, plus 20 per cent of S's income since its purchase, i.e. 20 per cent of (€3,000 – 2,000) = €200.

In the consolidated income statement, the non-controlling share of profit is generally presented at the end in order to show separately the net profit attributable to the parent company's shareholders. In the above example, €200 would be shown as the non-controlling share in the consolidated income statement for 20X8.

14.3.6 Intercompany transactions

It is likely that companies within a group will trade with each other and lend to each other. Remembering that H and S (holding and subsidiary companies) are separate legal entities, if H sells goods to S at above their cost, then H has made a profit. If S has not yet sold the goods to outsiders, then the total group has made no profit or loss, because the group, considered as a single economic entity, has not done anything. In preparing consolidated statements, therefore, the positions and results of H and S cannot simply be added together. The sales and profits 'made'

Figure 14.7 Consolidated balance sheet of H and S at 31 December 20X8 (€)

Goodwill on acquisition (Note 1)	1,600
Plant and machinery	65,000
Sundry current assets	41,000
	107,600
€1 ordinary shares	40,000
Reserves (Note 2)	65,400
Non-controlling interests (Note 3)	2,200
	107,600

Notes

1. There are two different ways of calculating goodwill when there are non-controlling interests. The following is the simpler one.

Cost of investment in S	9,600
less 80% of net assets of S (= shareholders' funds) at 31 December 20X7 80% × (8,000 + 2,000)	(8,000)
	1,600

2.

Reserves of H at 31 December 20X8	64,600
Reserves of S accruing to group since date of acquisition (3,000 – 2,000) × 80%	800
	65,400

3.

Share capital at 31 December 20X8 of S relating to minorities (20% 8,000)	1,600
Reserves at 31 December 20X8 of S relating to minorities (20% 3,000)	600
	2,200

by H from selling to S must be removed from the consolidated results so as to leave only those profits that have been 'made' by the group as a whole from selling to outsiders. Intercompany loans between companies within the group structure must be similarly cancelled out, so as to present a picture of loans made by or to the group considered as a single economic entity.

If, for example, H owns 75 per cent of S, then it could be argued that 25 per cent of the profits have really been 'made' by the group, as 25 per cent of the sale from H to S related to the non-controlling interest, which is by definition not part of the group. This logic would lead to the conclusion that only 75 per cent of the profit made between H and S would need to be removed on the consolidation. However, this practice is now felt to be inappropriate, especially as H controls S and therefore controls the whole sale. IFRS 10 requires the elimination of 100 per cent of such intercompany profits. This is also arithmetically easier for complex groups.

Activity 14.E

The financial year end of two companies *A* and *B* within the same group is 31 December. On 29 December, *A* dispatched goods to *B* with an invoice value of €40,000 and charged *B*'s account accordingly. *B* does not receive either goods or invoice until 4 January. Prepare the consolidation adjustment in *B*'s accounting records and note any other adjustment that may be required on consolidation.

Feedback The following adjustment will bring the goods into *B*'s books as at 31 December:

	Dr.	Cr.
Goods in transit	€40,000	
Current account with A		€40,000

On consolidation, the respective intercompany balances in the current accounts, which are now of the same size, will cancel out.

However, we must remember that this inventory of €40,000 in transit will contain an element of unrealized profit and this will need to be eliminated on consolidation.

14.4 Uniting/pooling of interests

The examples used so far are based on the concept of a takeover (or perhaps an agreed acquisition) of a small company by a larger one. However, it is possible for two enterprises to come together by agreement on a more or less equal basis. In accounting terms, this has been referred to as a *uniting of interests* (IFRS), *merger accounting* (United Kingdom) or *pooling of interests* (United States). In such cases, two or more companies merge their previously separate businesses into one integrated unit and the combined new ownership's interests mirror the relative interests of the original entities. There is generally no cash involved because the combination is achieved by one of the companies issuing more shares and transferring them to the other company's shareholders. It should be noted that in several countries, e.g. the United Kingdom and the United States, these 'mergers' were usually achieved legally by a takeover. In other countries, a 'legal merger' (*fusion* in French or *fusione* in Italian) may occur.

Uniting of interests accounting was allowed under the EU's Seventh Directive (Articles 19 and 20). The method assumes no purchase and therefore there is no goodwill and no fair value exercise. The method was always rare in most European countries, although the DaimlerChrysler (German/United States) combination was treated as a pooling under US accounting. Also, it was occasionally seen under UK accounting – e.g. in the business combinations of BP (UK) with Amoco (US) and of Astra (Sweden) with Zeneca (United Kingdom).

In practice, it was possible for management to arrange for combinations to look like unitings/poolings in order to make the group financial statements look better. To stop this, the US standard-setter (the FASB) abolished the method for any business combination from 1 July 2001. The IASB also abolished the method by IFRS 3, effective from 1 January 2005. The 2013 revision of the EU Directive does not allow the method, except for combinations within a group. However, former poolings remain in place, so they continue to affect financial statements.

Why it matters *Although fairly rare, the uniting of interests method was particularly found in very large business combinations and it can still have an enormous effect on the numbers. For example, the net assets (equal to the shareholders' funds) of the pharmaceutical company AstraZeneca are shown in Table 14.6 at the year ends before and after the merger that created it. As noted above, under UK accounting, it was treated as a merger. Under US accounting, it would have been treated as an acquisition, so the assets (including goodwill) would have looked much larger. Many large groups used*

merger/pooling/uniting accounting for previous business combinations and this still remains in place under IFRS or US GAAP. One clue that this has happened is in the complex name of the resulting group, such as Glaxo SmithKline.

Table 14.6 AstraZeneca's net assets for 1998 and 1999

	UK published net assets (£m)	*US adjusted net assets (£m)*	*Change*
1998	10,929	5,558	–49%
1999	10,302	33,375	+227%

Source: Extracts from published company financial statements.

14.5 The equity method

Earlier in this chapter it was noted that the equity method has several uses, including:

- to show the investments in subsidiaries in a parent's financial statements under the domestic rules of Denmark, the Netherlands and Norway (this also applying to investments in joint ventures and associates in those countries);
- to show investments in associates and joint ventures in consolidated statements.

IAS 28 (paragraph 3) says:

> The *equity method* is a method of accounting whereby the investment is initially recognised at cost and adjusted thereafter for the post-acquisition change in the investor's share of the investee's net assets. The investor's profit or loss includes its share of the investee's profit or loss . . .

An illustration will be useful here. Suppose that company X had acquired 600 ordinary shares in company Y (which amounted to 30 per cent of Y) at a price of €1.50 per share on 31 December 20X7. Thus, the investment in the associate was €900 (600 shares at €1.50 each). At the original purchase date, the reserves of Y had been €800. The respective balance sheets of X and Y a year later (at 31 December 20X8) are shown in Table 14.7.

Table 14.7 Balance sheets of X and Y

	X	*Y*
Non-current assets	15,000	3,200
Investment in Y	900	–
Net current assets	1,000	1,800
	16,900	5,000
Share capital	8,000	2,200
Reserves	8,900	2,800
	16,900	5,000

Suppose that X also has a subsidiary company and it is proposed to prepare consolidated statements for the X group for the year ended 31 December 20X8.

In order to concentrate on the associate, one could draft the initial consolidated balance sheet of the group as at that date before inclusion of the income of the subsidiary, but inclusive of the associate's figures. The effects of the equity method are shown in Table 14.8. There is an assumption here that there is no goodwill involved in the purchase and no dividends are paid by the associate.

Table 14.8 Initial equity accounting of Y

Non-current assets[a]	15,000
Investment in Y[b]	1,500
Net current assets[a]	1,000
	17,500
Share capital[a]	8,000
Reserves[c]	9,500
	17,500

Notes

[a]Assets and share capital of X only, since Y is an associated company and will therefore be shown in the group balance sheet as an investment.

[b]cost	900
+ share of post-acquisition reserves	
= 30% × 2,000 (i.e. 2,800 – 800)	600
	1,500
[c]Reserves of X	8,900
+ group's share of post-acquisition profits of Y (30% × 2,000)	600
	9,500

This illustration demonstrates the effect of equity accounting for the results of an associate in a group's balance sheet. This method is often known as a *one-line consolidation*. The effect is that the assets (Investment in Y) and claims (Reserves) have both been increased by €600 (the group's share of the post-acquisition profits of the associate). However, the difference from proportional consolidation is that the proportion is added as one figure to the Investment, not as separate figures to the individual asset (and liability) accounts.

If, in the Table 14.8 example, dividends had been paid by the associate, then cash would have moved into the group and so the group cash figure would rise by the size of the dividend received. However, the net assets (= equity) of the associate would have fallen because it has paid out cash. So the 'Investment in Y' would fall by the same amount as the cash rose.

Let us suppose that a total dividend of €1,000 was paid by Y to its various shareholders. X would receive 30 per cent of this, so that the double entry in its consolidated statements would be:

Debit:	Cash	300
Credit:	Investment in associate	300

The consolidated income statement would be unaffected by the dividend because X's share of the total profit had already been recorded.

14.6 Conclusion on group relationships

As an investor company's influence over its various investees grows, so the degree of inclusion of their net assets and results in the investor's group financial statements increases. This is represented in Table 14.9. An investment without 'significant influence' is accounted for as a financial asset. An investment with 'significant influence' (but no more) is accounted for under the equity method. A jointly controlled investment would be accounted for by proportional consolidation under some accounting rules (e.g. in France) and formerly as an option in IFRS. An investment with control or *dominant influence* is fully consolidated. These distinctions, in a real business situation, will often contain elements of uncertainty. The 20 per cent threshold for 'significant influence' is, of course, arbitrary.

Table 14.9 Degree of inclusion of investees in consolidated statements

Investment	*Balance sheet*	*Income statement*
1. Less than significant influence (typically less than 20% of voting shares)	Investment treated as financial asset (see Chapter 11)	Dividends and any revaluation gains and losses
2. Significant influence: an associate (typically 20% or more of voting shares)	Investment measured by the equity method	Share of net income
3. Joint control: a joint venture entity	Equity method or proportionate consolidation in some countries	Share of net income or proportionate consolidation in some countries
4. Control but less than 100% ownership of voting shares: a subsidiary	Full consolidation; non-controlling interest shown	Full consolidation; non-controlling interest shown
5. Control and 100% ownership of shares: a wholly owned subsidiary	Full consolidation	Full consolidation

Why it matters

Consolidated net assets will generally be the same whichever of methods 2 to 5 in Table 14.9 is applied to an investment and the same goes for consolidated net income. However, many component figures will be different. For example, method 2 shows none of an investee's cash or sales in the group's financial statements; method 3 includes a proportion and methods 4 and 5 include 100 per cent. This may have a major effect on the ratios calculated by investment analysts.

For example, under IAS 31, joint venture entities could (until 2013) be accounted for by methods 2 or 3. Under method 2 (equity accounting), none of the joint venture's cash or sales appeared in the cash, liabilities and sales lines of the consolidated balance sheet and income statement. Under method 3 (proportional consolidation), the group's proportion of cash, liabilities and sales was included. If joint ventures are important to the group (as they often are in large international groups), this sometimes had a major effect on many of the ratios introduced in Chapter 7. You may like to check which ones were affected.

Summary

- Most large economic enterprises operate as groups of legal entities, so the accounting needs to present the state of affairs and performance of the group.
- A subsidiary is defined on the basis of control, although the exact definition varies internationally.
- There are other entities connected to the group by joint control or significant influence.
- A parent's unconsolidated financial statements generally show the cost of investments and the receipt of dividends from them, although domestic practice under Danish, Dutch and Norwegian rules is to use the equity method for some investments.
- Consolidated statements include the parent and its subsidiaries as though they were a single economic entity.
- Companies often pay more for subsidiaries than the value of the individual identifiable net assets. The difference is goodwill, which is treated as an asset in most countries.
- The amortization or impairment of goodwill varies greatly internationally, but an impairment-only approach is now required in IFRS.
- Non-controlling interests and intercompany transactions need to be accounted for.
- A rare but importantly different method of accounting for business combinations is uniting/merger/pooling accounting. Although not now allowed in IFRS or US GAAP, there are several old examples remaining in today's financial statements.
- In consolidated statements, associates and joint ventures are accounted for by the equity method, although some sets of rules allow or encourage proportional consolidation for joint venture entities.
- Harmonization is more useful and easier if it concentrates on consolidated statements.



References and research

The documents of the IASB of particular relevance to this chapter are:

- IFRS 3, *Business Combinations*
- IFRS 10, *Consolidated Financial Statements*
- IFRS 11, *Joint Arrangements*
- IAS 27, *Separate Financial Statements*
- IAS 28, *Investments in Associates and Joint Ventures*.

Research in the English language on the topics of this chapter includes:

- P. Bircher, 'The adoption of consolidated accounting in Great Britain', *Accounting and Business Research*, Winter, 1988.

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? MULTIPLE CHOICE QUESTIONS

Answers to these questions are in Appendix D.

14a. Under IFRS, a group is a set of entities that the parent:

A. Significantly influences.
B. Owns a majority of the voting power in.
C. Jointly controls.
D. Controls.

14b. Under IFRS, a subsidiary is:

A. An entity controlled.
B. A company controlled.
C. A company significantly influenced.
D. An entity significantly influenced.

14c. Under IFRS 10, control over an entity means:

A. Power to govern its financial and operating policies.
B. The right to appoint the majority of its Board members.
C. Power to affect the variable returns from it.
D. The right to dominant influence over it.

14d. Non-controlling interests are:

A. Investments in entities that are not subsidiaries.
B. Investments in entities that are neither controlled nor significantly influenced.
C. The proportions of subsidiaries that are not owned by the group.
D. Investments in associates and joint ventures.

14e. The equity method of accounting brings into the 'cash' and 'sales' lines of an investor's financial statements:

A. 100 per cent of an investee's cash and sales.
B. The investor's proportion of cash and sales.
C. None of the investee's cash and sales.
D. Half of the investee's cash and sales.

14f. IFRS 3 requires goodwill on consolidation to be treated as follows:

A. Written off against reserves.
B. Amortized over useful life.
C. Amortized over 20 years.
D. Annually tested for impairment.

14g. Under IFRS 3, a business combination must be accounted for:

A. Usually as a purchase.
B. As a purchase unless it can be proved that a merger/pooling has taken place.
C. As a purchase.
D. As a pooling/merger if the relevant national law requires this.

14h. Under IFRS, significant influence over an investee is presumed to exist only when an investor has:

A. The power to govern the financial and operating policies.
B. Ownership of 20 per cent or more of the voting rights.
C. Ownership of 10 per cent or more of the voting rights.
D. Ownership of more than 50 per cent of the voting rights.

14i. The equity method involves valuing an interest in an entity:

A. At stock market value.
B. At lower of cost and market value.
C. At proportion of net assets.
D. At cost plus dividends received.

? EXERCISES

Feedback on the first two of these exercises is given in Appendix E.

14.1. Explain the concepts of:

a. subsidiary;
b. joint venture;
c. associate;
d. an investment that is none of the above.

Outline and discuss the usual approaches to the accounting treatment in each case in consolidated statements.

14.2. A Co. owns 75 per cent of the shares in B Co., bought when the reserves of B were €200,000. The individual balance sheets of A and B as at 30 June 20X8 are given in Table 14.10. During the year, B has sold goods to A at a profit margin of 25 per cent on cost. Of these goods €50,000 remain in A's closing inventory as at 30 June 20X8. Also B owes A €2,000 as at 30 June 20X8. Prepare the consolidated balance sheet as at 30 June 20X8.

Table 14.10 Individual balance sheets as at 30.6.20X8

	A €000	B €000
Assets		
Land and plant	1,000	200
Investment in B	275	–
Inventory	600	400
Receivables	200	40
	2,075	640
Liabilities		
Payables	30	16
	2,045	624
Represented by:		
Ordinary €1 shares	1,000	100
Reserves	1,045	524
	2,045	624

14.3. The balance sheets of A and B as at 31 December 20X7 are as shown in Figure 14.8. In addition:

a. A had acquired 37,500 shares in B in 20X3 when there was a debit balance on the reserves of €3,000.

b. B purchases goods from A, providing A with a gross profit on the invoice price of 33 per cent. On 31 December 20X7 the inventory of B still included an amount of €8,000, being goods purchased from A for €9,000.

Prepare the consolidated balance sheet of A and its subsidiary as at 31 December 20X7.

Figure 14.8 Balance sheets for A and B as at 31 December 20X7

		A *000s*		*B* *000s*
Land and buildings	108		64	
less Depreciation	20	88	32	32
Plant and machinery	65		43	
less Depreciation	25	40	29	14
		128		46
Investment: shares in B		45		–
Inventory	25		27	
Receivables	48		21	
Bank	12		6	
	85		54	
Payables (current)	112	(27)	34	20
		146		66
Ordinary €1 shares		100		50
Share premium		10		–
Reserves		36		16
		146		66

14.4. a. How would you define goodwill?

b. Three possible accounting treatments of goodwill are:

i. retain goodwill as an asset to be amortized over its estimated useful life;

ii. retain goodwill as an asset indefinitely, subjecting it to annual impairment tests;

iii. write off goodwill to reserves at the time of acquisition.

Discuss briefly the principles underlying each of these three approaches. Indicate your preferences.

Chapter 15

Foreign currency translation

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Objectives

After studying this chapter carefully, you should be able to:

- distinguish between currency conversion, the translation of transactions and the translation of financial statements;
- explain and simply illustrate the accounting treatment of transactions expressed in foreign currencies;
- discuss alternative views on the recognition of unsettled gains and losses arising from currency differences;
- outline alternative methods for translating financial statements expressed in foreign currencies;
- describe, illustrate and contrast the two methods of translating financial statements of subsidiaries;
- state and appraise the basic IAS 21 requirements for translation of financial statements expressed in foreign currencies.

15.1 Introduction

Several linked issues need to be discussed under the heading of currency translation. First, a note on technical terms is necessary.

1. *Conversion* is the process of changing one currency into another, as typically conducted in a bank or *bureau de change*.
2. *Transactions translation* is the accounting activity whereby transactions in foreign currency are re-expressed in the currency of the entity's accounting records or financial statements. For example, sales to foreign customers or loans from foreign banks might be denominated as amounts of foreign currency. They will need to be translated into the home currency in order to be included in the accounting records of the entity.
3. *Translation of financial statements* is the accounting activity whereby financial statements are re-expressed in another currency. Typically, this means the translation of a foreign subsidiary's statements into the parent currency for the purpose of preparing consolidated financial statements for the group.

This chapter does not deal with point 1 above. It does deal with point 2. It only deals with point 3 for the main purpose of group accounting. For other purposes, e.g. assessment of a foreign company by an analyst, the users of the foreign financial statements can choose their own methods of translation – usually the exchange rates ruling on the balance sheet date. The context of the discussion in this chapter is the IASB's standard in this area, IAS 21, *The Effects of Changes in Foreign Exchange Rates*.

Language can be a problem here. For example, accounting terms are sometimes not easily translated:

English terms	**French terms**
Conversion	*Change*
Translation	*Conversion*

Consequently, an inexpert translator may mislead the readers of an annual report that has been translated from one language to another.

15.2 Transactions

This section deals with the problems of a company that engages in foreign trading activities. Let us assume, for simplicity, that the company has no subsidiaries.

Why it matters

Business is increasingly international and whenever an entity has any dealings abroad it will be involved in foreign currencies. Since it usually keeps its accounting records and prepares accounting reports in its own 'home' currency, figures expressed in foreign money units need to be re-expressed in home units. If foreign currency exchange rates remain absolutely constant, i.e. if the value of one currency in terms of the other does not change, then no difficulties arise. However, this is generally not the case, as exchange rates can – and do – fluctuate considerably over relatively short

periods. Clearly, the introduction of the euro in Europe has helped for some countries, but the problem remains for a company in euroland that has to deal with subsidiaries, lenders, customers or suppliers from outside the area. In practice, it is possible to reduce the risk of exposure to currency fluctuations by a policy of hedging, i.e. of creating asset and liability risks such that the effects of currency movements will tend to cancel out. This is a complicated area, beyond the scope of an introductory text.

The easiest situation is where a foreign transaction is completed within an accounting period. Consider, for example, a Ruritanian company that keeps its accounts in the local currency, R, but sells goods to a Swiss company in May 20X1 for Sfr750,000. Payment is received in August 20X1. Assuming a 31 December year end, in May the company will record a receivable in its records of the Ruritanian equivalent of Sfr750,000 at the exchange rate in May 20X1 of R1 = Sfr3.5544, i.e. the transaction will be recorded at R211,006. Suppose that, when payment is received in August, the exchange rate has moved to 3.7081 so that the actual amount received is R202,260. The loss on exchange of R211,006 – R202,260 = R8,746 should be reported in the income statement. So the formal double entry in May will be:

Debit:	Receivables	211,006
Credit:	Sales	211,006

and in August:

Debit:	Bank	202,260
Debit:	Loss on exchange	8,746
Credit:	Receivables	211,006

Any profit on exchange would be credited to the income statement.

Similarly if, in May 20X1, the Ruritanian company bought a non-current asset, such as a machine, for Sfr750,000, this would be translated and recorded into its accounts as a debit to the Machinery account of R211,006. The subsequent exchange rate change would not affect the recorded amount for the machine, but any gain or loss on settlement of the purchase price would be charged or credited to profit or loss.

However, suppose that a sale or purchase transaction is not completed by the accounting year end, in the sense that a receivable or payable is still outstanding. In this case, the receivable or payable needs to be translated into the home currency so that it can be shown in the balance sheet and a gain or loss might arise. Consider now a Ruritanian company that bought a machine from a Belgian company in November 20X1 for €11 million when the exchange rate was R1 = €62.09. At the accounting year end of 31 December 20X1, the payment for the machine had not been made. The machine would be recorded at R177,162, by use of the November rate. However, the entry for the payable in the closing balance sheet would be recorded at the 31 December rate of R1 = €61.29, i.e. at R179,475. This would mean that a loss on exchange of R2,313 should be recognized in the profit or loss in 20X1. If the exchange rate continues to move in the same direction until the transaction is settled in January 20X2, then a further loss will be recognized, this time in 20X2.

Controversy arises on the accounting treatment in cases such as that in the previous paragraph where exchange rates move such that a *gain* might be recognized at the 31 December 20X1 year end. Under IFRS rules, and consistent with IASB's Framework discussed in Chapter 3, fair presentation demands that unsettled gains should be recognized as well as unsettled losses. These gains could even be called 'realized' in the same way as are profits on credit sales where the customer has not yet paid. In some European countries (those on the right of Figure 5.3, e.g. Germany or France), the traditional accounting thinking holds that such a treatment is imprudent and the recognition of any gains should be delayed until settlement.

In Germany, for example, it is normal in unconsolidated statements to translate non-current foreign-currency receivables and payables at the worse of the historical transaction rate and the closing rate. This recognizes losses but not gains. It also, on average, records lower receivables and higher payables than would be recorded under IFRS accounting. For example, BASF's 2014 annual report (of the parent company) noted on page 40:

> **Translation of foreign currency items:** Current foreign-currency receivables and liabilities are valued at the average spot currency exchange rate on the balance sheet date. Noncurrent foreign-currency receivables are recorded at the rate prevailing on the acquisition date or at the rate on the balance sheet date if lower. Noncurrent foreign-currency liabilities are recorded at the rate prevailing on the acquisition date or at the rate on the balance sheet date if higher. Foreign-currency receivables or liabilities that are hedged are carried at hedge rates.

In France, year-end rates are used but, in individual company financial statements, gains are stored in the balance sheet as deferred credits until they are settled.

The discussion so far has concerned transactions that are settled or are soon to be settled. Similar issues arise when there are long-term foreign-currency items, such as a ten-year foreign-currency loan. Suppose that a UK company borrowed $10,000 from a US bank in London for 5 years, from 20X1 to 20X5. At each year end, the loan is shown in pounds sterling in the company's balance sheet. Under IFRS and in most countries (though not under normal German practice – see above), the year-end rate would be used. So, assuming the exchange rates shown below, the following translations would have occurred at the first two year ends:

31.12.X1	$10,000 at £1 = $1	£10,000
31.12.X2	$10,000 at £1 = $1.50	£6,667
	Gain in 20X2	£3,333

Because, in our example, the pound strengthened against the dollar during 20X2, a gain is implied. For such gains, companies in some countries (e.g. the Netherlands and the United Kingdom, and under IFRS) would recognize the gain in the 20X2 in profit or loss. Others (such as those in France) would defer it. However, it seems a stretch of terminology to say that the £3,333 gain is 'realized' in 20X2, as it will not be settled until 20X5. However, IFRS is not concerned with realization and IAS 21 demands that such a gain should be taken to profit or loss.

15.3 Translation of financial statements

This section concerns the translation of the financial statements of a foreign subsidiary (or associate or joint venture) into the currency of the parent for the purposes of preparing consolidated statements. Two methods that are commonly used are outlined below.

15.3.1 Current rate method

This method of translation is based on the idea that the holding company has a net investment in the foreign operation and this is at risk from currency fluctuations. All assets and liabilities will be translated into the parent's currency at the current rate (balance sheet date rate). Incomes and expenses are translated at the appropriate current rate or (for simplicity) at the average rate for the year. Exchange differences will arise if the closing rate differs from the previous year's closing rate or from the rate on the date when the transaction occurred. Under IFRS, such gains and losses are shown as other comprehensive income (OCI).

Another way of looking at this method is that it applies when the 'functional currency' of the foreign subsidiary is not the parent's currency but the currency of the subsidiary's country. Therefore, the amounts need to be translated into the parent's currency for consolidation, assuming the usual case that the group statements are presented in the parent's currency.

15.3.2 Mixed rate (temporal) method

This method is based on the idea that any foreign operations are simply a part of the group that is the reporting entity, where some of the individual assets and liabilities of the group just 'happen' to be abroad. In effect, therefore, the temporal method amounts to treating all the individual transactions and balances of the foreign subsidiary as though they were those of the parent. The valuation basis used to value the assets and liabilities determines the appropriate exchange rate. Those assets recorded on an historical cost basis would be translated at the historical rate – the rate ruling when the item was established. Assets recorded on a current value basis would be translated at the current rate. Incomes and expenses should be correspondingly translated at the rate ruling on the date when the amount shown in the accounts was established. For many items (assuming an even spread of trading), this might be at the average rate for the year. However, for depreciation of an asset held at historical cost, the appropriate exchange rate would be the historical rate. Gains and losses arising from translation differences go to profit or loss under this method.

It is important to avoid the assumption that the temporal method automatically means using historical exchange rates. 'Temporal' means literally 'at the time', i.e. consistent with the underlying valuation basis. So the temporal method does mean using historical exchange rates *when applied to historical cost statements*, but using current exchange rates *when applied to current value accounts*.

In terms of 'functional currencies', this method is appropriate when the subsidiary's functional currency is the currency of the parent. If the subsidiary operates

in a way that is dominated by its parent's currency, then it can be seen as conducting all its transactions in the parent's currency. This will have the same effect as using historical exchange rates for historical transactions.

15.3.3 The methods compared

The use of the current rate method is intuitively simpler. That is, it is normal to assume that the subsidiary's country's currency is the one most relevant for its operations. Indeed, this is the method generally used around the world to translate the financial statements of foreign subsidiaries.

IAS 21 says that an entity should identify its functional currency by considering the currency of its sales prices and its costs. In some cases, it may be clear that a subsidiary is a mere sales conduit of the parent and can charge prices linked to the parent's currency. However, the identification of functional currency will often require the balancing of several factors (discussed in paragraphs 9–14 of IAS 21).

Activity 15.A

SAP is a multinational operation, based in Germany and prepared its financial statements in accordance with US GAAP until forced to produce IFRS consolidated financial statements in 2007. Its accounting policy for foreign currencies in its 2005 financial statements was as follows:

> The assets and liabilities of foreign operations where the functional currency is not euros are translated into euros using period end closing exchange rates, whereas items of income and expense are translated into euros using average exchange rates during the respective periods. The resulting foreign currency translation adjustments are included in Other comprehensive income/loss …
>
> Assets and liabilities that are denominated in foreign currencies other than the functional currency are translated at the period end closing rate with resulting gains and losses reflected in other non-operating income/expense, net in the consolidated statements of income.

Which method was it using in which circumstances?

Feedback

Where the functional currency is not euros, the closing rate is being used, with gains and losses taken to OCI. This is the current rate method. Where denomination is in a foreign currency other than the functional currency, gains or losses are taken to profit or loss, implying the temporal method. Since it is explicitly stated that the period end closing rate is being used in these cases, rather than the mix of historical and current rates, the sentence is presumably referring to monetary balances rather than to foreign financial statements.

15.4 A numerical illustration

The current rate and temporal methods are illustrated below for a French parent with a subsidiary in a foreign country where the currency unit is T. Suppose that Home SA established a 100 per cent-owned subsidiary, Away Ltd, on 1 January 20X1

by subscribing €25,000 of shares in cash when the exchange rate was T12 to €1. Away Ltd raised a long-term loan of T100,000 locally on 1 January 20X1 and immediately purchased equipment costing T350,000, which was expected to last 10 years with no residual value. It was to be depreciated under the straight-line method.

Table 15.1 shows the financial statements of Away Ltd for 20X1, during which the relevant exchange rates were:

	T to €
1 January	12.0
Average for year	11.0
Average for period in which closing inventory acquired	10.5
31 December	10.0

The 'T' column in Table 15.1 shows the original balance sheet amount in the foreign currency. The '€ (current)' column shows translation using the current rate method (i.e. assuming that the T is the subsidiary's functional currency). Note that, under any method, the share capital is translated at the historical rate. The exchange difference could be worked out in detail but is also the balancing figure in shareholders' funds. The '€ (temporal)' column shows the translation using the temporal method, involving the historical rate for certain items (i.e. assuming that the € is the subsidiary's functional currency). The profit figure in the balance sheet comes from profit or loss. The exchange loss could be worked out in detail

Table 15.1 Away Ltd's financial statements

Profit or loss for 20X1	*T*	*€ (current)*	*€ (temporal)*
Sales	450,000	40,909[a]	40,909[a]
less Cost of sales	(360,000)	(32,727)	(32,727)
Gross profit	90,000	8,182	8,182
less Depreciation	(35,000)	(3,182)[a]	(2,917)[b]
Other expenses	(15,000)	(1,364)[a]	(1,364)[a]
Net profit	40,000	3,636	3,901
Balance sheet as at 31 December 20X1			
Equipment at cost	350,000	35,000[d]	29,167[b]
less Depreciation	(35,000)	(3,500)	(2,917)[b]
	315,000	31,500	26,250
Inventory at cost	105,000	10,500	10,000[c]
Net monetary current assets	20,000	2,000	2,000[d]
less Long-term loan	(100,000)	(10,000)	(10,000)[d]
	340,000	34,000	28,250
Share capital	300,000	25,000[b]	25,000[b]
Retained profits	40,000	3,636	3,901
Exchange differences	–	5,364	(651)
	340,000	34,000	28,250

Notes on exchange rate used:
[a] T11.0 to €1.0 (average rate).
[b] T12.0 to €1.0.
[c] T10.5 to €1.0.
[d] T10.0 to €1.0 (closing rate).

but, again, is also the balancing figure. Under IAS 21, the €651 exchange loss would be recorded as profit or loss.

Why it matters

By the time that the subsidiary's translated statements from Table 15.1 are consolidated into the group statements, the translation method chosen may have a major effect on the financial statements and the interpretation of them. The exchange rate movements in Table 15.1 are fairly small, but still group profit would be affected by inclusion of the different figures, where:

	€
Current rate profit	3,636
Temporal method profit	3,901
Less translation loss	(651)
	3,250

The difference between the current rate and temporal method could have a major effect on group earnings.

The apparent level of group gearing (see Chapter 7) will also be affected. One measure of gearing is made by a comparison of long-term debt with shareholders' funds. In this case, the subsidiary's figures (which will then affect the group financial statements) show:

$$\text{Current rate gearing} = \frac{10{,}000}{34{,}000} = 29.4 \text{ per cent}$$

$$\text{Temporal method gearing} = \frac{10{,}000}{28{,}250} = 35.4 \text{ per cent}$$

So, in this case, the temporal method will lead to the presentation of higher gearing figures, although it should be noted that different circumstances could lead to the opposite relationship. Remember that the underlying events are identical for both sets of figures.

Summary

- There are several topic areas that might be considered under the heading of foreign currency translation and there are some linguistic difficulties in making it internationally clear what topic one is discussing. This chapter deals with foreign currency transactions of individual companies and then with the translation of the financial statements of foreign subsidiaries.
- Transactions are generally translated at the rate of exchange ruling on the date of the transaction, so asset purchases are generally frozen into home currency at the date of purchase. Outstanding receivables and payables are translated in most countries at current rates, but in some countries at the worse of transaction and closing rates, thereby not recognizing translation gains as profit or loss until settlement. In some countries where closing rates are used, resulting gains are thereby recognized but postponed.
- For translation of foreign subsidiaries' financial statements, the current rate (foreign currency functional) is the most common internationally. Gains and losses that result from this process are taken to OCI. Nevertheless, the use of historical rates for certain items (when the parent's currency is functional) may be found and this can have a large effect on group financial statements.

References and research

A key IASB reference is:

- IAS 21, *The Effects of Changes in Foreign Exchange Rates*.

Some further insight into the issues is given by the following two papers. Do not read one without also reading the other. The papers are:

- P. Feige, 'How "uniform" is financial reporting in Germany? The example of foreign currency translation', *European Accounting Review*, Vol. 6, No. 1, 1997.
- C. Nobes and G. Mueller, 'How "uniform" is financial reporting in Germany? Some replies', *European Accounting Review*, Vol. 6, No. 1, 1997.

? MULTIPLE CHOICE QUESTIONS

Answers to these questions are in Appendix D.

15a. The process of expressing a foreign subsidiary's balance sheet in its parent's currency is called:

A. Currency translation.
B. Currency change.
C. Currency conversion.
D. Currency swap.

15b. Entity X based in one country (currency $) bought goods from Entity Y in another country (currency €) for €300,000 on 1 May 20X1. The spot rate on that date was $1 = €1. As at 31 December 20X1, the balance sheet date, Entity X had not yet paid for the goods. The spot rate on 31 December 20X1 was $1 = €1.5.

At what amount should the purchases and payables figures be shown in the financial statements of Entity X?

	Purchases	Payables
A.	$300,000	$300,000
B.	$200,000	$300,000
C.	$300,000	$200,000
D.	$300,000	$450,000

15c. Under IFRS, unsettled gains on foreign monetary balances in an entity's balance sheet should be:

A. Taken to profit or loss immediately.
B. Taken to profit or loss when realized.
C. Taken to profit or loss immediately only when relating to short-term balances.
D. Unrecognized because such balances are translated at the worse of the transactions rate and closing rate.

15d. An entity's functional currency is:

A. The currency of its parent's country.
B. The currency of its own country.
C. The currency in which the financial statements are presented.
D. The currency of the entity's primary economic environment.

? EXERCISES

Feedback on the first two of these exercises is given in Appendix E.

15.1. A loan is made to a company of $20,000, which is equal to €10,000 at the date of the loan during year 1. The loan is legally denominated in dollars. At the end of year 1, the loan is translated as €9,500 and at the end of year 2 as €10,500. During year 3, the loan is repaid, the proceeds being converted to €10,600. The company keeps accounts in euros.

a. Show the accounting entries for each year, explaining your workings.
b. State how, under IFRS, you would deal with the gains or losses on exchange for each year, at that time. Justify your answer.

15.2. Home Inc. (a US company) has a wholly-owned subsidiary, S, which it acquired on 1 January X0. The balance sheets of S as at 1 January X0 and 31 December X0 are as set out in Figure 15.1 in foreign currency (FC) units:

Figure 15.1 Balance sheets for S as at 1.1.X0 and 31.12.X0

		1.1. X 0 (FC units)		*31.12. X 0 (FC units)*
Fixed assets		450		330
Inventory	240		360	
Receivables	120		240	
	360		600	
Payables	210	150	240	360
		600		690
Ordinary share capital		600		600
Retained profits		–		90
		600		690

The comprehensive income for the year to 31 December X0 is as set out in Figure 15.2.

Figure 15.2 Comprehensive income for S for X0 (FC units)

Sales		1,500
Cost of sales (240 + 1,200 – 360)	1,080	
Depreciation	120	1,200
Net profit		300
Taxation		150
		150
Proposed dividend		60
Retained profit		90

Translate the financial statements of S using (a) the closing rate method (i.e. assuming that the functional currency of the subsidiary is that of the FC) and then (b) temporal method (i.e. assuming that the subsidiary's functional currency is the same as the $), given the following:

On 1 January 20X0, $1 = FC3.0
On 30 June 20X0, $1 = FC2.5
On 31 December 20X0, $1 = FC2.0

15.3. 'The variety of possible methods of foreign currency translation, and the different ways of treating gains arising, show that adequate harmonization for international comparison purposes is a long way away'. Discuss.

15.4. The stated accounting policy treatment for foreign currency translation for SKF, a Swedish company, before it adopted IFRS was as follows:

> **Translation of foreign financial statements**
> The current rate method is used for translating the income statements and balance sheets into Swedish kronor as the majority of subsidiaries are considered independent. All balance sheet items in foreign subsidiaries have been translated into Swedish kronor based on the year end exchange rates. Income statement items are translated at average exchange rates. The translation adjustments that arise as a result of the current rate method are transferred directly to shareholders' equity.
>
> For the translation of financial statements of subsidiaries operating in highly inflationary economies, the Group applies the monetary/non-monetary method (MNM method). Monetary balance sheet items are translated at year end exchange rates and non-monetary balance sheet items, as well as related income and expense items, are translated at rates in effect at the time of acquisition (historical rates). Other income and expense items are translated at average exchange rates. Translation differences that arise are included in the related lines in the income statement.
>
> **Translation of items denominated in foreign currency**
> Transactions in foreign currencies during the year have been translated at the exchange rate prevailing at the respective transaction date.
>
> Accounts receivable and payable and other receivables/payables denominated in foreign currency have been translated at the exchange rates prevailing at the balance sheet date. Such exchange gains and losses are included in other operating income and other operating expense. Other foreign currency items have been included in financial income and expense net.

Write a brief memorandum, in non-technical language, explaining the meaning and significance of these policies.

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Part 3

ANALYSIS

16 Financial appraisal

17 International analysis

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Chapter 16

Financial appraisal

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Objectives

After studying this chapter carefully, you should be able to:

- define, calculate, explain and interpret a variety of investment ratios, including the treatment of unusual items;
- discuss the usefulness of published balance sheets as a basis for entity valuation;
- outline the principles of entity valuation through expectations and market values;
- produce an overall financial appraisal for simple situations and comparisons, embracing the implications of differences in accounting policies and changes in accounting policies;
- explain the principles of basic and diluted earnings per share.

16.1 Introduction

Part 1 of this book explored the context of accounting, concluding in Chapter 7 with an introductory coverage of ratio analysis as a tool for helping to interpret the financial statements that the accounting process produces. Part 2 considered a number of accounting issues, as applications and extensions of the basic principles established in Part 1.

Part 3, without going beyond the level implied by an introductory text, explores some of the issues that emerge from a synthesis of the early chapters. Many of the 'Why it matters' paragraphs in Part 2 have pointed out that the choice of accounting policy, by affecting the numbers used in the financial statements, will affect the impression given by those statements and by the ratios calculated from them. To repeat: different accounting policies affect the *impression*, but not the underlying events. Proper financial statement appraisal attempts to get beyond the impression.

In this chapter, we take the analysis of Chapter 7 a little further, then begin to explore the practicalities of analysis and interpretation in the context of different accounting policies. Chapter 17 will begin to consider more explicitly the transnational scenario.

16.2 More on investment ratios

16.2.1 Non-recurring, exceptional, extraordinary or unusual items

Chapter 7 (particularly Section 7.8) gave a brief introduction to investment ratios, used for analysis of financial statements from the equity investor's perspective. Now we develop this viewpoint. A number of ratios focus on the crucial metric of earnings, i.e. on the profits of the year available for the ordinary shareholders. Before investigating these ratios in detail, it is important to consider the concept of earnings more carefully. Perhaps the best way to highlight the issues is to ask why the earnings metric is of interest. In essence there are two possible answers:

(a) the analyst or shareholder may want a summary metric that expresses what has happened to the business as it affects the owners; or
(b) the analyst or shareholder may want to know what the recent past suggests is the maintainable earnings for the future.

Why it matters

The essential difference between answers (a) and (b) is that those items which are unlikely to recur, or are unlikely to recur at a comparable level of size or significance, would need to be excluded in order to provide information for purpose (b), but would need to be included for purpose (a). Investors certainly need information enabling the prediction, as far as possible, of future cash flows, which implies a preference for (b). But the idea that we can effectively measure 'maintainable' earnings in a fast-changing world seems unlikely. Also, (a) involves fewer subjective changes being made to the 'actual' results of the year.

Companies seem increasingly keen in recent years to report 'adjusted' results which move towards the (b) approach. In Chapter 7, Figure 7.5, we presented the key elements of the Marks & Spencer consolidated income statement for the period ended

29th March 2014, showing a total figure of 'non-GAAP' adjustments. In Figure 16.1, we present the explanation given about these adjustments. Do not be concerned with all the detail, but note the complexity, and the frequent subjectivity, involved in such changes. The 'highlights' on page 2 of the annual report show that the adjusted group profit before tax has gone down, and the 'actual' group profit before tax has gone up. So has it been a positive year?

Figure 16.1 Non-GAAP performance measures, Marks & Spencer financial report 29 March 2014

	Notes	**2014 € m**	2013 € m
Profit on property disposal	4	**82.2**	–
UK and Ireland one-off pension credits	11	**27.5**	–
Interest income on tax repayment net of fees	6,7	**3.3**	–
Restructuring costs	15,22	**(77.3)**	(9.3)
International store review	15,22	**(21.9)**	–
IAS 39 Fair value movement of embedded derivative	21	**(3.5)**	5.8
Strategic programme costs	–	**(2.0)**	(6.6)
Fair value movement on buy back of the Puttable Callable Reset medium-term notes	–		(75.3)
Reduction in M&S Bank income for the impact of the financial product mis-selling provision	6,20	**(50.8)**	(15.5)
Total adjustments	2	**(42.5)**	(100.9)

It could be argued that, provided there is full and detailed disclosure of any unusual items, the precise layout and presentation of financial information makes no difference. However, that argument is not generally accepted in practice. First, many users of financial statements do not read the small print and, second, the scope for creative manipulation of results by preparers tends to be increased, the more items are excluded from the earnings metric.

International thinking is reflected in IAS 1, as revised successively in recent years. A major revision in 2003 abolished the concept of 'extraordinary items', which had never been easy to define clearly. This removed the temptation for companies to present bad news as 'extraordinary' at the bottom of the income statement. However, an entity is required to disclose amounts of unusual items such as restructurings or disposal of non-current assets. At the national level, there is a slow but clear tendency to move away from a formal designation of 'extraordinary' items; for example, the US abolished the concept for 2016 onwards. But country traditions are inconsistent, certainly across Europe, especially on terminology. It is essential to read each particular case carefully.

Another important issue in predicting the future is to know how much of the profit or of the net assets will not be there next year because they are 'discontinued'. IFRS 5, which is similar to US GAAP, requires separate disclosure of the net amount of such items on the financial statements. With a disregard for grammar, the IASB includes in 'discontinued' those operations that are expected to discontinue in the following year. Companies might be tempted to put loss-making operations

in such a category, so as to improve the impression of the future. Consequently, IFRS 5 has several paragraphs that try to control the use of the category.

Real-world example

Figure 16.2 shows the 'core results reconciliation' for Glaxo SmithKline (GSK), a large UK-based pharmaceutical company, for the year to 31 December 2014. The 'audited' official profit (all figures in £m) after taxation is 2,831 and the 'core results' figure is 4,806. So the difference certainly matters!

There is an interesting and rather subtle point to make about the presentation of this reconciliation. Logically, the figures have to be read from right to left. The starting position is the audited profit after taxation, of 2,831, and adjustments are then made. But we have a natural tendency to read the written page from left to right. So our primary attention is drawn to the calculated non-GAAP 'core results'. As with the example in Figure 16.1, the audit report does not formally include this reconciliation.

16.2.2 Earnings per share (EPS)

'Earnings' is defined in IAS 33 as the net profit for ordinary shareholders, i.e. after any preference dividends have been deducted. As explained in Chapter 6, a major issue to be resolved is the extent to which gains and losses outside of 'profit or loss' (e.g. certain revaluations, currency translation items and actuarial gains and losses) should be included in earnings. At present, all these amounts of 'other comprehensive income' (OCI) are excluded from earnings. Many companies provide additional EPS disclosures using different definitions of earnings, sometimes excluding a lot more than OCI.

Activity 16.A

Take a look again at the 'core results reconciliation' for GSK in Figure 16.2. Which items are included and which excluded from 'Core Earnings' as compared with the original 'total results'?

Feedback

As can be seen from the Figure, the operating profit has nearly doubled, from 3,597 to 6,594 (all figures in £m), by a series of large transfers out of expenses. The increase is partly reduced by taxation effects.

As well as a difficulty in deciding what to include in earnings for the purpose of EPS calculations, there may be two problems with the denominator (the number of shares), where there are:

(a) changes in the ordinary share capital during the financial year; or
(b) securities in existence, at the end of the accounting period, with no current claim on earnings but that may give rise to a claim in the future.

Broadly speaking, the first problem is dealt with by calculating the average share capital outstanding during the year. The second problem is dealt with by calculating EPS twice:

(a) using the number of shares actually in issue at the balance sheet date (the basic EPS);

Figure 16.2 **Core results reconciliation for Glaxo SmithKline (GSK), for the year to 31 December 2014**

	Core results € m	Intangible amortization € m	Intangible impairment € m	Major restructuring € m	Legal charges € m	Acquisition accounting and other € m	Total results € m
Turnover	23,006						23,006
Cost of sales	(6,535)	(503)	(78)	(204)		(3)	(7,323)
Profit	16,471	(503)	(78)	(204)		(3)	15,683
Selling, general and administration	(7,074)			(430)	(548)	(194)	(8,246)
Research and development	(3, 113)	(72)	(72)	(116)		(77)	(3,450)
Royalty income	310						310
Other operating income	–					(700)	(700)
Operating profit	6,594	(575)	(150)	(750)	(548)	(974)	3,597
Net finance costs	(646)			(5)		(8)	(659)
Share of after tax profits of associates and joint ventures	(30)						30
Profit before taxation	5,978	(575)	(150)	(755)	(548)	(982)	2,968
Taxation	(1,172)	209	29	215	26	556	(137)
Tax rate	19.6%						4.6%
Profit after taxation	4,806	(366)	(121)	(540)	(522)	(426)	2,831
Profit attributable to non-controlling interests	222					(147)	75
Profit attributable to shareholders	4,584	(366)	(121)	(540)	(522)	(279)	2,756
Earnings per share	95.4p	(7.6)p	(2.5)p	(11.3)p	(10.9)p	(5.8)p	57.3p
Weighted average number of shares (millions)	4,808						4,808

(b) on the assumption that all the share conversions which would make EPS lower had happened (the diluted EPS).

IAS 33 requires that listed companies should disclose the basic and the diluted earnings per share, with equal prominence, on the face of the income statement, for all periods for which the income statement figures are given.

A worked example

The number of ordinary shares of a company in issue is 2 million. In addition, there exists convertible loan stock of €500,000, bearing interest at 10 per cent. This may be converted by the lender into ordinary shares between 20X6 and 20X7 at the rate of one ordinary share for every €2 of loan stock. Assume that the corporate income tax rate is 40 per cent. Other parameters are given in Table 16.1.

The basic EPS for 20X2 will be:

$$\frac{\text{Profit after tax less Preference dividends}}{\text{number of ordinary shares}} = \frac{€(700{,}000 - 50{,}000)}{2 \text{ million}} = \frac{€650{,}000}{2{,}000{,}000}$$

$$= €0.325 \text{ per share}$$

To calculate the diluted EPS, there are two effects to consider. First, the share capital could increase by 250,000 shares (one share for every €2 of the €500,000 loans). Second, the 'earnings' would then increase by the amount of interest on the loan, which would no longer be payable, less the extra tax payable as a result of the removal of the interest expense. The interest at 10 per cent on €500,000 is €50,000, but the extra tax caused by this reduction in expenses would be 40 per cent of €50,000, i.e. €20,000. Earnings would therefore increase by the net amount of interest saved less extra tax payable, i.e. by: €50,000 − €20,000 = €30,000.

Table 16.1 Example company figures, year to 31.12.20X2

		€000
Profit before taxation		1,150
Taxation		450
Earnings		700
Preference dividend	50	
Ordinary dividend	100	150
Retained profit for the year		550

The diluted EPS (after removing 000 from all figures) would be:

$$\frac{€[(700 + 30) - 50]}{2{,}250} = \frac{€680}{2{,}250} = €0.302 \text{ per share}$$

This latter figure will be the better indication of what a potential investor would obtain in the long run, on the assumptions that:

(a) the current earnings figure is meaningful as regards future trends;
(b) those lenders who have rights to convert into newly created additional ordinary shares do so.

Real-world example

In Figure 16.2, the basic and diluted EPS numbers for GSK are shown.

16.2.3 Dividend cover

The dividend cover is the number of times that a company could pay the year's dividend out of the available profits of the current year. This gives an indication of how secure the future dividend payments are likely to be. As before, alternative possibilities exist as to the inclusion or exclusion of unusual items in the calculation of the derived earnings figure.

The formula for dividend cover is:

$$\frac{\text{Earnings}}{\text{Total dividends on ordinary shares}}$$

The higher the ratio, the greater the coverage, or safety margin, of earnings over dividends. Note that it is perfectly possible for the dividend cover to be less than one or to be negative. Directors often choose to maintain annual dividends in years when a poor result (even a loss) occurs, as a signal to the market of an expected upturn in performance. The dividend can be provided out of the retained profits from earlier years.

16.2.4 Dividend yield

The formula for dividend yield is:

$$\frac{\text{Dividend per share}}{\text{Market price per share}}$$

The ratio indicates the rate of return in terms of profit distribution that would be obtained by an investor who buys one share at the current market price. It can be compared with the ruling level of interest rates on investments, but of course it ignores those undistributed profits that are nevertheless attributable to the shareholders (i.e. the rest of earnings). It also ignores OCI. These other gains will help the expansion of the business and thus, if all goes well, lead to increased future dividend rates and to eventual capital gains for the investor through a rising share price.

16.2.5 Price/earnings (P/E) ratio

The formula for the P/E ratio is:

$$\frac{\text{Market price of one share}}{\text{EPS}}$$

The P/E ratio can be said to represent how much (in terms of the number of years' earnings) it is necessary to pay in order to acquire a share. It is potentially a highly volatile ratio, which will be affected both by changes in earnings per share and by movements in the share price as quoted on a stock exchange. P/E is widely regarded as important and in some countries is published daily, for large quoted companies, in the financial pages of many newspapers.

The P/E ratio represents the market's view of the strength or risk of the company and of its expected further growth. A high P/E indicates that the market has a high opinion of the future prospects of the company. If company A has a P/E of 10 and

company B has a P/E of 12, then 'the market' is willing to pay 12 times earnings to acquire a share in B, but only 10 times earnings to acquire a share in A. This must mean that future improvements in the performance of B are expected to be greater (or more likely) than is the case for A.

Activity 16.B

The information given in Table 16.2 relates to Snow Co. The market price per ordinary share is €1.75 at 31 December of year 1 and €1.82 at 31 December of year 2.

Calculate the earnings per ordinary share and the price/earnings ratios for each year and comment briefly.

Table 16.2 Snow's statistics

	Year 1	*Year 2*
€1 ordinary shares issued	1,875,000	1,875,000
€1 preference shares (8%) issued	660,000	660,000
Dividend on ordinary shares	€225,000	€187,000
Net profit after tax	€257,500	€231,900

Feedback

EPS is defined as:

$$\frac{\text{Net profit} - \text{Preference dividends}}{\text{Number of ordinary shares}}$$

For year 1, this is:

$$\frac{€(257{,}500 - 52{,}800)}{1{,}875{,}000} = €0.109$$

For year 2, it is:

$$\frac{€(231{,}900 - 52{,}800)}{1{,}875{,}000} = €0.096$$

The P/E ratio is defined as:

$$\frac{\text{Market price per share}}{\text{EPS}}$$

For year 1, this is:

$$\frac{€1.75}{€0.109} = 16.06$$

For year 2, it is:

$$\frac{€1.82}{€0.096} = 18.96$$

These results show that, whilst earnings per share have fallen for year 2, the price/earnings ratio has risen. This presumably suggests that investors at the end of year 2 regard the future of Snow Co. in a more favourable light than was the case at the end of year 1.

16.3 Interpreting the balance sheet

The balance sheet can be described as a statement of financial position at a point in time. Indeed, that is its formal name in IFRS. It shows the resources of the business, as well as its sources of finance. Much time has been spent in earlier chapters on exploring how the figures in a balance sheet have been arrived at.

If the user wants a complete financial picture of the business, balance sheets suffer from several significant drawbacks:

1. *Absence of items.* In general, only those items acquired through external transactions will be recognized in a balance sheet. Resources created within the business (except for development assets) and resources that do not have clearly related costs, e.g. the collective experience of a project team or workforce, will not be included.
2. *Historical valuation of items.* Many resources are recorded in balance sheets at their original purchase price or depreciated versions of that. Such historical book values may differ – often very substantially – from market values as at the date of the balance sheet. Chapter 8 introduced a number of possibilities for dealing with such distortions.
3. *Effect of the accrual basis.* Given the interconnections between the income statement and the balance sheet, accountants have to choose between the alternative approaches of either:
   (a) calculating the figures for the income statement under defined procedures, and putting whatever number is left over in the balance sheet; or
   (b) calculating the figures in the balance sheet under defined procedures and putting whatever number is left over in the income statement.

   Although there is increasing movement by standard-setters towards the second approach, accountants still adopt the first approach for some items (e.g. depreciation). The resulting balance sheet number is a residual, often of doubtful meaning.
4. *Flexibility of accounting policy.* The different and often conflicting implications of the common accounting conventions, and the significant degree of subjectivity involved in both choice of accounting policy and detailed application of accounting policy, lead to great flexibility of accounting numbers. If different companies use the flexibility differently, then comparability may be lost.

Notwithstanding all the above problems, a balance sheet is the nearest that accountants get to publishing a statement of a business's position and resources. It can be useful, provided that the bases on which it is prepared are understood. For many assets, it can be regarded as showing the lower of:

(a) the cost of the resource (or some proportion thereof in the case of a depreciated non-current asset);
(b) the benefit, i.e. the proceeds expected to be derived from using or selling the resource in the normal course of business.

The balance sheet figures can therefore be regarded as providing a prudent valuation for many of the recorded items and therefore (remembering that there are also usually unrecorded resources) as a very conservative picture of the business as a whole. There is one important proviso to this statement, however: the phrase in

(b) above, namely 'proceeds expected to be derived from the resource *in the normal course of business*'. This means that the figures generally follow the going concern convention and do not take account of the possibility of imminent closure of the business. Any such sudden closure would probably result in a break-up value for the business far smaller than implied by published financial statements. Doubts about whether or not companies are going concerns have been a major worry for directors, auditors and investors in the ongoing financial crisis since 2008. Note also that the above comments assume an historical cost-based balance sheet, rather than one of the alternatives outlined in Chapter 8.

Within the limitations inherent in the above discussion, the balance sheet figures, usually known as book values, can be used as partial indicators of a company's size and financial strength. Net assets, at book value, could be calculated on a per share basis, for example. Taking the Bread Co. balance sheet from Chapter 7 (repeated here as Figure 16.3) and remembering that the share capital consists of ordinary shares of €1 nominal value, net assets per share at book value would be:

$$\text{in 20X1: } = \frac{€94}{70} = € 1.34 \text{ per share}$$

$$\text{in 20X2: } = \frac{€106}{76} = € 1.39 \text{ per share}$$

The absolute figures may not mean very much, but the trend, particularly over a longer period, may be indicative of a company's underlying performance.

Figure 16.3 Bread Co. balance sheets (€000): vertical presentation

	At 31 Dec 20X1		*At 31 Dec 20X2*	
Non-current assets		72		110
Current assets				
Inventory	12		16	
Receivables	18		40	
Bank	10		4	
	40		60	
Payables less than one year				
Trade payables	10		28	
Taxation	4		10	
Other creditors	4		6	
	18		44	
Net current assets (working capital)		22		16
Payables greater than one year				
10 per cent debentures		-		(20)
Net assets		94		106
Financed by				
Ordinary shares of €1 each		70		76
Retained profits		24		30
Shareholders' funds		94		106

16.4 Valuation through expectations

The words 'value' and 'valuation' imply some element of future orientation. The value of something might be seen as the amount of benefit expected to be derived from it (not necessarily in money terms) or possibly the amount of sacrifice necessary in order to obtain it. Pursuing this, the value of a business can be related to the benefits that are expected to flow from ownership of the business and the value of a share in a business can be related to the benefits expected to flow from ownership of the share.

It is generally agreed that the best theoretical approach to the valuation of a share in a business is to consider future expected flows of resources and to discount the anticipated figures to give present value, i.e. to use the principles of discounted cash flow (DCF). Possible flows to use would include:

- the stream of expected future earnings;
- the stream of expected future cash flows of the business; or
- the stream of expected future cash receipts by the investor (i.e. expected dividends and other cash receipts, e.g. proceeds of the sale of shares).

In each case there is the problem, not only of predicting the size of the flows but also of choosing a rational discount rate. The discount rate will embrace estimates of interest rates, the risk positions of the business concerned and the attitude to risk of the individual investor. It will also be necessary to take account of estimates of market and economy developments, such as inflation rates and taxation policies.

In the long run, it can be suggested that the above three types of flow amount to the same thing. Earnings are cash flows adjusted and smoothed through accounting practices – in the long run, total earnings should equal total net cash flow. And, remembering that the stream of future dividends includes the 'final' distribution when the firm is liquidated, the total dividend stream should also equal the total net cash flow stream. For the individual shareholder, it is the capital amount expected for the share when eventually sold on the stock market, rather than a final liquidation dividend, which usually represents the last item in the dividend stream.

The assumptions necessary for quantifying any of the three types of flows are obviously extremely subjective. Recognition of this leads to the third possible approach to valuation of a business, namely market values.

16.5 Valuation through market values

Suppose you own 10 shares in a company that has 1 million issued shares and the market value of one share as reported in the press of today's date is €6. This means your 10 shares have a value of €60 and also that 'the market' values the entire company at €6 million. Such statements assume that the market values parcels of shares of different sizes on a strictly pro rata basis, which is not the case, as a parcel large enough to give influence or control (see Chapter 14) is likely to command extra value. Equally, the sale of a large parcel of shares may depress the market price.

It can also be argued that the price of a company's share on a stock market is influenced by many factors that are extraneous to the particular company, such as general economic, political or exchange rate considerations. However, the quoted market value in a stock market at a date does have one enormous advantage: it demonstrably exists. The market value *is* (allowing for transaction costs between buyer and seller) the money benefit to be derived from selling a share and the money sacrifice necessary to acquire a share. It may or may not be a fact justified by rational analysis, but it is still a fact.

In a perfect world with perfect knowledge and foresight, the market value would exactly equal the value calculated by discounting expected flows. This would be consistent with the Efficient Markets Hypothesis in its 'strong' form, which assumes that market prices reflect both private and public information. More realistically, at least the active participants in public share markets will have taken account of all available published information. At a minimum, the market value of quoted shares provides the one starting point that is objective for working out the worth of a business or of an investment in it. However, the market has taken account of the estimates of cash flows, so this argument is somewhat circular.

A more detailed consideration of theories and techniques of entity valuation is beyond the scope of this introductory accounting text, but, a word of warning: many valuation techniques are based on financial data that are assumed to be factual and problem-free. By now, you know better.

16.6 Accounting policies and financial appraisal

Given that the market relies partly on accounting information to establish firm value, this leads back to ratio analysis, for which a number of limitations can be suggested, including:

- differences in accounting policies, from company to company or from year to year;
- the historical nature of accounting statements;
- changes in the value of money;
- hidden short-term fluctuations between financial statements;
- the absence of comparable data;
- differences in the environments of periods or firms being compared;
- other non-monetary factors, excluded from the financial statements completely.

Most of these difficulties can be adjusted for when undertaking real financial statement appraisal. Some of them can be analysed through an understanding of financial accounting practices and adjustments can be made to improve the comparability of figures and ratios by adjusting for differences in accounting policies. However, some of the above difficulties, particularly the later ones in the list, clearly involve both highly subjective and non-financial considerations. Adjustment for such matters will need to be qualitative rather than quantitative.

Real-world example

Bayer AG, which had already been using IFRS for over a decade, explained in its 2005 Report the effect of a large number of policy changes to IFRS that came into force in 2005, which was the first year of IFRS reporting for most European groups. Here is an example:

> In March 2004, in connection with the issuance of IFRS 3, the IASB revised IAS 36 (*Impairment of Assets*) and IAS 38 (*Intangible Assets*). The main revisions require goodwill and other indefinite-lived intangible assets to be tested for impairment annually, or more frequently if events or changes in circumstances indicate a possible impairment, prohibit reversal of impairment losses for goodwill, require an intangible asset to be treated as having an indefinite useful life when there is no foreseeable limit on the period over which the asset is expected to generate net cash inflows for the entity, and prohibit the amortization of such assets. The revised standards are effective for goodwill and other intangible assets acquired in business combinations for which the agreement date is on or after March 31, 2004 and for all other such assets for annual periods beginning on or after March 31, 2004. The new standard has been applied prospectively (i.e. the new recognition and valuation principles are applied only in the current statements and not for the preceding period). Had the new standard been applicable for the 2004 fiscal year, the absence of amortization of goodwill and other indefinite-lived intangible assets would have reduced operating expense by €185 million.

The adjustment for amortization would have been 10 per cent of the company's 2004 operating profit.

Activity 16.C

Identify as many examples as possible within IFRS where the choice of accounting policy or of estimated amounts could significantly affect the analysis and interpretation of published financial statements.

Feedback

There are many examples that could be chosen; we provide a selection, as follows:

- the policy on asset valuation – particularly regarding land and buildings, because historical cost or fair value may be used: for this will affect profits (via depreciation charges) and balance sheet totals;
- depreciation method, life and residual value: which will obviously affect profits and asset values;
- inventory valuations: which again will affect profits and asset values, and also liquidity ratios, through the cost flow assumptions made (FIFO or weighted average) and also the treatment of overhead costs;
- long-term contract assumptions, e.g. the policy on inclusion of activity in annual sales and on treatment of possible future losses and so on, which will affect the speed of recognition of profit;
- the classification of leases between operating and finance leases, which will affect assets, liabilities and expenses;
- whether to record actuarial gains and losses in the 'profit and loss' or in OCI;
- use of temporal or closing rate method (depending on the identification of a subsidiary's functional currency) for translation of foreign financial statements.

It is important to understand the accounting implications of each of the possible different accounting policies outlined in the feedback above. If you do not, then you should go back to the relevant chapter in this book and revise your knowledge of the topic concerned. Note also that there may be significant changes over the lifetime of this particular sixth edition. The standard on construction contracts is being replaced by the new IFRS 15, coming into force not later than 1 January 2018, and there is a new leasing standard, IFRS 16, proposed to come into force with effect from 1 January 2019, with earlier adoption permitted. Once you are happy that you fully understand the principles, then the way to make further progress is through practice and working through artificial or real-life examples. The next three activities provide some essential practice. More examples are given in the exercises at the end of this chapter.

Activity 16.D

The information in Table 16.3 relates to companies X and Y for the year ended 31 December. The companies have identical balance sheets and operating profits for the year.

Each company is deemed to have obtained the use of an extra asset with a fair value of €100,000 on 1 January, in respect of which no entries have yet been made in the accounts. The use of the asset is obtained by means of a lease, with rentals, paid quarterly in advance, of €6,500. The term of the lease is five years and the useful life of the asset is eight years.

Table 16.3 Financial figures for X and Y (initial)

	X and Y €000
Non-current assets	250
Current assets	70
Current liabilities	(60)
	260
Long-term liabilities	(100)
	160
Share capital	100
Retained profits	60
	160
Operating profit for the year	30

Identify the effects on the companies' operating profits and balance sheets and any relevant ratios if the lease is treated as an operating lease by company X but a finance lease by company Y. Assume that all rentals are paid when due. The relevant finance lease calculations show an obligation under a finance lease at 31 December of €84,370, of which €17,570 is due in less than one year.

Feedback

The balance sheets and operating profit would become as shown in Table 16.4.

If the lease is treated as an operating lease (as shown in company X's figures), then all these ratios give a stronger impression than if the lease is treated as a finance lease. When the latter applies (as with company Y), the ROE shows a loss, the liquidity ratio is decreased and the gearing ratio increased. Company Y might therefore be regarded less positively by the market than company X under this analysis. However, the only difference between them is the accounting treatment used for the leased asset.

Table 16.4 Financial figures for X and Y

	X €000	*Y €000*
Non-current assets	250	330[a]
Current assets	44[b]	44
Current liabilities	(60)	(77.57)[c]
	234	296.43
Long-term liabilities	(100)	(166.8)[c]
	134	129.63
Share capital	100	100
Retained profits	34	29.63
	134	129.63
Operating profit for the year	4[b]	(0.37)[d]

Notes:

[a]Under a finance lease the asset is capitalized at fair value of €100,000 and depreciation calculated on a straight-line basis assuming no residual value over a five-year life. Therefore, the depreciation charge is €20,000 and the net book value of the asset at 31 December is €80,000.

[b]Cash adjusted for rental payments 4 × €6,500 = €26,000. So cash is €70,000 − €26,000 = €44,000. The rental payments are charged to operating profit assuming an operating lease. So, profit is €30,000 − €26,000 = €4,000.

[c]Current liabilities are €60,000 + €17,570 = €77,570. Long-term liabilities are €100,000 + €84,370 − €17,570 = €166,800. The interest charge is the balancing figure, i.e. interest charge = €84,370 − €(100,000 − 26,000) = €10,370.

[d]This is calculated thus:

	€000
Operating profit for the year	30.00
less Depreciation	(20.00)
less Interest charges	(10.37)

Ratio calculations for X and Y are as set out in Table 16.5.

Table 16.5 Financial ratios for X and Y

Ratio	*X*	*Y*
ROE (taking closing balance sheet figures)	$\frac{4}{134} = 2.98\%$	Loss
Liquidity: $\frac{\text{Current assets}}{\text{Current liabilities}}$	$\frac{44}{60} = 73\%$	$\frac{44}{77.57} = 57\%$
Gearing: $\frac{\text{Loans}}{\text{Loans + Equity}}$	$\frac{100}{234} = 42.7\%$	$\frac{166.8}{296.43} = 56.3\%$

Activity 16.E

Figure 16.4 gives summarized balance sheets for Eegrek Co. for the years 20X1 and 20X2. Figure 16.5 gives summarized income information for the same two years. Figure 16.6 gives a statement of cash flows for 20X2.

The requirements are as follows:

(a) Calculate the following ratios for Eegrek for 20X1 and 20X2:
- Return on capital employed (ROCE)
- Return on equity (ROE)
- Receivables' turnover (as a ratio, i.e. not converted to number of days)
- Payables' turnover (as a ratio, i.e. not converted to number of days)
- Current ratio
- Quick assets ratio
- Gross profit percentage
- Net profit percentage
- Dividend cover
- Gearing ratio

Figure 16.4 Balance sheets of Eegrek (€)

	20X1 Balance sheet			*20X2 Balance sheet*		
	Cost	*Depreciation*	*Net*	*Cost*	*Depreciation*	*Net*
Building	50,000	10,000	40,000	90,000	11,000	79,000
Plant	10,000	4,000	6,000	11,000	5,000	6,000
			46,000			85,000
Land			43,000			63,000
Investments at cost			50,000			80,000
Inventory			55,000			65,000
Receivables			40,000			50,000
Bank			3,000			–
			237,000			343,000
Ordinary shares			40,000			50,000
Share premium			12,000			14,000
Revaluation reserve			–			20,000
Retained earnings			25,000			25,000
10 per cent debentures			100,000			150,000
Payables			60,000			80,000
Bank			–			4,000
			237,000			343,000

Figure 16.5 Income (and other changes in equity) of Eegrek (€)

	20X1	*20X2*
Sales	200,000	200,000
Cost of sales	100,000	120,000
	100,000	80,000
Expenses	60,000	60,000
Profit	40,000	20,000
Dividends	20,000	20,000
	20,000	–
Balance of profit from before	5,000	25,000
Balance of unappropriated profit	25,000	25,000

(b) Comment briefly on difficulties of comparing the two sets of ratios.
(c) Comment briefly on developments within the business over the two years.

Feedback

Suggested financial ratio calculations (in response to requirement (a)) are shown in Table 16.6.

The land is shown at cost in year 20X1 but at a valuation €20,000 greater in 20X2. It is clear that the increase in land from €43,000 to €63,000 represents a revaluation to fair value, as a revaluation reserve of €20,000 has appeared. If we had access to the OCI statement, that gain would appear in it. Since the land is not depreciated, there is no effect on earnings, but there is an effect on reserves and therefore on ROCE and ROE, in each case increasing the denominator for 20X2 and reducing the ratio.

Figure 16.6 Cash flow statement of Eegrek (€) for 20X2

Cash flows from operating activities		
Cash receipts from customers	190,000	
Cash payments to suppliers	(110,000)	
	80,000	
Cash payments for operating expenses	(43,000)	
Interest paid	(15,000)	
		22,000
Cash flows from investing activities		
Purchase of investments	(30,000)	
Purchase of buildings	(40,000)	
Purchase of machinery	(1,000)	
		(71,000)
Cash flows from financing activities		
Proceeds from share issue	12,000	
Proceeds from debenture issue	50,000	
Dividends paid	(20,000)	42,000
Net reduction in cash and cash equivalents		(7,000)
Cash and cash equivalents at beginning of year		3,000
Cash and cash equivalents at end of year		(4,000)

Table 16.6 Financial ratios of Eegrek

Ratio	*20X1*	*20X2*
ROCE	$\frac{(40 + 10)}{177} = 28\%$	$\frac{(20 + 15)}{259} = 14\%$
ROE	$\frac{40}{77} = 52\%$	$\frac{20}{109} = 18\%$
Receivables' turnover	$\frac{200}{40} = 5$ times	$\frac{200}{50} = 4$ times
Payables' turnover	$\frac{100}{60} = 1.7$ times	$\frac{120}{80} = 1.5$ times
Current ratio	$\frac{98}{60} = 1.6{:}1$	$\frac{115}{84} = 1.4{:}1$
Quick assets	$\frac{43}{60} = 0.7{:}1$	$\frac{50}{84} = 0.6{:}1$
Gross profit percentage	$\frac{100}{200} = 50\%$	$\frac{80}{200} = 40\%$
Net profit percentage	$\frac{40}{200} = 20\%$	$\frac{20}{200} = 10\ \%$
Dividend cover	$\frac{40}{20} = 2$ times	$\frac{20}{20} = 1$ times
Gearing ratio	$\frac{100}{177} = 56\%$	$\frac{150}{259} = 58\%$

Note that there are probably dangers in the averaging assumptions made. It is unlikely that the non-current assets shown in the balance sheet at the end of 20X2 are representative of the average non-current assets in use through that year. The 20X2 balance sheet

figures would only be representative if all the additions shown in Figure 16.6 had occurred on 1 January 20X2, which is unlikely. Other general points could obviously be raised, such as uncertainty about rates of inflation, intangible unrecorded items and so on.

Even allowing for the distortions mentioned above, developments in 20X2 appear adverse and potentially dangerous. Rapid expansion of the asset base has not led to extra earnings, so Eegrek's profitability (ROCE and, especially, ROE) is very sharply reduced. The amount of dividend has been maintained (though not the rate, as there are more shares in 20X2) despite the worsening scenario. Is the firm at the worst point of the investment cycle – resources having been poured in, returns not yet begun – or is it overspending to no good purpose? The ratio analysis cannot answer these questions, but it can highlight the issues and dangers. Higher cost of goods sold but static sales is a discouraging sign.

Activity 16.F

You are presented with the draft statements for EU Co. as set out in Figure 16.7. You are required to:

(a) prepare a table of ratios, showing your calculations in full, as the basis for financial analysis; state and explain any assumptions you make;
(b) write a report on the strengths and weaknesses of the company's position and progress, to the extent that the ratios, and the original information, indicate them;
(c) explain how you have dealt with the information in Notes 1 and 2 of Figure 16.7 and give reasons for your treatment.

Feedback

a. Taking the figures given at face value gives a set of ratios such as the following (money figures in €000s):

	20X1	*20X2*
Gross profit	$\frac{9,630}{45,056} = 21.4\%$	$\frac{443}{7,756} = 5.7\%$
Net profit %	$\frac{(563)}{45,056} = (1.2\%)$	$\frac{(9,466)}{7,756} = (122.0\%)$
ROE	$\frac{(563)}{13,445} = (4.2\%)$	$\frac{(9,466)}{14,004} = (67.6\%)$
$\frac{CA}{CL}$ %	$\frac{10,665}{11,605} = 91.9\%$	$\frac{5,586}{6,612} = 84.5\%$
ROCE	$\frac{(563) + 1,596}{13,445 + 12,923} = 3.92\%$	$\frac{(9,466) + 935}{14,004 + 10,856} = (34.3\%)$
Receivables days	$\frac{10,287}{45,056} \times 365 = 83$ days	$\frac{5,387}{7,756} \times 365 = 254$ days
Payables days	$\frac{5,498}{35,426} \times 365 = 57$ days	$\frac{3,809}{27,313} \times 365 = 51$ days
Inventory days	$\frac{374}{35,426} \times 365 = 4$ days	$\frac{161}{27,313} \times 365 = 2$ days
Gearing	$\frac{12,923}{26,368} = 49\%$	$\frac{10,856}{24,860} = 44\%$

Figure 16.7 Financial statements for EU Co.

Income statement for the year ended 31 December

	Notes	20X2 €000	20X1 €000
Sales		45,056	27,756
Cost of goods sold		(35,426)	(27,313)
Gross profit		9,630	443
Operating expenses	1	(8,613)	(9,314)
Operating profit/(loss)		1,017	(8,871)
Investment income		16	340
Interest payable		(1,596)	(935)
Loss for the financial year		(563)	(9,466)

Balance sheet as at 31 December

	Notes	20X2 €000	20X1 €000
Non-current assets			
Intangible assets	2	17,700	18,700
Tangible assets		9,608	7,186
		27,308	25,886
Current assets			
Inventory		374	161
Receivables		10,287	5,387
Cash at bank and in hand		4	38
		10,665	5,586
Payables: amounts falling due within one year			
Trade payables		(5,498)	(3,809)
Other payables and accruals		(2,968)	(2,360)
Bank overdraft		(3,139)	(443)
		(11,605)	(6,612)
Net current liabilities		(940)	(1,026)
Total assets less current liabilities		26,368	24,860
Payables: amounts falling due after more than one year			
Bank loans – repayable 20X1		(12,923)	(10,856)
Net assets		13,445	14,004
Called-up share capital		132	131
Share premium account		8,062	8,059
Retained earnings		5,251	5,814
Total capital and reserves		13,445	14,004

Notes to the accounts

1. *Operating expenses* include the launch costs of a new magazine, first published in September 20X2 and totalling €1.15 million.
2. The *intangible fixed assets* represent development costs capitalized by EU Co.

The situation is obviously rather unusual. Analysts might make some alterations to these figures, such as:

- removing the intangible assets, thus making the equity smaller (and removing the amortization charge of €1 million in 20X2, making earnings larger and turning earnings into a profit);
- treating the bank overdraft as long-term (strictly, the interest added back in the ROCE calculations includes the interest on the overdraft, which is incorrect if the overdraft is short-term).

b. Very broadly, the situation was clearly disastrous in 20X1 and has been largely stabilized in 20X2. If 20X1 was the first full year of operation, as seems likely, and the trend of development continues, then the business may survive successfully. This is by no means certain. The lenders have very little security unless the intangible asset is saleable and could probably demand repayment at any moment. However, it is most unlikely to impress a bank lender.

c. No adjustments have been made above, but this is debatable. The launch expenses of €1.15 million were correctly treated as expenses. However, for trend analysis, they might be removed, as unlikely to recur in 20X3.

The Activities 16.D to 16.F are designed to show that, although practice at ratio calculation is necessary, ratios by themselves are never sufficient. Entities operate in a dynamic environment. The uniqueness and the variability of each situation must be digested before an intelligent appraisal can be made. In addition, the implications of accounting policies must be fully considered and adjusted for numerically or allowed for qualitatively.

16.7 Creative accounting

We have been assuming, up to now, that the difficulties of interpretation and comparability of financial reports are caused because of the complexity of the business world, the need for estimations and judgement in accounting and the inevitable international differences in practices. However, there is another issue: management might deliberately try to mislead investors and other readers of the financial statements.

Especially in a large listed company, there are thousands of investors, most of whom are not directors or managers of the company. The directors act as agents for the shareholders, but the directors have their own personal incentives, such as:

- pay rises;
- bigger pensions;
- executive jets;
- chauffeur-driven Mercedes cars;
- taking over other companies in order to become directors of bigger groups.

When it comes to financial reporting, the directors might want to make profit look larger or more stable over time. They will probably also want liabilities to look smaller, so that liquidity and gearing seem to be better. There are several well-known expressions to describe aspects of this, as follows:

- *Creative accounting* is the stretching of the rules of financial reporting in order to make various metrics (e.g. earnings or total liabilities) look better.
- *Window dressing* is the carrying out of transactions designed temporarily to improve the look of the financial statements (e.g. selling non-current assets for cash just before the year end and buying them back again at the beginning of the next year).
- *Off-balance sheet finance* is the use of contracts to arrange that certain obligations are not recognized as liabilities on the balance sheet (e.g. operating leases or liabilities in entities that are not consolidated).
- *Special purpose vehicles (SPVs)* are entities in which our group does not own the majority of the voting shares but which it nevertheless controls.

There have been many examples of the above. Sometimes several of them are involved simultaneously. For example, the US energy-trading giant, Enron, collapsed in 2001. It was later revealed that Enron had hundreds of SPVs that were used to achieve off-balance sheet financing and other accounting rules had been stretched to create profits and hide liabilities.

The first line of defence against such practices (apart from trying to appoint honest managers) is the auditor. However, there is a possibility that the auditor will become too friendly with the directors, especially if the auditor receives large contracts for non-audit work, such as consultancy. In the US case of Enron, its audit firm (Arthur Andersen) was also brought down by the scandal. This was one of the events that led to the Sarbanes–Oxley Act (abbreviated to SOX or SARBOX), which increased controls on directors and auditors.

The moral for users of financial statements is to be alert for trickery in the accounting.

Summary

- Investment ratios focus on various aspects of actual or potential share ownership. Earnings per share (EPS) is a particularly important – but perhaps dangerously simplistic – statistic.
- What is included and excluded in 'earnings' is a complex issue.
- The valuation of businesses can be attempted via the balance sheet, through expectations or from market values. All these methods suffer from difficulties and uncertainties.
- Particular consideration should be given to the implications of accounting policy choices or changes on the figures in, and the appropriate interpretation of, ratios. A number of examples have been explored. It is important to develop an attitude of mind, when attempting an overall financial appraisal, not to seek a finite list of points to check or resolve.
- Users of financial statements need to be alert for the possible use of creative accounting.



References and research

- A number of references, particularly relating to interpretation in an international context, are listed at the end of Chapter 17.

? MULTIPLE CHOICE QUESTIONS

16a. For a company with no preference shares, 'earnings' is the:

A. Sales figure.
B. Profit before tax.
C. Profit after tax.
D. Profit after tax and after dividends.

16b. One of Hope Ltd's customers has become insolvent. As a result the amount owed to Hope Ltd has become a 'bad debt'. Which of the following is the consequence?

A. Hope Ltd's current ratio has increased.
B. Hope Ltd's current ratio has decreased.
C. Hope Ltd's current ratio has not changed.
D. There is insufficient information to be able to answer.
E. Hope Ltd's creditors have decreased.

16c. Saxe-Coburg & Gotha Inc. increased its borrowings in order to buy a non-current asset. The complete effect on the balance sheet would be:

A. Increase in assets and an increase in shareholders' equity.
B. Increase in assets and an equivalent decrease in assets.
C. Increase in assets and a decrease in shareholders' equity.
D. Insufficient information to be able to answer.
E. Increase in assets and an increase in liabilities.

16d. Bakshi Ltd has a current ratio of 2.0 and an acid test ratio of 1.0. If some current liabilities are paid off using cash, what would be the effect on these ratios?

	Current ratio	Acid test ratio
A.	Decrease	Decrease
B.	Decrease	Increase
C.	Increase	Increase
D.	Increase	Decrease
E.	None of these	

16e. Under IFRS, income statements are required to show:

A. Extraordinary items.
B. Unusual items.
C. Exceptional items.
D. None of the above.

16f. 'Earnings' is calculated deducting:

A. Dividends on ordinary shares.
B. Dividends on preference shares.
C. Tax expense.
D. Interest expense.

16g. The 'per share' element of the EPS calculation includes:

A. All shares.
B. The average number of ordinary shares outstanding during the year.
C. The number of ordinary shares outstanding at the end of the year.
D. The average number of ordinary and preference shares outstanding during the year.

16h. The dividend yield is the:

A. Dividends paid per ordinary share.
B. The proportion of the return in one year on a share.
C. The profit per share.
D. The dividend on a share as a proportion of the share price.

? EXERCISES

Feedback on exercises 16.1 and 16.3 is given in Appendix E.

16.1. You are given summarized information about two firms in the same line of business, namely A and B, as shown in Figure 16.8.

Figure 16.8 Financial statements for A and B

Balance sheets at 30 June

	A			*B*		
	€000	€000	€000	€000	€000	€000
Land			80			260
Buildings		120			200	
Depreciation		40	80		–	200
Plant		90			150	
Depreciation		70	20		40	110
			180			570
Inventories		80			100	
Receivables		100			90	
Bank		–			10	
		180			200	
Payables	110			120		
Bank	50			–		
		160			120	
			20			80
			200			650
Capital b/forward			100			300
Profit for year			30			100
			130			400
Drawings			30			40
			100			360
Land revaluation			–			160
Loan (10 per cent p.a.)			100			130
			200			650
Sales			1,000			3,000
Cost of goods sold			400			2,000

You are required to:

a. produce a table of ratios for both businesses;
b. write a report briefly outlining the strengths and weaknesses of the two businesses, including comment on any major areas where simple use of the figures could be misleading.

16.2. Repeat Exercise 1.4 from Chapter 1. Do you think that users know what to ask for from their accountant or financial adviser?

16.3. Cross-sectional analysis (comparisons between different businesses over the same period) and trend analysis (comparisons of the same business over different periods) both suffer from significant limitations. What are the limitations of each form of analysis? How can they be overcome and to what extent?

16.4. 'Financial ratios are only as good as the accounting information from which they are calculated'. Discuss.

Figure 16.9 Financial statements for D

Summary balance sheet

	31.12.X1 *Actual* €000	*31.12.X2* *Budget* €000	*31.12.X2* *Actual* €000
Tangible assets	957	1,530	1,620
Inventory	205	290	325
Receivables	305	720	810
Cash and bank balances	175	70	–
	685	1,080	1,135
Trade payables	175	505	545
Other creditors	187	325	310
Bank overdraft	–	–	80
	362	830	935
Net current assets	323	250	200
Liabilities	–	360	360
Net assets	1,280	1,420	1,460
Called-up share capital	800	800	800
Share premium account	200	200	200
Reserves	280	420	460
	1,280	1,420	1,460

Income statements (and other changes in equity)

	20X1 *Actual* €000	*20X2* *Budget* €000	*20X2* *Actual* €000
Sales	2,560	4,500	5,110
Cost of sales	(1,700)	(3,150)	(3,580)
Gross profit	860	1,350	1,530
Admin. and distribution costs	(655)	(880)	(1,084)
Operating profit	205	470	446
Interest payable	–	(20)	(35)
	205	450	411
Taxation	(95)	(200)	(185)
	110	250	226
Extraordinary items	9	(2)	3
	119	248	229
Dividends	(82)	(108)	(49)
Retained earnings	37	140	180

16.5. The details in Figure 16.9 relate to D Co. Using that information and appropriate ratios, prepare a financial report on the company.

The opening inventory value figures were €135,000 20X1 actual and €210,000 20X2 budget.

16.6. Set out in Figure 16.10 are summarized balance sheets and income statements for F Co. for 20X1 and 20X2. You are required to:

a. prepare a table of ratios, covering all aspects of interpretation as far as the information allows, for each of the two years;
b. consider the following statement: 'The situation of the business has got worse, and anyone owning ordinary shares in F Co. would be advised to sell them as soon as possible'. Write a report explaining fully whether you agree or disagree and why.

Figure 16.10 Financial statements for F

Summarized balance sheets at year end (€m)

	20X2		*20X1*	
Non-current assets				
Tangible – not yet in use	49		41	
– in use	295		237	
	344		278	
Investments	1		1	
Loan redemption fund	1		1	
		346		280
Current assets				
Inventory	42		41	
Receivables – trade	4		4	
– other	4		4	
	8		8	
Bank	2		5	
Cash	2		2	
	54		56	
Payables – due within one year				
– trade	60		60	
– other	87		112	
	147		172	
Net current liabilities		93		116
Total *assets current liabilities*		253		164
Payables – due between one and five years		61		1
Provisions		4		3
Net assets		188		160
Capital and reserves				
Ordinary shares of €0.1 each		19		19
Preference shares of €1 each		46		46
Share premium		1		1
Retained earnings		122		94
		188		160

Summarized income statements (and other changes in equity) for the year (€m)

	20X2		*20X1*	
Sales		910		775
Raw materials and consumables		730		633
		180		142
Staff costs	77		64	
Depreciation of tangible fixed assets	12		10	
Other operating charges	38		30	
		127		104
		53		38
Other operating income		4		3
		57		41
Net interest payable		5		4
		52		37
Profit sharing – employees		2		1
		50		36
Taxation		17		12
		33		24
Preference dividends		2		2
		31		22
Ordinary dividends		3		2
		28		20
Net interest payable				
interest payable		12		9
interest receivable		(1)		(1)
interest capitalized		(6)		(4)
		5		4

Chapter 17

International analysis

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Objectives

After studying this chapter carefully, you should be able to:

- understand the difficulties caused by problems when translating technical accounting terms in the context of financial statements;
- demonstrate an awareness of the implications of the existence of different financial cultures and an awareness that what is typical in one environment may be abnormal in another;
- outline ways in which multinational entities can mitigate difficulties for the analyst;
- apply your knowledge and understanding to appraising performance of entities involving different sets of GAAP;
- adjust financial statements in appropriate ways towards benchmark policies to increase comparability, as a prelude to overall appraisal;
- demonstrate an awareness of the subjectivity that may be involved in financial statement preparation and appraisal.

17.1 Introduction

The analysis of financial statements is hard enough even when limited to reporting within one country. This is because the economic world is complex and because some preparers of financial statements have incentives to mislead the users. When trying to compare companies internationally, the difficulties multiply, including differences under the following headings:

- language problems;
- differences in financial culture;
- formats of financial statements;
- valuation of assets;
- measurement of profits;
- availability of published accounting data;
- extent and type of audit;
- frequency of reports;
- quantity of data disclosed;
- different currencies;
- biases in the accounting data;
- user-friendliness of annual reports.

International comparative analysis might be undertaken by many users of financial statements, including:

- brokers, investment analysts and journalists on behalf of shareholder investors;
- bankers and other creditors when deciding on lending;
- multinational companies when appraising existing or potential subsidiaries or competitors.

If analysts are unaware of the international differences, they will make the wrong investment decisions. If they try to make adjustments, this will be time-consuming and expensive. If they restrict themselves to their own home market, they will miss valuable opportunities for investment and the spreading of risk.

Several of the areas of difficulty listed above have been discussed earlier in this book. This chapter examines the first two and then addresses potential solutions for interpreters of financial statements.

17.2 Language

17.2.1 Introduction

Language is very obvious as a problem for international comparisons. This might be thought to be a trivial problem in the sense that:

- many people can read more than one language;
- many large companies provide translations into English;
- experts can always be hired to translate (and they are a lot cheaper than accountants).

Indeed, compared to some of the other problems mentioned above, language *is* comparatively easy. Nevertheless, there are many pitfalls to be avoided.

Activity 17.A

Reappraise Table 1.1 from Chapter 1, which gives some examples showing how easy it is to be confused within the English language. Make a note of any additional English-language differences you have come across in later chapters.

Feedback

There are several differences in technical terms that you may have come across in this book or in your wider reading, such as leverage (US) for gearing (UK) or fiscal year (US) for financial year (UK). Two examples are discussed in more detail here.

The UK term 'fixed assets', which IFRSs and US GAAP refer to as 'non-current assets', includes 'property, plant and equipment', which is the title of IAS 16. However, the word 'property' itself can have different meanings. In the United Kingdom its accounting meaning is restricted to land and buildings, but in the United States it is a wider term including tangible assets generally.

A second particular problem concerns the terms 'provision' and 'reserve'. In the United Kingdom, as the words are used in practice, a provision is an estimated liability or a reduction in the recorded value of an asset (as in 'provision for doubtful debts'). The IASB in its Glossary of Terms (and in IAS 37) defines a provision with the first of those meanings: a liability of uncertain timing or amount. This clearly excludes the second meaning (the reduction in the recorded value of an asset) which should be called an impairment. In the United Kingdom and in IAS 1, a reserve is a part of shareholders' equity that arises from a gain. 'Reserve', in the United States, is used much more loosely, to include estimated liabilities (as in pension reserve) and adjustments against the value of assets (as in 'reserve for doubtful receivables'). Great care is needed in interpreting such terms. Further, the various usages suggested here may change over time.

The problem caused by there being several types of English (UK, US and IASB) is, of course, not just that the language is *different* (the US version having largely evolved out of seventeenth-century UK English) but that a word which exists in both languages sometimes means something different. There is less scope for this sort of confusion when an American is translating from Japanese!

The importance of this problem is not confined to English-speaking countries. Many European companies produce translations, usually into approximate US English. However, these statements may have unreliable or misleading translations, partly because the work is often carried out by those who are not expert in accounting. At worst, the English version may be little more than a marketing document. Such translated statements are, of course, not the real statutory statements, nor do they have to obey IFRS or US rules, so they may be extracts or manipulations of the original.

Some examples of translation problems now follow, in order to illustrate these points.

17.2.2 Two examples of translation difficulties

Example 1

The following is an extract from an English-version annual report published by the French company, Total Oil:

> Foreign currency balance sheets are converted into French francs on the basis of exchange rates at 31 December. The conversion is applied to fixed assets as well as to monetary assets and liabilities. Gains or losses on translation of their balance sheets at the end of the previous year are dealt with . . .

This extract shows the word 'conversion' being used interchangeably with 'translation' because the two accounting terms are the same in French (*conversion*). In English, the former means a physical act of exchange, whereas the latter (which would be correct here) means an accounting calculation.

Example 2

When matters get complicated, a translation often becomes opaque or misleading. This extract is taken from the financial statements for the German company, AEG, from a few years ago. The note on consolidation techniques is very difficult to understand. It is shown below with our interpretation.

Published translation	*Authors' suggestion*
Capital consolidation is performed using the 'book value method'. Under this method, the book values of the affiliated companies are netted against the underlying equity in these companies at the time of acquisition or initial consolidation.	Consolidation is performed using a version of fair value accounting. Under this method, the first stage is to compare the cost of a consolidated company with the book value of the Group's share of its net assets. Generally this is done at the date of acquisition, but for existing subsidiaries that have been consolidated for the first time this year, the year-end values are used.
Where the book values exceed underlying equity, the difference is allocated to the respective assets or liabilities according to their real value. A difference remaining after the allocation is shown as goodwill or disclosed as a reduction from the reserves. If the book values fall below the underlying equity, the difference is recorded as 'reserve arising from consolidation'.	Where cost exceeds net assets, the difference is allocated to the subsidiary's assets and liabilities up to and in proportion to their fair values. Any excess remaining is goodwill, which is either shown as an asset or written off against reserves. Where the initial exercise leads to a negative difference, this is shown as a 'reserve arising from consolidation'.

These two examples are illustrations of the point that, although the language may be of good quality, the translation is often not done by accountants, perhaps because bilingual accountants are very expensive to hire. For example, there are no such terms in English as 'capital consolidation' or 'book value method' (second example). Of course, none of this should be read as implying a lack of gratitude for translations: it is very rare for a US or UK company to bother with translation at all, presumably because there is no commercial need to do so and because it would, therefore, not be obvious which language to choose.

We include as Table 17.1 an amended version of a glossary of UK and US accounting terms, as presented in the 2008 financial statements of BT Group PLC, which is likely to be helpful. The items with asterisks were included up to 2004 but excluded in 2008 because the 2008 UK report used IFRS terms instead of UK legal terms, which show fewer differences from US terms. However, the terms with asterisks

Table 17.1 UK and US accounting terms

Term used in UK annual report	*US equivalent or definition*
Accounts	Financial statements
Associates	Equity investees
Capital allowances	Tax depreciation
Creditors	Accounts payable and accrued liabilities
Creditors: amounts falling due within one year*	Current liabilities
Creditors: amounts falling due after more than one year*	Long-term liabilities
Debtors: amounts falling due after more than one year*	Other non-current assets
Employee share schemes*	Employee stock benefit plans
Employment costs*	Payroll costs
Finance lease	Capital lease
Financial year	Fiscal year
Fixed asset investments*	Non-current investments
Freehold	Ownership with absolute rights in perpetuity
Interests in associates and joint ventures	Securities of equity investees
Loans to associates and joint ventures	Indebtedness of equity investees not current
Net asset value*	Book value
Operating profit*	Net operating income
Other debtors*	Other current assets
Own work capitalized	Costs of labour engaged in the construction of plant and equipment for internal use
Profit*	Income
Profit and loss account (statement)*	Income statement
Profit and loss account* (under 'capital and reserves' in balance sheet)	Retained earnings
Profit for the financial year*	Net income
Profit on sale of fixed assets*	Gain on disposal of non-current assets
Provision for doubtful debts	Allowance for bad and doubtful accounts receivable
Provisions	Long-term liabilities other than debt and specific accounts payable
Recognized gains and losses (statement)*	Comprehensive income
Redundancy charges*	Early release scheme expenses
Reserves	Shareholders' equity other than paid-up capital
Share premium account	Additional paid-in capital or paid-in surplus (not distributable)
Shareholders' funds*	Shareholders' equity
Statement of recognized income and expense	Comprehensive income
Stocks*	Inventories
Tangible fixed assets*	Property, plant and equipment
Trade debtors*	Accounts receivable (net)
Turnover*	Revenues

Source: Adapted from BT Group plc's Annual Reports, 1999 and 2008.

are still used in UK GAAP reports (e.g. those of unlisted companies or of individual companies within listed groups). There is no similar glossary in the 2015 report.

17.3 Differences in financial culture

It is not just accounting terms and accounting practices that must be disentangled before successful international comparison is possible. There are also different social, cultural and economic backgrounds that may continue to cause differences in ratios.

Example

Because of the long history of debt finance in Germany, it is normal for German companies to have a high gearing ratio compared to US or UK norms. However, not only is this traditional but it is also safer in Germany because of the long-run nature of bank interests in German industry. Bankers might be expected to pump money *into* an ailing company rather than to try to be the first to 'pull the plug'.

So a high gearing ratio is both more normal and less dangerous in Germany than in the US or UK. It has been shown in earlier chapters that accounting differences probably make German gearing ratios look higher as well.

17.4 Accounting differences

Part 2 of this book has looked at a number of accounting issues that relate to measurement and valuation. There are many examples of potential international differences and in many cases national 'norms' tend to differ, reflecting the classification issues discussed in Part 1. As we saw in Chapters 7 and 16, these can have a distorting effect on ratio comparisons. Before we explore some of these in an international context, try the following revision activity.

Activity 17.B

Go through Part 2, with particular attention to the 'Why it matters' paragraphs, and make a list of measurement and other accounting policy differences that might be significant in the context of international comparison.

Feedback

A suggested list of potentially important items is shown next, although you may have thought of some different ones. Some of these are relevant even *within* IFRS, as discussed in Chapter 16.

We list the following:

- strict historical cost or revaluations for non-current assets;
- use of FIFO, LIFO or weighted average to determine inventory cost;
- use of percentage of completion or completed contract method for long-term contracts;
- use of year-end rates or transaction rates for translation of foreign currency receivables and payables in an individual company's balance sheet;

- capitalization (or not) of interest on construction;
- capitalization of leases (or not);
- revaluation and depreciation (or not) of investment properties;
- basing bad debt impairments on tax rules (or not);
- basing depreciation charges on tax rules (or not);
- valuing current asset marketable securities at fair value or at cost;
- recording actuarial gains and losses in 'profit or loss' (or not);
- proportional or equity consolidation for joint ventures;
- amortizing goodwill or impairing it;
- using the uniting of interests method (or not);
- using the current rate method or the temporal method for translation.

These differences may need to be adjusted for when carrying out an effective analysis and comparison in an international context, as the remainder of this chapter begins to explore.

17.5 Help by multinationals

It is often cheaper for the preparer, rather than the user, of financial statements to do something about the problems of interpreting international differences. Companies wishing to raise money on the international markets may volunteer – or be forced, in the case of some stock exchange rules – to help the readers in one or more of the following ways:

1. Where possible, some companies choose accounting policies that are most in line with international practices; e.g. many Swiss and Japanese companies volunteer to follow IFRS, even though this is not required under Swiss or Japanese law. At the extreme, some companies try to comply with two or more sets of rules simultaneously; e.g. Royal Dutch/Shell complied for many years with both US and Dutch rules, although it now follows IFRS under UK law. Companies may also volunteer to use an international audit firm even when this is not legally necessary.
2. Companies may provide versions of the annual report that translate only the language, although this may raise the problems discussed earlier. This is common for Japanese and European companies translating into English.
3. Some companies provide reports in another currency, e.g. US dollars, as well as in the local currency. These are sometimes called 'convenience statements' and a year-end translation rate is normally applied to all items. It is important to note that such convenience statements are currency translations, not GAAP-adjusted statements. Other companies use a foreign currency as their only presentation currency because this might suit the majority of shareholders or because their competitors do so or because their economic world is dominated by the foreign currency. For example, although BP and Shell are legally British companies, they both present their financial statements in US dollars only.
4. As part of 'convenience translations', some companies carry out 'limited restatement' of some accounting policies or formats of presentation, presumably as a supplement to domestic reports. It is quite normal for Japanese companies to restate towards US practices.

5. Companies provide reconciliation statements of net income or net assets from their domestic rules to another set. This was most obviously found in the case of non-US companies obeying SEC rules, when reconciliations to US GAAP were shown until 2007 as supplementary statements (e.g. Nokia and British Airways).
6. Companies may publish a substantial reworking and retranslation of an annual report into another set of practices and terms. This amounts to producing secondary financial statements.

17.6 Increasing international harmonization

As discussed in Chapter 5, there is increasing harmonization of accounting policies among large listed companies and this trend seems certain to continue. First, the European Union's requirement to use IFRS for consolidated statements of listed entities from 2005 greatly increased comparability. Second, the increasingly close cooperation between a number of standard-setters and the IASB, discussed in Chapter 5, has led to a reduction in the differences between the national systems and IFRS.

An interesting example of increasing harmonization is Norsk Hydro, a large Norwegian company. Table 17.2 shows summary comparative figures for 1991, 1993 and 2006 as reported under US GAAP and Norwegian GAAP. The sharp increase in the similarity of the figures is very obvious, caused largely by Norwegian regulations in 1992 and 1998. Incidentally, Norsk Hydro was allowed to continue with US GAAP rather than IFRS until (and including) 2006, under a special exemption of the EU's regulation for companies previously using US GAAP.

Table 17.2 Example of increasing GAAP harmonization: Norsk Hydro

	1991 (Nkr million)		*1993 (Nkr million)*		*2006 (Nkr million)*	
	US GAAP	*Norwegian GAAP*	*US GAAP*	*Norwegian GAAP*	*US GAAP*	*Norwegian GAAP*
Operating income	925	610	4,037	4,599	52,224	50,679
Net financial expense	(1,207)	(1,680)	(1,935)	(2,132)	(1,838)	(1,838)
Net income (loss)	(498)	(2,169)	2,996	3,406	17,391	16,499
Shareholders' equity	19,156	6,056	22,735	19,307	96,496	95,389

Source: Norsk Hydro's annual reports.

For most European, Australian and many other listed companies, IFRS is now required for consolidated statements. The change to IFRS provided vast amounts of data showing reconciliations from national practices to IFRS for 2004 figures in the 2005 reports (or, in the case of Norsk Hydro, from US GAAP to IFRS for 2006 figures in the 2007 report). You can access these 'transition' statements on company websites. A fresh supply of such reconciliations can be found in some Japanese annual reports of 2013 onwards, as those companies choose to adopt IFRS. Table 17.3 provides an example.

For 2005 and 2006, most large non-US companies that were listed on US exchanges provided reconciliations from IFRS to US GAAP. The reconciliation for

Table 17.3 Reconciliation of equity by Ono Pharmaceutical at 31 March 2013 (¥ millions)

Equity under J GAAP	423,291
Cash	+ 64,856
Receivables	+ 5,562
Marketable securities	− 64,865
PPE	+ 6,151
Intangibles	+ 17,486
Other	− 9,948
Equity under IFRS	442,542

Source: Prepared by the authors from published financial statements.

GlaxoSmithKline (Europe's largest pharmaceutical company) for 2005 is summarized in Figures 17.1 and 17.2. This shows that large international differences remained. Many of them are due to permission under IFRS to retain previous practices for old items. So, even if current IFRS is similar to current US GAAP for a particular item (e.g. goodwill), large differences show up in these reconciliations.

Activity 17.C

Study carefully the annex to this chapter, particularly the explanations of Glaxo's reconciliation of net income from IFRS to US GAAP. Then, explain in your own words the cause of the adjustments. As will be explained below, some of the differences would no longer apply. This is not an exercise in learning current IFRS or US GAAP, but an exercise in the sort of differences that can arise between two accounting systems.

Figure 17.1 GlaxoSmithKline, 2005: IFRS to US (£m)

Profit	
Under IFRS	4,816
Minority interests	(127)
	4,689
US GAAP adjustments	
Amortization and impairment of intangible assets	(1,584)
Acquisition and disposal of product rights	(72)
Write-off in-process R&D acquired in business combinations	(26)
Capitalized interest	(1)
Investments	(2)
Pensions and post-retirement benefits	(127)
Stock-based compensation	6
Derivative instruments and hedging	(30)
Restructuring	1
Tax benefits on exercise of stock options	(47)
Deferred taxation	585
Other	(56)
Under US GAAP	3,336

Source: GlaxoSmithKline PLC's Annual Report, 2005.

Figure 17.2 GlaxoSmithKline, 2005: IFRS to US (£m)

Equity shareholders' funds	
Total equity under IFRS	7,570
Minority interests	(259)
Shareholders' equity under IFRS	7,311
US GAAP adjustments	
Goodwill	17,976
Product rights	12,065
Pension intangible asset	86
Property, plant and equipment	33
Capitalized interest	179
Other investments	576
Pensions and other post-retirement benefits	1,163
Restructuring costs	65
Derivative instruments and hedging	(33)
Dividends	(568)
Deferred taxation	(4,531)
Other	(40)
Shareholders' equity under US GAAP	34,282

Source: GlaxoSmithKline PLC's Annual Report, 2005.

Feedback This feedback is presented using the order of items in Figure 17.1.

i. *Minority interests.** Such amounts were shown as deductions from income and equity under US GAAP.
ii. *Amortization, goodwill.*** The amount of goodwill (and therefore amortization of it) is larger under US GAAP. This is because the company is allowed to retain old 'poolings' under IFRS that were acquisitions under US GAAP. Under that treatment, no goodwill arose.
iii. *Product rights and R&D.*** This is part of the same point as above. Under US GAAP, these would have been recorded and immediately expensed on an acquisition.
iv. *Capitalized interest.** The company chose not to capitalize under IFRS, but must do so under US GAAP. This increases assets. The amortization of past amounts slightly outweigh the cancellation of the year's expense.
v. *Investments.* The company gives an explanation under the heading 'Marketable securities'.
vi. *Pensions.* The company has chosen to recognize actuarial losses in full under IAS 19, but amortizes them under US GAAP.
vii. *Stock-based compensation.* There is a complex technical point here. Note that 'stock' relates to shares, not to inventory.
viii. *Restructuring.** Under US GAAP, certain restructuring costs (based on acquirer's intentions) were lost in the goodwill calculation rather than being charged in the income statement.
ix. *Deferred tax.* This is largely the implied tax on the above adjustments.

Activity 17.D What general conclusions could be drawn from Activity 17.C?

Feedback We suggest three points. First, the issues can be complex, so very clear thinking needs to be combined with considerable knowledge and understanding of issues discussed in Parts 1 and 2 of this book. Second, the differences and effects can be both numerous and significant in effect, unlike the Norsk Hydro situation by 2006. Third, no general conclusions can be drawn about the direction of reconciling adjustments. Different companies and different years would show different sizes and different directions of adjustment to US GAAP. Indeed, of the nine items in the Glaxo list above, many would no longer apply. Those differences with a single asterisk have been removed by IFRS/US convergence. Those with two asterisks gradually reduce over time.

The point to be emphasized is that there can be no general rules. When comparing one set of GAAP accounts with another or when comparing two entities that report under different GAAP systems, the only safe approach is to look at every aspect of each accounting policy in each set of financial statements and to make sensible reconciliations and adjustments. In principle, this is no different from the need in all analysis, even at the one-country level, to make full allowance for the accounting policies applied. In practice, the international scenario makes it more complicated, but the approach is the same.

To some extent, analysis has been made easier by:

- the adoption of IFRS in many countries;
- the voluntary adoption of IFRS by companies in other countries, e.g. Japan and Switzerland;
- the convergence of IFRS and US GAAP;
- the gradual move of Japanese and Chinese accounting towards IFRS.

Equally, no analysts would have needed to look at Chinese or Russian statements before 1990 and few before 2000. There will be special social, cultural and regulatory issues to take account of in these countries. Even though Chinese rules for listed companies are based on IFRS, large differences in practice can occur. These are revealed in reports by Chinese companies which use both Chinese rules and IFRS. An example is shown as Table 17.4.

Table 17.4 Differences between Chinese reporting and Hong Kong IFRS for Beijing North Star, 2013 (millions of renminbi)

	Earnings	*Equity**
Under ASBE	664	10,572
Reversal of investment property depreciation	125	998
Adjustment to fair value for investment properties	7	3,855
Other revaluations on reorganization in 1997	3	(9)
Under Hong Kong IFRS	799	15,416

Source: Prepared by the authors from published financial statements.
*Excluding non-controlling interests.

Summary

- There are many reasons for analysts to try to carry out international comparative analysis. However, it has all the problems of domestic analysis plus several others.
- Language difficulties may be severe for some analysts and some countries, but translations do not solve all the problems. Differences in financial culture and presentation are also hard to adjust for.
- Multinational companies can make several types of adjustment to assist international analysis. However, it is nearly always necessary for the analyst to do further work before international comparisons of earnings, net assets, etc. are meaningful.
- The widespread use of IFRS has helped international analysis but not rendered it easy.
- There is no substitute for an individual, careful and intelligent assessment of each situation to be analysed or compared.



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? EXERCISES

Feedback on this exercise is given in Appendix E.

17.1. The best case study of all is probably the real-world situation. This allows you to:

- choose situations that are topical;
- choose countries that you are both knowledgeable about and interested in;
- see just how difficult interpretation of financial statements in an international context can be.

Therefore:

1. obtain the published financial statements, in languages you read well, of two companies or groups of companies, from different countries, for the same year or, if possible, a series of years;
2. analyse the data in detail and produce a report on the companies' relative strengths and weaknesses.

Your analysis will involve, among other things:

a. reading the information in full, several times;
b. carefully considering any language issues;
c. noting inconsistent accounting policies and different accounting treatments and attempting to adjust for them to give greater comparability;
d. preparing ratios, as consistently as possible;
e. producing a report, which includes proper recognition of the weaknesses in the available information.

This exercise can of course be repeated, using different pairs of companies. Try using one under IFRS and one under national GAAP.

Annex GlaxoSmithKline plc: notes on reconciliation from IFRS to US GAAP

Reconciliation to US accounting principles

The analyses and reconciliations presented in this annex represent the financial information prepared on the basis of US Generally Accepted Accounting Principles (US GAAP) rather than IFRS.

Summary of material differences between IFRS and US GAAP

Acquisition of SmithKline Beecham

The Group has exercised the exemption available under IFRS 1 'First-time Adoption of IFRS' not to restate business combinations prior to the date of transition of the Group's reporting GAAP from UK Generally Accepted Accounting Principles (UK GAAP) to IFRS. Therefore the combination in 2000 of Glaxo Wellcome PLC and SmithKline Beecham PLC continues to be accounted for as a merger (pooling of interests) in accordance with UK GAAP at that time. Under US GAAP, this business combination did not qualify for pooling of interests accounting and Glaxo Wellcome was deemed to be the accounting acquirer in a purchase business combination.

Accordingly the net assets of SmithKline Beecham were recognized at fair value as at the date of acquisition. As a result of the fair value exercise, increases in the values of SmithKline Beecham's inventory, property, plant and equipment, intangible assets, investments and pension obligations were recognized and fair market values attributed to its internally generated intangible assets, mainly product rights (inclusive of patents and trademarks) and in-process research and development, together with appropriate deferred taxation effects. The difference between the cost of acquisition and the fair value of the assets and liabilities of SmithKline Beecham is recorded as goodwill.

Capitalized interest

Under IFRS, the Group does not capitalize interest. US GAAP requires interest incurred as part of the cost of constructing a fixed asset to be capitalized and amortized over the life of the asset.

Goodwill

The Group has exercised the exemption available under IFRS 1 not to restate business combinations prior to the date of transition of the Group's reporting GAAP from UK GAAP to IFRS. Under UK GAAP, goodwill arising on acquisitions before 1998 accounted for under the purchase method was eliminated against equity, and under IFRS, on future disposal or closure of a business, any goodwill previously taken directly to equity under a former GAAP will not be charged against income. Under UK GAAP, goodwill arising on acquisitions from 1998 was capitalized and amortized over a period not exceeding 20 years. On the date of the Group's transition to IFRS, 1 January 2003, amortization ceased in accordance with IFRS 3 'Business combinations'. The Group must instead identify and value its reporting units for the purpose of assessing, at least

annually, potential impairment of goodwill allocated to each reporting unit. As permitted by the business combinations exemption available under IFRS 1, amortization arising prior to 2003 was not reversed.

Under US GAAP, goodwill arising on acquisitions prior to 30 June 2001 was capitalized and amortized over a period not exceeding 40 years. In July 2001, the Financial Accounting Standards Board (FASB) issued Statement of Financial Accounting Standard (SFAS) 142, *Goodwill and Other Intangible Assets*.

Like IFRS 3, SFAS 142 requires that goodwill must not be amortized and annual impairment tests of goodwill must be undertaken. The implementation of SFAS 142 in 2002, a year earlier than the Group's transition to IFRS, results in goodwill balances acquired between 1998 and 2003 reflecting one year less of amortization under US GAAP than under IFRS.

Under IFRS, costs to be incurred in integrating and restructuring the Wellcome, SmithKline Beecham and Block Drug businesses following the acquisitions in 1995, 2000 and 2001 respectively were charged to the income statement post acquisition. Similarly, integration and restructuring costs arising in respect of the acquisitions of Corixa and ID Biomedical in 2005 have been charged to the income statement under IFRS. Under US GAAP, certain of these costs are considered in the allocation of purchase consideration, thereby affecting the goodwill arising on acquisition.

In-process research and development (IPR&D)

Under IFRS, IPR&D projects acquired in a business combination are capitalized and remain on the balance sheet, subject to any impairment write-downs. Amortization is charged over the assets' estimated useful lives from the point when the assets became available for use. Under US GAAP, such assets are recognized in the opening balance sheet but are then written off immediately to the income statement, as the technological feasibility of the IPR&D has not yet been established and it has no alternative future use. Under IFRS, deferred tax is provided for IPR&D assets acquired in a business combination. US GAAP does not provide for deferred tax on these assets, resulting in a reconciling adjustment to deferred tax and goodwill.

IPR&D acquired in transactions other than business combinations is discussed under 'intangible assets' below.

Intangible assets

Under IFRS, certain intangible assets related to specific compounds or products that are purchased from a third party and are developed for commercial applications are capitalized but not subject to amortization until regulatory approval is obtained. Under US GAAP, payments made in respect of these compounds or products that are still in development and have not yet received regulatory approval are charged directly to the income statement.

Under IFRS, intangible assets are amortized over their estimated useful economic life except in the case of certain acquired brands where the end of the useful economic life of the brand cannot be foreseen. Under US GAAP, until the implementation of SFAS 142 *Goodwill and Other Intangible Assets* in 2002, all intangible assets, including brands, were amortized over a finite life. On implementation of SFAS 142 in 2002, intangible assets deemed to have indefinite lives were no longer amortized. As a result of the difference in accounting treatment prior to the implementation of SFAS 142, the carrying values of indefinite-lived brands are affected by amortization charged before 2002 under US GAAP.

Restructuring costs

Under IFRS, restructuring costs incurred following acquisitions were charged to the profit and loss account post acquisition. For US GAAP purposes, certain of these costs were recognized as liabilities upon acquisition in the opening balance sheet.

Other restructuring costs are recorded as a provision under IFRS when a restructuring plan has been announced. Under US GAAP, a provision may only be recognized when further criteria are met or the liability is incurred. Therefore adjustments have been made to eliminate provisions for restructuring costs that do not meet US GAAP requirements.

Marketable securities

Marketable securities consist primarily of equity securities and certain other liquid investments, principally government bonds and short-term corporate debt instruments. Under SFAS 115 *Accounting for Certain Investments in Debt and Equity Securities*, these securities are considered available for sale and are carried at fair value, with the unrealized gains and losses, net of tax, recorded as a separate component of shareholders' equity. Under IFRS, these are accounted for as available for sale financial assets in accordance with IAS 39 *Financial Instruments: Recognition and Measurement*.

The accounting treatment for marketable securities under US GAAP and IFRS is similar. However, differences do arise, principally as a result of the category of marketable securities as defined by SFAS 115 being smaller than the category of available-for-sale financial assets as defined by IAS 39. Investments that are not marketable securities under the SFAS 115 definition are accounted for at cost less impairments under US GAAP rather than at fair value.

The Group did not adopt IAS 39 until 1 January 2005 and, in accordance with the exemption available under IFRS 1, has presented financial instruments in the comparative periods in accordance with UK GAAP. Therefore in 2004 these securities are stated at the lower of cost and net realizable value.

Marketable securities are reviewed at least every six months for other than temporary impairment. For equity securities, the factors considered include:

- the investee's current financial performance and future prospects;
- the general market condition of the geographic or industry area in which the investee operates;
- the duration and extent to which the market value has been below cost.

Gross unrealized gains and losses on marketable securities were £36 million and £4 million, respectively, at 31 December 2005 (2004: £60 million and £3 million, respectively). The fair value of marketable securities with unrealized losses at 31 December 2005 is £62 million (2004: £21 million). All of these marketable securities have been in a continuous loss position for less than 12 months. Deferred tax provided against unrealized gains and losses at 31 December 2005 was £4 million (2004: £16 million). Gains of £7 million were reclassified out of accumulated other comprehensive income into the income statement on disposals of equity investments during the year. The proceeds from sale of marketable securities under US GAAP were £19,416 million in the year ended 31 December 2005. The proceeds include the roll-over of liquid funds on short-term deposit. The gross gains and losses reflected in the consolidated income statement in respect of marketable securities were £7 million and £nil, respectively.

Pensions and other post-retirement benefits

The key difference between IFRS and US GAAP is the method of recognition of actuarial gains and losses. GSK has opted under IFRS to recognize actuarial gains and losses in the statement of recognized income and expense in the year in which they arise. Under US GAAP actuarial gains and losses are recognized using the 10 per cent corridor approach and deferred actuarial gains and losses are amortized. Therefore the pension liability recognized under IFRS is greater than under US GAAP.

Stock-based compensation

Under IFRS 2 *Share-based Payment*, share options are fair valued at their grant dates and the cost is charged to the income statement over the relevant vesting periods. Under US GAAP, the Group applies SFAS 123 *Accounting for Stock-based Compensation* and related accounting interpretations in accounting for its option plans, which also require options to be fair valued at their grant date and included in the income statement over the vesting period of the options. Differences arise as a result of the application of differing measurement bases in respect of performance conditions attaching to share-based payments and in the treatment of lapsed grants.

Derivative instruments

SFAS 133 *Accounting for Derivative Instruments and Hedging Activities*, as amended by SFAS 137 and SFAS 138 and as interpreted by the Derivatives Implementation Group, was adopted by the Group with effect from 1 January 2001. SFAS 133 establishes accounting and reporting standards for derivative instruments, including certain derivative instruments embedded in other contracts (collectively, referred to as derivatives) and for hedging activities. SFAS 133 requires that an entity recognize all derivatives as either assets or liabilities in the consolidated balance sheet and measure those instruments at fair value. Changes in fair value over the period are recorded in current earnings unless hedge accounting is obtained. SFAS 133 prescribes requirements for designation and documentation of hedging relationships and ongoing assessments of effectiveness in order to qualify for hedge accounting.

The Group also evaluates contracts for 'embedded' derivatives. In accordance with SFAS 133 requirements, if embedded derivatives are not clearly and closely related to the host contract, they are accounted for separately from the host contract as derivatives.

The key differences between IFRS under which the Group's financial statements are prepared and US GAAP, and in the Group's application of their respective requirements, are:

- Certain derivatives that are designated by the Group as hedging instruments under IAS 39 are not designated as hedging instruments under SFAS 133, so hedge accounting is not applied under US GAAP in respect of these arrangements.
- The definition of derivatives within the scope of SFAS 133 excludes instruments for which there is no liquid market, which leads to certain items not being recognized on the balance sheet, although they are accounted for as derivatives under IFRS, most notably the call option over Theravance shares.
- IAS 39 has an exemption from the requirement to recognize embedded foreign currency derivatives where the currency is commonly used in the economic environment of the host contract, but SFAS 133 does not grant a similar exemption and so the Group identifies and separately accounts for more embedded derivatives under US GAAP than it does under IFRS.

The Group has exercised the exemption available under IFRS 1 to present financial instruments in the comparative periods in accordance with UK GAAP. Under UK GAAP, some derivative instruments used for hedges were not recognized on the balance sheet and the matching principle was used to match the gain or loss under these hedging contracts to the foreign currency transaction or profits to which they related. Gains and losses related to the fair value adjustments on these derivative instruments are therefore reconciling items. As in 2005, the Group did not designate any of its derivatives as qualifying hedge instruments under SFAS 133.

The fair value and book value of derivative instruments as at 31 December 2004 is disclosed in the 'Classification and fair value of financial assets and liabilities' table in Note 36.

Valuation of derivative instruments

The fair value of derivative instruments is sensitive to movements in the underlying market rates and variables. The Group monitors the fair value of derivative instruments on at least a quarterly basis. Derivatives, including interest rate swaps and cross-currency swaps, are valued using standard valuation models, counter-party valuations or third-party valuations. Standard valuation models used by the Group consider relevant discount rates, the market yield curve on the valuation date, forward currency exchange rates and counter-party risk. All significant rates and variables are obtained from market sources. All valuations are based on the remaining term to maturity of the instrument.

Foreign exchange contracts are valued using forward rates observed from quoted prices in the relevant markets when possible. The Group assumes parties to long-term contracts are economically viable but reserves the right to exercise early termination rights if economically beneficial when such rights exist in the contract.

Dividends

Under IFRS, GSK PLC's quarterly dividends are recognized only on payment. Under US GAAP, the dividends are recognized in the financial statements when they are declared.

Other

The following adjustments are also included in the reconciliations:

- *Computer software* – under IFRS, the Group capitalizes costs incurred in acquiring and developing computer software for internal use where the software supports a significant business system and the expenditure leads to the creation of a durable asset; so, for US GAAP, the Group applies SOP 98-1, *Accounting for the Costs of Computer Software Developed or Obtained for Internal Use*, which restricts the categories of costs that can be capitalized.
- *Guarantor obligations* – under US GAAP, the Group applies the FASB's Financial Interpretation No. 45 (FIN 45), Guarantor's Accounting and Disclosure Requirements for Guarantees, Including Indirect Guarantees of Indebtedness of Others, which requires that the Group recognize certain guarantees issued, measured at fair value and, under IFRS, such guarantor obligations are recognized when further additional criteria are met or the liability is incurred.
- *Variable interest entities* – under the FASB's Interpretation No. 46 Revised (FIN 46R), *Consolidation of Variable Interest Entities*, certain entities, known as variable interest entities (VIEs), must be consolidated by the 'primary beneficiary' of the entity. The primary beneficiary is generally defined as having the majority of the risks and rewards arising from the VIE. Additionally, for VIEs in which a significant, but not majority, variable interest is held, certain disclosures are required. The Group has completed a review of potential VIEs and, as a consequence, has consolidated Theravance Inc. from May 2004 (see Note (c) – no other VIEs of which the Group is the primary beneficiary were identified.
- *Fixed asset and inventory impairments* – reversals of impairments previously recorded against the carrying value of assets are permitted under IFRS in certain circumstances, but US GAAP does not permit reversals of these impairments.
- Various other small adjustments.

Source: GlaxoSmithKline PLC's Annual Report, 2005, pp. 135–37.



Appendices

A Double-entry bookkeeping

B An outline of the content of International Financial Reporting Standards

C An outline of the content of the EU's Fourth Directive on company law (as amended in 2001, 2003, etc.) and a note on the 2013 replacement Directive

D Answers to multiple choice questions

E Feedback on exercises

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Appendix A

Double-entry bookkeeping[1]

This appendix extends the ideas introduced in Chapters 2 and 3, focusing on practical aspects of double-entry bookkeeping. Most businesses now run their double-entry bookkeeping system with the aid of computer software, but it is still helpful to have an understanding of the way in which the underlying system works and when adjustments need to be made to financial statements. The mechanics and terminology of simple bookkeeping principles are referred to wherever necessary in parts of the main text.

If bookkeeping is new to you, then you should study this appendix carefully. If you have done a lot of bookkeeping before, then you should still read through it in order to ensure that you see fully how it relates to the presentation in the main body of the text.

This appendix is divided into five sections:

1. Rules of recording
2. Composition of financial statements
3. Accruals and prepayments
4. Depreciation, bad debts and other year-end adjustments
5. From trial balance to financial statements

Rules of recording

Chapter 1 commenced with some definitions of accounting. The roles of recording, classifying and summarizing were identified as important. The double-entry system of recording manages this activity with great efficiency. Information is input whenever a transaction takes place. It is then collated, such that a summary of large amounts of information about diverse activities can be quickly produced in a clear format for decision-makers. Sections 2.2 and 2.3 of Chapter 2 describe the way in which the effect of any transaction may be recorded by using any of five categories: assets and expenses (being applications of funds) and liabilities, equity and income (being sources of funds).

This has been further developed into the accounting equation, whereby:

$$\text{Assets} - \text{Liabilities} = \text{Opening owners' equity} + (\text{Income} - \text{Expenses})$$

The following are the key elements of bookkeeping.

1. **Separate accounts are set up** in order to record all the information relating to one type of expense, income, asset, liability or equity. These accounts may develop in an adhoc fashion in a small business, or they may be summarized in a company manual

[1] The first version of this appendix was written by Anne Ullathorne, partly using materials from the authors. Subsequent amendments have been made by the authors.

or in a complex Chart of Accounts, as used in France. The accounts include such items as:

- wages, power, rent (expenses);
- sales, interest received (income);
- buildings, tools, cash (assets);
- loans, payables (liabilities);
- share capital, undistributed profits (equity).

2. There is **flexibility in the system**, as any number of accounts may be opened and they may be given any name, even 'miscellaneous account' if necessary. This is to enable the system to be developed according to the needs of the particular business and, sometimes in the real world, an account may be needed to 'hold' an item before it is allocated elsewhere. These bookkeeping accounts are sometimes known as ledger accounts, although that term is now old-fashioned. They were originally kept in handwritten books, but they are now usually a column in a spreadsheet or a computer file. For each of these accounts, there may be an increase or decrease and so, for convenience, a page may be divided into left and right side, giving the layout of a T (such as is shown in Figure A.1). When double-entry was invented, in the thirteenth century, there were no such things as negative numbers, so all entries are positive.

3. Every transaction that occurs has **two effects and therefore a 'double entry'** in the books of account. Consider the six example transactions shown in Table A.1.

Table A.1 Sample transactions

Transaction	*Value (€)*	*Effect A*	*Effect B*
1. Cash sale	50	+ Cash	+ Sales
2. Credit sale to X	80	+ Receivables	+ Sales
3. Loan raised from Y	2,000	+ Cash	+ Lenders
4. Machine bought	1,000	+ Assets	− Cash
5. Electricity bill received	100	+ Expenses	+ Payables
6. Electricity bill paid	100	− Payables	− Cash

The effects are:

- for 1 and 3, the entity controls more cash;
- for 2, more cash is receivable;
- for 4, it controls more tangible assets;
- for 5, the owners have a smaller interest (because the expenses reduce the profit);
- for 6, it owes less to creditors (payables).

For reasons discussed below, each of the effects in Effects A is called a *debit* and each in Effects B is called a *credit*. And, at the end of a period during which the accounts are run, the total of all debits equals the total of all credits. The system is self-balancing. There is no stigma attached to 'debit', nor congratulatory connotation attached to 'credit'; they are merely labels to describe two groupings of transactions. It can be seen that 'debit' is by no means synonymous with plus or with minus; it means an increase in resources or a decrease in claims.

The words 'debit' and 'credit' have their origins in early Italian accounting, which particularly concerned itself with amounts due to and from persons. The derivations of the words will be clear to those who are familiar with any Latin-based language.

'Debit' means *(s)he ought* (to pay us); a debit on a person's account means that (s) he must pay the business at some future date. Similarly, 'credit' means *(s)he trusts* (us to pay him or her). From these basic entries, all the others fall into place, as in Table A.2.

Table A.2 The meaning of 'debit' and 'credit'

Debits	*Credits*
Increases in resources	Decreases in resources
Decreases in claims	Increases in claims
+ Assets	− Assets
+ Expenses	− Expenses
− Liabilities	+ Liabilities
− Equity	+ Equity
− Income	+ Income

In practice, most accountants would not work out whether, for example, any particular transaction involved a debit to cash or a credit to cash but would know by reflex. Many might not be able easily to work out from first principles which entry should be made. The system is merely a convention that is fairly easily learned and works well.

4. The transactions over a period are recorded according to this method and there will come a point when a summary financial statement needs to be drawn up. Because of the system used, we find that the **balances** on the ledger accounts will be either a **debit**, representing assets held or expenses incurred, or a **credit**, representing income or liabilities or the ownership interest. The total of the debit balances will equal the total of the credit balances, because of the technique used. If this is not the case, it will be due to a breakdown or error in the recording.

   (When considering debit and credit balances, please note that the monthly statement issued to you by your bank is a copy of the ledger account held in the bank's books about its transactions with you. Consequently, when you deposit cash with the bank, the bank will record this as cash received (asset) and a liability to you. This credit balance in your name indicates that the bank has to repay its liability to you. If you were keeping your own books, the balance would be shown as a debit because the bank owes you the outstanding balance.)

5. At the end of the accounting period, the balances on the income and expense accounts are transferred to the income statement and combined to calculate the profit for the period. The remaining balances (of assets, liabilities and equity) are carried forward to the next accounting period. They can be disclosed as a balance sheet.

Worked example of sample transactions

We will now work through the six transactions in Table A.1.

1. A cash sale has been made and the increase of cash received is recorded as a debit entry, counterbalanced by the credit recorded under sales, an income account, which is effectively the source of the cash. Note that the descriptor indicates where the other entity is. The result is shown in Figure A.1.

Figure A.1 Transaction 1

Cash account (€)				Sales account (€)			
Debits		*Credits*		*Debits*		*Credits*	
Sales	50					Cash	50

2. For recording a credit sale, a new account is opened for receivables. This is usually in the individual names of the customers concerned to ensure that the business can arrange for the proper collection of amounts owed to it. The receivables account is debited and there is a corresponding entry in the sales account increasing the total of recorded sales to €130. Figure A.2 results.

Figure A.2 Transaction 2

X (receivable) account (€)				Sales account (€)			
Sales	80					Cash	50
						X	80

3. A loan from Y is recorded by debiting the cash account with the cash received and crediting a specific account for Y that will be set up for this purpose and may be called Loan/Lender/Y account. This leads to Figure A.3. Originally, the cash account would have been the account relating to the cashier, who is treated like a person who owes money to the business. So, when cash comes in and is received by the cashier, it is recorded as a debit to cash.

Figure A.3 Transaction 3

Cash account (€)				Y (lender) account (€)			
Sales	50					Cash	2,000
Y	2,000						

4. The purchase of a machine for cash is recorded in Figure A.4.

Figure A.4 Transaction 4

Non-current asset account (€)				Cash account (€)			
Cash	1,000			Sales	50	Non-current assets	1,000
				Y	2,000		

5. The receipt of an electricity bill is recorded as an expense incurred (debit electricity expense) and an outstanding liability (credit Electricity company/Payables/Creditors account). This gets us to Figure A.5.

Figure A.5 Transaction 5

Electricity expenses account (€)				Creditors account (€)			
Cash	100					Electricity	100

6. The electricity liability is settled with cash at a later date (debit the liability account, credit cash). After that, Figure A.6 shows the position.

Figure A.6 Transaction 6

Creditors account (€)				Cash account (€)			
Cash	100	Electricity	100	Sales	50	Non-current assets	1,000
				Y	2,000	Creditors	100

Ensure that you are clear about the rationale for each of these recording entries and test the notion that all transactions of a business can be recorded in this way.

The advantages of double entry

There are several important advantages to be gained from using a double-entry system. First, since there are clearly two effects from each transaction, it is useful to record them both. Before double entry, a cash sale would have been recorded only in the cash book, which contained all other transactions affecting cash. This meant that, in order to find a total of recorded sales, it was necessary to look through all cash transactions, picking out those relating to sales. For a large trader this would have been very laborious for even one day's sales, let alone one year's. So, double entry allows an easy totalling of sales, cash, electricity bills, wages, non-current assets and so on. Without these totals, balance sheets and income statements would be impossible to produce.

Totalling is made particularly easy because the accounts are two-sided, allowing positive and negative effects to be stored separately as positives on the same account. This enables quick balancing of any accounts. For example, after the above six transactions, the total of cash in hand can be worked out to be €950 (i.e. €2,050 – €1,100). Table A.3 gives the balanced account.

Table A.3 Cash account of example in Figure A.6 (€)

Sales	50	Non-current assets	1,000
Y	2,000	Payables	100
		Balance carried down	950
	2,050		2,050
Balance brought down	950		

Double entry has been maintained by creating a brought-down debit of equal size to the balancing credit of €950. At the start of the next accounting period, the cash account will already show €950, which is the correct amount of cash at the start of the next period. Clearly, it will be a good idea to check the cash and the bank account to see whether or not there is in fact €950. If there is not, an investigation into shortages of cash or errors in the records should be carried out. The facts that all cash entries are on one account, only cash entries are on it and the entries are separated into cash in (debit, left-hand side) and cash out (credit, right-hand side) aid quick totalling. The same applies to all accounts of whatever sort.

Another significant advantage is that the whole system should be self-balancing. That is, when all the debit balances are added together, they will equal all the credit

balances. To ensure this, most bookkeeping software packages make it impossible for data to be entered on the system unless both entries are identified. There might still be errors of allocation to different accounts but nevertheless the figures, the total debits and credits, will still balance.

When the end-of-year balancing is made in a manual system, it is unusual for the accounts to balance straight away. This is due to inevitable errors of recording and analysing the entries in the accounts. Any lack of balance warns the accountant that errors should be searched for. Also, since each entry is cross-referenced to its equal and opposite entry, it is fairly easy to understand the origin of any entry.

The self-balancing process is checked by means of a trial balance. This is a two-column listing of all the debit and credit balances. Each column should total to the same amount. The trial balance after the six transactions is shown as Table A.4.

Table A.4 Trial balance after six transactions (€)

Account	*Debits*	*Credits*
X (receivable)	80	
Sales		130
Cash	950	
Y (lender)		2,000
Non-current asset	1,000	
Electricity expense	100	
Totals	2,130	2,130

Accounting entries always carry a date in order to make it easier to understand them if they need to be checked in the future. For example, if Transaction 1 (the cash sale) occurred on 3 November 20X9, it might be recorded as in Figure A.7. However, in this appendix, dates will only be used in accounts when they are necessary for clarity.

Figure A.7 Transaction 1 (dated)

Cash account (€)		Sales account (€)	
3 Nov. X9 Sales	50		3 Nov. X9 Cash 50

Several of these factors make it more difficult fraudulently to manipulate items in the accounts. It has been mentioned that checking is fairly easy. It is helped by the fact that balancing is impossible if the totals of only one account are manipulated, and adjustments of more than one account may entail the alteration of a figure that is regularly checked (e.g. the cash balance).

? Practice questions

A solution guide to these questions is given at the end of this appendix.

1. Athens Ltd

Athens Ltd is a new hairdressing business into which the owner, Mr George, invests €40,000 on 1 January, when business commences. During the first month the following transactions occur:

1. Fittings are purchased for €22,000.
2. Wages are paid to staff – €8,000.
3. Cash takings from customers of €16,000 are banked.
4. The owner takes €4,000 out of the business for himself.
5. A stylist is persuaded to lend €5,000 to the business.
6. New hairdriers are purchased for €10,000 on credit (to be paid in two months' time).
7. The hair salon cuts and dresses hair for a number of the leading actors from a local film studio for a total price of €1,500, the bill to be paid by the studio during the next month.

You are required to:
(a) record the transactions in ledger accounts;
(b) calculate the final balance on each account at the end of the month;
(c) prepare a list of balances (trial balance);
(d) draw up a simple income statement and balance sheet as at 31 January.

2. Beijing Ltd

Beijing Ltd runs a small hotel that commenced trading on 1 March. The following transactions occurred during the month of March:

1 March	Share capital of €50,000 was invested by the owners who also paid €5,000 on behalf of the business for its first month's rent.
2 March	Supplies were bought for the bar for €5,000 (with a cheque payment) and goods for the restaurant from Best Supplies Ltd for €1,500 (for later payment).
5 March	Weekend takings from customers amounted to €3,750.
8 March	Wages paid of €1,600 and general expenses of €400.
9 March	Takings from restaurant and bar sales of €7,100 were banked.
10 March	A private party was held for I. Dance and an invoice sent for €5,200.
15 March	Wages of €2,300 were paid.
21 March	Clean Company's laundry bill for €700 was received.
25 March	Best Supplies Ltd was paid but a further delivery of provisions costing €2,500 was received.
28 March	Wages paid of €1,800.
30 March	Takings from customers, €6,100, were banked.

You are required to:
(a) record the transactions in the accounts;
(b) calculate the final balance on each account at the end of the month;
(c) prepare a trial balance;
(d) draw up a simple income statement and balance sheet as at 31 March.

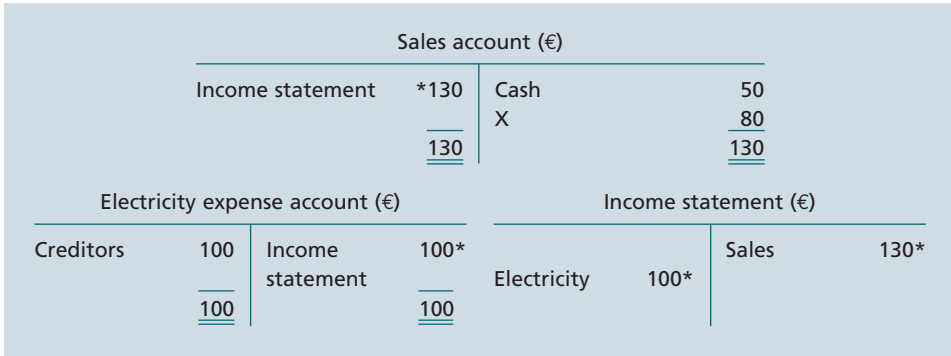
Composition of financial statements

At the end of the accounting period, the balances of the income and expense accounts are taken to the income statement and combined to ascertain the profit or loss made during the period. This account is thus a part of the double-entry system and the balance on it represents the increase, or decrease, in owners' equity for the period.

The income and expense accounts already met in Table A.1 are shown in Figure A.8 after year-end balancing and closing-off procedures have occurred (new entries have asterisks). Notice that the income and expense accounts have now been closed down by transferring their balances to the income statement. (Balances on the asset and liability ledger accounts are carried forward to begin the next period but will also be separately recorded in the balance sheet of the business at that particular date, as prepayments and accruals respectively. This is covered in more detail next.)

You should now be able to take a given list of ledger account balances (a trial balance) and produce from it an income statement and a balance sheet.

Figure A.8 Revenue and expense accounts



Worked example

Let us look at some more transactions specifically related to trading. For simplicity, consider the transactions of a new business called Ropa (Table A.5). Each of these entries will be recorded on the appropriate side of the appropriate account. The accounts specifically connected with trading will look like Figure A.9 (the other halves of the double entries being in other accounts, as noted in the table). If these were the only trading entries in the accounting period, the trading account would be made up by closing down the above accounts and transferring the balances as shown in Figure A.10.

Table A.5 Transactions of Ropa

Transaction (€)	*Debit (€)*		*Credit (€)*	
1. Purchase 3,000 worth of marble on credit from C	Purchases a/c	3,000	C (payable) a/c	3,000
2. Sell 1,000 worth of marble for cash to D	Cash a/c	1,000	Sales a/c	1,000
3. Purchase 2,000 worth of paint for cash from E	Purchases a/c	2,000	Cash a/c	2,000
4. Sell 500 worth of paint on credit to F	F (receivable) a/c	500	Sales a/c	500
5. Sell 800 worth of marble for cash to G	Cash a/c	800	Sales a/c	800
6. Return of 100 worth of paint by F	Sales a/c	100	F (receivable) a/c	100

Figure A.9 Trading accounts

Purchases account (€)				Sales account (€)			
1. C	3,000			6. F	100	2. Cash	1,000
3. Cash	2,000					4. F	500
						5. Cash	800

Figure A.10 Balance transferred

Purchases account (€)				Sales account (€)			
C	3,000	Trading a/c	5,000	F	100	Cash	1,000
Cash	2,000			Trading a/c	2,200	F	500
						Cash	800
	5,000		5,000		2,300		2,300

Trading account (€)			
Purchases	5,000	Sales	2,200

Table A.6 Trading account for Ropa for the period ending 31 December (€)

Purchases	5,000	Sales	2,200
less Closing inventory	3,500		
	1,500		
Gross profit c/d	700		
	2,200		2,200
		Gross profit b/d	700

This does not seem to be a very healthy trading position, but it must be remembered that not all the purchases will have been turned into sales yet, because there is usually some closing inventory remaining at the end of an accounting period. If the counting of stock shows that there is €3,500 worth of marble and paint left, the first part of the income statement will look like Table A.6. This shows how the income statement is traditionally viewed as several parts. The first part is known as the trading account and shows the gross profit, which is the difference between the value of the sales and the cost of the goods (or services) actually sold. Notice that the double-entry system is being maintained. The gross profit entries balance each other. The closing inventory (and opening inventory) entries will be discussed later.

The income statement

The rest of the income statement leads on from the trading account and contains all other income and expenses that are not raw trading transactions.

Suppose that the only extra transactions in this accounting period of Ropa are those shown in Table A.7. The income and expense account halves of these transactions will

Table A.7 Further transactions for Ropa

Transactions (€)	*Debit (€)*		*Credit (€)*	
7. Wages of 100 paid	Wages a/c	100	Cash a/c	100
8. Rent for the period of 150 (not yet paid to the landlord)	Rent a/c	150	H (landlord) a/c	150
9. Advertising bill for the period, paid 30	Advertising a/c	30	Cash a/c	30
10. Stationery bought for 20	Stationery a/c	20	Cash a/c	20
11. More wages paid, 80	Wages a/c	80	Cash a/c	80
12. Rent received from subletting part of the premises, 40	Cash a/c	40	Rent received a/c	40

thus appear as Figure A.11 (the other halves being in the cash account and H account, as noted in the table). These accounts have been shown already closed off. The other halves of the double entry for each of the asterisked items are in the income statement in Table A.8.

As before, the double-entry system is strictly maintained. The rent received is not in the trading account because it does not result from its main trading activities. It is, of course, on the credit side, just like other income.

The order of the expense items is not very critical, although it seems sensible to start with the most important. Often, expenses are organized into functional groups (e.g. 'administrative', 'finance' and 'marketing'). Consistency from year to year will make comparisons easier. These issues are examined at greater length in Chapter 6. Note that the heading of the account includes the words 'for the period ending'. This emphasizes the fact that the income statement deals with flows over time. The wording is often 'for the year ending', 'for the quarter ending' and so on.

Figure A.11 Revenue and expense accounts

Wages account (€)

7. Cash	100	Income statement	*180
11. Cash	80		
	180		180

Rent (expenses) account (€)

8. H	150	Income statement	*150
	150		150

Advertising account (€)

9. Cash	30	Income statement	*30
	30		30

Stationery account (€)

10. Cash	20	Income statement	*20
	20		20

Rent (revenues) account (€)

Income statement	*40	12. Cash	40
	40		40

* See Table A.8.

Table A.8 Income statement for Ropa for the period ending 31 December (€)

Purchases	5,000	Sales	2,200
less Closing inventory	3,500		
	1,500		
Gross profit c/d	700		
	2,200		2,200
Wages	*180	Gross profit b/d	700
Rent	*150	Rent received	*40
Advertising	*30		
Stationery	*20		
Total expenses	380		
Net profit c/d	360		
	740		740
		Net profit b/d	360

*See Figure A.11.

Inventory

During the period, it is not usual for entries to be made in the inventory account, because there would be so many every day. The business would be well advised to keep records of inventory movements and levels, but these will not be part of the double-entry system. The inventory account is only needed at the end of the accounting period, which is naturally the beginning of the next. Let us assume that a business has been left €2,000 of inventory from the previous year. Therefore, at the start of the year the inventory account appears as in Figure A.12.

Figure A.12 Inventory account

Inventory account (€)			
Opening inventory	2,000		

At the end of the year, the remaining inventory may be measured at €5,500. We need the following accounting entries to record (a) the removal of the old inventory and (b) the arrival of the new inventory figure:

(a) trading a/c *debit* 2,000; inventory a/c *credit* 2,000;
(b) inventory a/c *debit* 5,500; trading a/c *credit* 5,500.

This will give the asterisked entries of Figure A.13.

Figure A.13 Inventory and trading accounts

Inventory account (€)				Trading account (€)			
Opening	2,000	Trading a/c	*2,000	Opening inventory	*2,000	Closing inventory	*5,500
	2,000		2,000				
Closing	*5,500						

The normal presentation is as in Table A.8, rather than as in Figure A.13, because it makes for better presentation to show the closing inventory as a negative figure on the left rather than as a positive figure on the right. It should be very clear by now that, in all these manipulations, we are adhering not to naturally occurring laws that have been discovered but to conventions that have been invented and adopted because they work well.

The balance sheet (statement of financial position)

The observant reader may have noticed that the process of transferring various items of income and expense from their accounts to the income statement has left a number of accounts with balances remaining on them, including the income statement, which now also has a balance remaining. These balances are asset, liability or equity amounts. The total of all the credit balances should still equal the total of all the debit balances because double entry has been maintained throughout, even in the income statement. When all the balances are collected together on a balance sheet (or sheet of balances), we have a picture of what is controlled by and owed by the business at that moment in time.

The debit or credit balances on the asset, liability or equity accounts are *not being transferred* to the balance sheet; they are carried forward to the next period, as indeed are the real assets and liabilities that they represent. The balances are merely *recorded* on a balance sheet in order to show the financial position of the business at the end of the accounting period. That is, the balance sheet represents stocks of things, not flows. Therefore, its title will contain words such as '*as at* 31 December X3'. This all emphasizes the point that the income statement is an integral part of the double-entry mechanics, whereas the balance sheet is a summary *of* the balances remaining in that system.

? Practice questions

A solution guide to these questions is given at the end of this appendix.

3. Cadiz Ltd

The following is the trial balance of Cadiz Ltd as at 31 December.

	Debit	*Credit*
	€000	*€000*
Accounts receivable	450	
Accounts payable		623
Sales		5,750
Light and heat	570	
Wages	1,200	
Rent	800	
Office expenses	320	
Equity capital at 1 January		1,350
Inventory at 1 January	250	
Purchases	2,160	
Fixtures and fittings	285	
Cash	2,188	
Loan		500
	8,223	8,223

You also know that the inventory at 31 December is €380,000.

You are required to:

- prepare an income statement for the year ended 31 December and a balance sheet as at that date.

4. Dublin Ltd

The following balances are taken from the books of Dublin Ltd at 31 December:

	€000
Sales	50,220
Purchases	18,750
Rent and property taxes	6,200
Repairs	3,116
Wages	4,520
Fittings	23,230
Motor van	8,050
Van expenses	2,134
Office expenses	3,610
Equity at 1 January	35,000
Inventory at 1 January	400
Cash at bank	6,000
Accounts receivable	6,200
Accounts payable	4,525
Stationery	350
Power	7,185

The inventory at 31 December is €500,000.

You are required to:

- prepare an income statement for the year ended 31 December and a balance sheet as at that date.

Accruals and prepayments

As described in Chapter 3, the accrual basis of accounting recognizes transactions and other events when they occur (and not as cash, or its equivalent, is received or paid). A transaction may involve the recognition of a liability that will be satisfied by a transfer of cash at a future date but it will be recorded at the time of the initial transaction, without waiting for the flows of cash.

The requirement for periodic presentation of financial statements creates problems in recognizing outstanding assets and liabilities because most organizations do not complete and liquidate projects in one financial year. Costs incurred in any one period may be treated as either expenses used in the period or as an asset that is held for future benefit and consequently carried forward to the next accounting period. We have already considered the importance of identifying inventory that is carried forward as an asset to the next accounting period. Other expenses should also be considered at the accounting date to ensure that the charge to an accounting period is for those resources that are consumed during the period. Thus, accrued expenses (or accruals) are those costs that are applicable to the current accounting period but have not yet been

recorded as expenses. Prepaid expenses or prepayments are those costs that have been recorded during the current period but relate to consumption in a future accounting period. The double-entry adjustments will be as follows:

- to accrue expenses: debit (increase) expense and credit (increase) payables;
- to recognize prepayment: debit (increase) receivables and credit (decrease) expense.

Worked example

The following figures relate to one particular property for a calendar year.

1. Rent is paid half-yearly in arrears (€500 per half-year). Last payment was 30 September this year; next payment is due 31 March next year.
2. The telephone bill is paid quarterly. Next bill is expected 31 January next year (always about €120 per quarter).
3. Property taxes are paid half-yearly in advance (€200 per half-year). Last payment was 1 October this year; next payment is due 1 April next year.
4. The yearly insurance premium of €180 is paid on 1 November to cover 12 months from that date.

As you know, in order to arrive at a profit figure, the payments *relating to* a period (i.e. the expenses), not the payments *made in* a period, are those which should be included. This is the accrual basis of accounting. Let us imagine that the business had started on 1 January with no balances outstanding. Without taking the above points into account, the total bills paid in the year for all the properties owned by the business were:

Rent	1,500	Property tax	1,000
Telephone	800	Insurance	500

The above four points imply that, at 31 December:

(a) rent is in arrears by €250;
(b) the telephone bill is in arrears by €80;
(c) property taxes are paid in advance by €100;
(d) insurance is paid in advance by €150.

The expense accounts for the year, taking all this into account, will look like Figure A.14.

Thus, the actual expenses shown in the income statement are increased by amounts owing that relate to the present accounting year and decreased by amounts paid on behalf of next year. Notice that next year's accounts have already been credited or debited with the appropriate amounts because of double entry. For example, when the €500 rent bill arrives and is paid at the end of March next year and debited to the rent account (the cash account being credited with €500 at the same time), the account will show a net charge of €250 (i.e. €500 – €250) so far. This is correct for one quarter (see Figure A.15).

? Practice questions

A solution guide to these questions is given at the end of this appendix.

5. Edinburgh Ltd

Electricity bills amounting to €4,500 were paid by Edinburgh Ltd during the year ended 31 December 20X7. All of these bills relate to the year ended 31 December 20X7. A bill of

Figure A.14 Expenses accounts

Rent account

Cash	1,500	Income statement	1,750
Accruals carried down	250		
	1,750		1,750
		Accruals brought down	250

Telephone account

Cash	800	Income statement	880
Accruals carried down	80		
	880		880
		Accruals brought down	80

Property taxes account

Cash	1,000	Prepayment carried down	100
		Income statement	900
	1,000		1,000
Prepayment brought down	100		

Insurance account

Cash	500	Prepayment carried down	150
		Income statement	350
	500		500
Prepayment brought down	150		

Income statement

Rent	1,750	Gross profit	x,xxx
Property tax	900		
Telephone	880		
Insurance	350		

Figure A.15 The rent account (next year)

Rent account

Cash	500	Accruals b/d	250

€1,500 was received in February 20X8 and covers the period from 1 November 20X7 to 31 January 20X8.

What is the amount of electricity expense which should be charged in the income statement for the year ended 31 December 20X7?

What figure would appear in the balance sheet at 31 December 20X7 relating to electricity, and under what heading?

6. Florence Ltd

The financial year end for Florence Ltd is 31 December 20X7. Calculate the amount charged to the income statement and the balance outstanding (for the balance sheet) in respect of the following items:

(a) Motor expenses	Paid in year	€2,232
	Owing at 31.12.X7	€310
(b) Insurance	Paid in year	€5,400
	Prepaid at 31.12.X6	€760
(c) Stationery	Paid in year	€2,200
	Owing at 31.12.X6	€150
	Owing at 31.12.X7	€520

(d) Rent	Paid in year	€5,760
	Prepaid at 31.12.X6	€400
	Prepaid at 31.12.X7	€280

7. Geneva Ltd

Geneva Ltd has a year end of 30 June for its financial statements. You are provided with the following information relating to rent payable:

For the period 1 July X0 to 30 Sept X0 (paid in June X0)	€15,000
For the six months to 31 Mar X1 (paid in December X0)	€30,000
For the year to 31 Mar X2 (paid in June X1 to qualify for discount)	€72,000

You are required to:

- calculate the amount that should be charged as an expense for the year ended 31 June 20X1 and the amount that is prepaid and carried forward as a current asset at that date.

Depreciation, bad debts and other year-end adjustments

The accrual basis can be extended to encompass other adjustments to assets. For example, when balance sheet receivables (debtors) include debts about which there are suspicions (bad or doubtful debts) an adjusting entry can be made to the final balance.

For a bad debt that is clear and relates to a particular debtor, the entry would be: *debit* the bad debt expense account and *credit* the receivables account with the amount of the specific bad debt.

For doubtful debts, the entry would be: *debit* the bad debt expense account and *credit* an 'allowance for doubtful debts' account. The receivables would then be shown on the balance sheet net of this allowance (or impairment).

For the allocation of the cost of a non-current asset over its useful life, the entries will be to *debit* the depreciation expense in the income statement and *credit* the accumulated depreciation account with the calculated amount of depreciation to be charged. On the balance sheet, the net amount (asset account minus accumulated depreciation) is shown as the 'net book value' or 'carrying amount'.

Chapter 9 gives further detail about these calculations but it is important to be aware of the recording technique for such adjustments.

? Practice questions

A solution guide to these questions is given at the end of this appendix.

8. Hobart Co.

Hobart Co. purchases a truck on 1 July 20X7 for €200,000. The truck should last for five years and then could be sold for €40,000. The financial statements are made up to the year ended 31 December, with depreciation calculated monthly from the date of acquisition.

(a) Assuming straight-line depreciation, show the accounting entries relating to vehicles and depreciation of them for 20X7 and 20X8, identifying also the balance sheet figure for vehicles.

(b) On 31 December 20X9 the truck is sold for €110,000. How is the income statement affected?

9. Kiev Co.

Kiev Co. purchases a machine on 1 January 20X0 for €240,000. Depreciation is charged at 10 per cent on cost. On 30 June 20X4, the machine is sold for €120,000 and the proceeds used

to buy a new vehicle for the chairman. Motor vehicles are depreciated at 25 per cent on cost and all depreciation is calculated proportionately in the years of acquisition and disposal. What are the entries in the income statement for the year ended 31 December 20X4?

10. Joburg Co.

The following income statement and balance sheet have been prepared for Joburg Co.

Income statement for the year ended 31 December 20X7

	€000
Sales	2,180
Cost of sales	−600
Gross profit	1,580
Selling and distribution expenses	−620
Administrative expenses	−506
Profit before interest	454
Interest expense	−4
Profit for the year	450
Profit brought forward	510
Profit carried forward	960

Balance sheet as at 31 December 20X8

		€000
Non-current assets		
Plant and machinery		1,600
Vehicles		500
		2,100
Current assets		
Inventory	300	
Accounts receivable	100	
Bank	80	
	480	
Current liabilities		
Accounts payable	−200	
Net current assets		280
		2,380
Long-term loan (8%)		−100
		2,280
Capital and reserves		
Share capital		1,320
Retained earnings		960
		2,280

After the accounts were prepared, the following information became available.

1. Interest payable on the long-term loan is paid half-yearly and interest for the second half-year has not been included in the accounts.
2. A sum of €5,000 of the long-term loan is to be repaid by 30 June 20X8.
3. Depreciation has not been charged on the motor vehicles. This class of assets is depreciated at 40 per cent per annum using the reducing balance method.
4. A new machine has been purchased on credit, just before the year end, for €75,000 but this has not been included in the accounts. No depreciation is to be charged on this asset this year.

5. After reviewing the Accounts receivable balance, it was decided that bad debts of €4,000 should be written off.
6. An invoice for electricity for €12,000 for the quarter ended 31 December did not arrive until 23 January and has not been included.
7. Taxation is payable at 30 per cent of the net profit before tax.

You are required to:

(a) list the adjustments required to record these events;
(b) prepare a balance sheet and income statement for Joburg Co. for the year ended 31 December 20X7 incorporating the new information given.

11. Mumbai Co.

The trial balance of Mumbai Co. at 31 December was as follows:

	€000	*€000*
Inventory at 1 January	600	
Purchases	5,020	
Cash at bank	922	
Premises at cost	6,200	
Insurance	864	
Light and heat	1,226	
Printing and stationery	731	
Professional fees	860	
Allowance for doubtful debts		10
Accounts receivable	812	
Accounts payable		768
Wages	2,196	
Bad debts	21	
Capital at 1 January		10,726
Sales		9,642
Office furniture	1,040	
Accumulated depreciation on furniture		220
Rent	874	
	21,366	21,366

The following information is applicable.

(a) Inventory on 31 December is €850,000.
(b) The cumulative allowance for doubtful debts is to be increased to €15,000.
(c) There is rent accrued of €300,000.
(d) Insurance of €125,100 had been paid in advance.
(e) Depreciation on office furniture is to be provided at 5 per cent on cost.

You are required to:

- prepare an income statement for the year ended 31 December and a balance sheet as at that date.

From trial balance to financial statements

The majority of introductory accounting examinations require students to demonstrate their competence and ability in applying the standard year-end adjustments to a given trial balance and to produce an income statement and balance sheet in good format under time constraints. This exercise tries to simulate in a simple way what actually happens at the date of statement preparation for an organization. A logical procedure to deal with this task is as follows.

1. **Check the composition of the trial balance**
   - It should balance, i.e. the total of debit balances should equal the total of credits. This should continuously be the case in a non-manual system of bookkeeping, as the software should not allow single entries. However, some of the entries made by a poorly instructed data input clerk may be nonsensical and lead to errors in allocation. In an examination question, there may be an imbalance and the difference is shown in a suspense account to be dealt with following the receipt of further information or you may be guided to show the difference as owners' equity or shareholders' funds.
   - Nevertheless, you should understand each item in the trial balance and know its position in the final statements, i.e. it is either an income statement item or a balance sheet item.

2. **Adjust for all relevant additional information**
   - At every balance sheet date, there is additional information in respect of accruals and prepayments of various kinds and adjustments to balance sheet numbers. This is the case in the real world and information has to be collected from other departments in the organization. In an examination question, though, the information will be given and you will only need to ensure that you record the appropriate adjustment by introducing a debit and a credit entry. Otherwise, of course, the statements will not balance. In the process of doing this, you should ensure that you can identify which items affect the balance sheet and which the income statement.

3. **Completion of the financial statements**
   - In a real organization this will also usually be done electronically. However, practising this task manually ensures that you understand what is going on. You should prepare, on two separate sheets of paper, an income statement and a balance sheet. Ensure that these are headed clearly and in full so that any other person looking at your work will know exactly what has been done.
   - Either work systematically down the income statement and then the balance sheet, taking the relevant values from the trial balance as you go, or prepare an outline of the financial statements and work systematically down the adjusted trial balance, making sure that each ledger account balance is included in the financial statements.
   - Whichever method you choose, the key is to be systematic because, if your trial balance balanced and you completed the double entry of the adjustments, then your financial statements MUST balance! Practice is important for speed and accuracy and the finished article should look as neat and ordered as possible – this will also help your accuracy.

If the entity is a company, then further entries are likely. Taxation estimated to be payable in relation to the year is shown as a deduction from profit in the income statement and also as a liability in the balance sheet. Interest on debentures (which are loans with specified conditions) is an expense and a liability if not already paid. Note however that dividends, which are the payment to the owners of some of the profits generated for them, are an appropriation of profits, not an expense in the calculation of the profit figure itself.

A simple comprehensive example

First of all, here is a reminder of what a trial balance can and cannot do.

The trial balance

As we have already seen, at the end of an accounting year (or at any time during the year when a balance sheet or income statement is needed), the accounts must be balanced. The balances are then listed with debits in one column and credits in another (this procedure being called extracting a trial balance), before the balances are transferred to the income statement or recorded on the balance sheet. If the totals of the columns do not agree, this signifies an error (or errors) – for example:

1. *errors of posting*, where one part of the double entry is lost or recorded on the wrong side;
2. *arithmetic errors*, where the addition and balancing processes are inaccurate;
3. *omission of an account*, where the balance on an account is not recorded in the trial balance;
4. *misreading a balance*, where the wrong amount is transferred to the trial balance or the correct balance written to the wrong column.

It is clear that these types of error should not arise in a computer system. It should reject partial entries which do not maintain the double-entry system, and all the calculations are automatic. However, a trial balance is still an essential step in the process of producing an income statement and balance sheet, because computer systems (and their operators) are not infallible. Any imbalance must be immediately investigated as it indicates a breakdown of the accounting system.

It should be emphasised, however, that a trial balance which agrees is not necessarily correct. All it demonstrates is that errors of the type listed above are probably not present. We say 'probably' because it is always possible to have two or more such errors of equal but opposite amounts, which are described as compensating errors. A moment's thought will make it obvious that other types of error will not be revealed by a trial balance, an entry on the correct side but posted to the wrong account being one example. Further, there might also be a completely omitted double entry.

Table A.9 contains a possible trial balance extracted from the books of the business of Great Dane on 31 December 20X9. Any errors revealed by imbalance have already been corrected in the trial balance.

At the end of the year there will be a variety of entries that are necessary before the financial statements can be properly drawn up. In the case of Great Dane, the year-end entries might result from the following information:

1. 10 per cent depreciation for the year should be provided on the cost of fixtures and fittings.
2. Rent has been paid in advance to the extent of €50.
3. Specific bad debts of €100 are to be written off.
4. An allowance for future bad debts of 10 per cent of receivables is to be set up for the first time.
5. Closing inventory is valued at €5,000.

These entries can now be added to the previous trial balance of Table A.9. The result is shown as Table A.10, where the new entries have affected the asterisked balances. The adjustments that have been made are shown in the right-hand columns. The trial balance still works. The next stage is to transfer all the income and expense balances to an income statement by closing the accounts, using the double-entry method. As the balances are transferred, the record in the trial balance can be ticked off. (The income and expense balances have already been ticked in Table A.10.) In this case the account

Table A.9 Trial balance extracted from the books of Great Dane as at 31.12.20X9 (€)

Item	*Debits*	*Credits*
Capital		20,000
Land	10,000	
Fixtures and fittings at cost	4,500	
Accumulated depreciation at 1.1.20X9		900
Opening inventory at 1.1.20X9	4,800	
Purchases	11,600	
Sales		16,500
Drawings by owner	2,400	
Receivables	2,100	
Payables		1,600
Wages and salaries	800	
Lighting and heating	100	
Rent	300	
Miscellaneous expenses	200	
Cash and bank balances	2,200	
	39,000	39,000

Table A.10 Trial balance of Great Dane as at 31.12.20X9 after adjustments (€)

			Adjustments already made	
Item	*Debits*	*Credits*	*Debits*	*Credits*
Capital		20,000		
Land	10,000			
Fixtures and fittings	4,500			
*Depreciation provision at 31.12.20X9		1,350		+450
✓*Depreciation charge	450		+450	
✓Opening inventory (in trading account)	4,800			
✓*Closing inventory (in trading account)		5,000		+5,000
*Closing inventory (in asset account)	5,000		+5,000	
✓Purchases	11,600			
✓Sales		16,500		
Drawings	2,400			
*Receivables	2,000		−100	
Payables		1,600		
✓Wages and salaries	800			
✓Lighting and heating	100			
✓*Rent	250		−50	
✓*Rent (opening balance for next year)	50		+50	
✓*Bad debts	300		+100 +200	
*Allowance for bad debts		200		+200
✓ Miscellaneous expenses	200			
Cash and bank balance	2,200			
	44,650	44,650	+5,650	+5,650

Table A.11 Income statement of Great Dane for the year ending 31.12.20X9 (€)

Opening inventory	4,800	Sales	16,500
Purchases	11,600		
	16,400		
less Closing inventory	5,000		
	11,400		
Gross profit carried down	5,100		
	16,500		16,500
Wages and salaries	800	Gross profit brought down	5,100
Lighting and heating	100		
Rent	250		
Depreciation	450		
Bad debts	300		
Miscellaneous expenses	200		
	2,100		
Net profit carried down	3,000		
	5,100		5,100
		Net profit brought down	3,000

in Table A.11 will result, although in practice in many countries income statements are presented in a different way (see Chapter 6).

All the remaining unticked balances in the trial balance (Table A.10) will be asset, liability or equity balances. These can now be recorded on the balance sheet. As noted in Chapter 2, the balance sheet is not itself part of the double-entry system but a product from it; therefore, these unticked accounts are not closed down, nor are their balances transferred.

When all the balances in the trial balance have been used, the balance sheet in Table A.12 will result. Double entry has ensured that it balances.

Table A.12 Balance sheet of Great Dane as at 31.12.20X9 (€)

	Cost	*Cumulative depreciation*	*Net book value*		
Non-current assets				*Owner's equity*	
Land	10,000		10,000	Capital (at 1.1.20X9)	20,000
				Net profit for the year	3,000
					23,000
Fixtures and fittings	4,500	1,350	3,150		
	14,500	1,350	13,150		
				less Drawings	2,400
				Capital (at 31.12.20X9)	20,600
Current assets				Current liabilities:	
Inventory		5,000		Payables	1,600
Receivables	2,000				
less Allowances	200	1,800			
Prepaid expenses		50			
Cash at bank		2,200	9,050		
			22,200		22,200

Practice questions

A solution guide to these questions is given at the end of this appendix.

12. Nairobi Co.

Nairobi Co. has an authorized share capital of 500,000 ordinary shares of €1 each. The following trial balance was extracted from the accounts as at 31 December 20X7.

	€000	*€000*
Issued share capital		500
Share premium account		20
Retained earnings at 1 January		64
10 per cent debentures		100
Allowance for doubtful debts		3
Trade receivables	150	
Trade payables		80
Freehold buildings (cost)	450	
Fixtures and fittings (cost)	150	
Accumulated depreciation – freehold buildings		10
Accumulated depreciation – fixtures and fittings		12
Bank balance	51	
Purchases	660	
Sales		1,218
Audit fee	16	
Wages and salaries	220	
Discounts allowed and received	18	16
Delivery costs inwards	6	
Property taxes and insurance	5	
Debenture interest paid (half-year to June X7)	5	
Bad debts	7	
Repairs	17	
General expenses	55	
Inventory 1 January 20X7	120	
Returns inwards	12	
Returns outwards		9
Directors' remuneration	90	
	2,032	2,032

The following matters are to be taken into account:

(i) Inventory at 31 December 20X7 was €168,000.
(ii) Wages and salaries outstanding at 31 December 20X7 were €7,000.
(iii) Property taxes and insurances paid in advance at 31 December 20X7 amounted to €1,000.
(iv) Depreciation is to be provided on cost of non-current assets at the rate of 10 per cent on fixtures and fittings and 2 per cent on freehold buildings.
(v) The allowance for bad debts is to be increased to €4,000.
(vi) Provision is to be made for the second half-year's debenture interest.
(vii) Taxation based on the profits for the year is estimated at €30,000.

You are required to:

- prepare, for Nairobi Co., an income statement for the year ended 31 December 20X7 and a balance sheet as at that date.

13. Oslo Co.

The trial balance for Oslo Co. on 31 July 20X7 is given below.

	€000	*€000*
Ordinary €1 share capital		200,000
8% preference shares		100,000
Share premium account		20,000
Retained earnings at 1 Aug X6		100,000
5% debenture stock		160,000
Dividend paid	8,000	
Freehold buildings – cost	320,000	
Accumulated depreciation – buildings		108,800
Motor vehicles – cost	312,000	
Accumulated depreciation – vehicles		56,000
Equipment	60,000	
Accumulated depreciation – equipment		36,000
Trade receivables and payables	120,000	96,000
Inventory at 1 August 20X6	165,000	
Cash at bank	48,400	
Cash in hand	10,400	
Purchases	850,000	
Sales		1,244,000
Bad debts	6,000	
Delivery cost inwards	5,000	
Delivery cost outwards	7,000	
Rent	10,000	
General administrative expenses	80,000	
Gas, electricity and water	9,000	
General selling expenses	114,000	
Total	2,120,800	2,120,800

The following additional information is relevant.

1. Closing inventory is valued at €180,000.
2. An allowance for doubtful debts is to be made of 1 per cent of the receivables figure.
3. Taxation on the current year's profits is estimated at €17,000.
4. Depreciation is to be provided at 2 per cent of cost of freehold buildings, 20 per cent of cost of motor vehicles and 10 per cent of cost of equipment.
5. Lighting and heating of €500 is to be accrued and rent of €1,000 has been paid in advance.
6. Interest on debentures for the year ended 31 July 20X7 was paid on 6 August 20X7. No accrual has yet been made.
7. The final preference dividend of 4 per cent is outstanding at 31 July X7.

You are required to:

- prepare an income statement for the year ended 31 July 20X7 and a balance sheet as at that date.

14. Penang Co.

The trial balance of Penang Co. on 31 July 20X7 was as follows.

	€000	*€000*
Ordinary €1 share capital		4,500
Share premium account		700
10% debentures		1,500
Retained earnings		1,384
Dividend paid	175	
Buildings at cost	5,500	
Equipment at cost	420	
Vehicles at cost	860	
Accumulated depreciation – buildings		80
Accumulated depreciation – equipment		100
Accumulated depreciation – vehicles		198
Bank balance at 31 July 20X7	709	
Inventory at 1 August 20X6	1,135	
Purchases	2,695	
Sales		4,910
Delivery inwards	81	
Debenture interest	75	
Directors' remuneration	315	
Discounts allowed and received	8	10
General expenses	28	
Motor expenses	406	
Property taxes and insurance	147	
Returns inwards and outwards	20	15
Salaries and wages	312	
Trade receivables	1,080	
Trade payables		569
Total	13,966	13,966

The following additional information is available:

1. Inventory at 31 July 20X6 is valued at €1,361,000.
2. Depreciation for the year is to be charged using the straight-line method as follows:

Buildings	2 per cent
Equipment	10 per cent
Vehicles	20 per cent

3. A half-year's debenture interest is to be accrued, as is the audit fee of €50,000.
4. Property taxes and insurance of €7,000 has been prepaid.
5. Taxation on the profits for the year is estimated at €80,000.

You are required to:

- prepare an income statement for the year ended 31 July 20X7 and a balance sheet as at that date.

15. Shanghai Co.

The trial balance of Shanghai Co. on 31 March 20X7 is given below.

	€m	€m
Ordinary share capital		200
Retained earnings		350
10% debentures		60
Buildings at cost	210	
Plant and machinery at cost	125	
Motor vehicles at cost	60	
Accumulated depreciation – buildings		48
Accumulated depreciation – plant		75
Accumulated depreciation – vehicles		44
Inventory at 1 April 20X6	128	
Sales		1,300
Purchases	580	
Bad debts	17	
Debenture interest	3	
Directors' remuneration	115	
Discount allowed	12	
General expenses	20	
Heat and light	34	
Office expenses	24	
Rent	27	
Returns outwards		30
Salaries and wages	175	
Allowance for doubtful debts		28
Trade receivables	750	
Trade payables		160
Bank	15	
Total	2,295	2,295

The following information is also relevant:

1. Closing inventory is valued at €133m.
2. Electricity accrued is estimated to be €5m.
3. The last rent bill of €8m was paid in January 20X7 and was for the half-year to 30 June 20X7.
4. A staff bonus relating to the year ended 31 March 20X7 of €7m was paid in May 20X7.
5. Half a year's debenture interest is to be accrued.
6. Taxation for the year has been estimated at €83m.
7. Depreciation is to be charged on cost at the rate of:
   (i) buildings – 2 per cent straight-line method;
   (ii) plant and machinery – 20 per cent reducing balance method;
   (iii) motor vehicles – 25 per cent reducing balance method.
8. The company has been having problems with several debtors and it was decided that the allowance for doubtful debts is to be increased to 4 per cent of outstanding receivables.

You are required to:

- prepare an income statement for the year ended 31 March 20X7 and a balance sheet as at that date.

Solution guide to appendix practice questions

1. Athens Ltd

Cash at bank

Capital	40,000	Fittings	22,000
Sales	16,000	Wages	8,000
Loan	5,000	Drawings	4,000
		Balance carried forward	27,000
	61,000		61,000
Balance brought down	27,000		

Sales account (€)

		Cash	16,000
Balance carried forward	17,500	Accounts receivable	1,500
			17,500
	17,500	Balance brought down	17,500

Wages expense account (€)

Cash	8,000		

Fittings (asset) account (€)

Cash	22,000		
A/cs payable	10,000	Balance carried forward	32,000
	32,000		32,000
Balance brought down	32,000		

Capital account *(€)*

		Cash	40,000

Drawings account (€)

Cash	4,000		

Loan account (€)

		Cash	5,000

Accounts receivable

Sales	1,500		

Accounts payable

		Fittings	10,000

Athens: Trial balance at 31 January

	Dr €	*Dr* €
Cash at bank	27,000	
Sales		17,500
Wages	8,000	
Fittings	32,000	
Capital		40,000
Drawings	4,000	
Loan		5,000
Accounts receivable	1,500	
Accounts payable		10,000
	72,500	72,500

Athens Ltd
Income statement for the month of January

	€
Sales	17,500
Expenses	8,000
Profit	9,500

Balance sheet as at 31 January

	€	€
Non-current assets		
Fittings		32,000
Current assets		
Accounts receivable	1,500	
Cash at bank	27,000	
	28,500	
Current liabilities		
Accounts payable	10,000	
Net current assets		18,500
Non-current liabilities		
Borrowings		5,000
		45,500
Equity		
Capital		40,000
add Profit		9,500
		49,500
less Drawings		−4,000
		45,500

2. Beijing Ltd

Cash at bank

1 Mar	Capital	50,000	2 Mar	Supplies	5,000
5 Mar	Sales	3,750	8 Mar	Wages	1,600
9 Mar	Sales	7,100	8 Mar	General expense	400
			15 Mar	Wages	2,300
			25 Mar	Best Supplies	1,500
30 Mar	Sales	6,100	28 Mar	Wages	1,800
				Balance carried forward	54,350
		66,950			66,950
	Balance brought down	54,350			

Sales account (€)

Balance carried forward	22,150	Cash	3,750
		Cash	7,100
		Accounts receivable	5,200
		Cash	6,100
	22,150		22,150
		Balance brought down	22,150

Wages expense account (€)

Cash	1,600		
Cash	2,300	Balance carried down	5,700
Cash	1,800		
	5,700		5,700
Balance brought down	5,700		

Supplies expense account (€)

Cash	5,000		
Best Supplies	1,500	Balance carried down	9,000
Best Supplies	2,500		
	9,000		9,000
Balance brought down	9,000		

Capital account (€)

Balance carried down	55,000	Cash	50,000
		Rent	5,000
			55,000
	55,000	Balance brought down	55,000

Best Supplies account (€)

Cash	1,500	Supplies	1,500
		Supplies	2,500

Clean Co. account (€)

		Laundry	700

General expenses

Cash	400		

Laundry expenses

Clean Co.	700		

I Dance – accounts receivable

Sales	5,200		

Rent expense

Capital	5,000		

Beijing: Trial balance at 31 January

	Dr €	*Cr* €
Cash at bank	54,350	
Sales		22,150
Wages	5,700	
Supplies expense	9,000	
Capital		55,000
Best Supplies		2,500
Clean Co.		700
I Dance	5,200	
Rent	5,000	
General expenses	400	
Laundry expenses	700	
	80,350	80,350

Beijing Ltd
Income statement for the month of March

	€	€
Sales		22,150
less Rent	5,000	
Provisions	9,000	
Wages	5,700	
General expenses	400	
Laundry	700	
		20,800
Profit		1,350

Balance sheet as at 31 March

	€
Current assets	
Accounts receivable	5,200
Cash at bank	54,350
	59,550
Current liabilities	
Accounts payable (2,500 + 700)	3,200
Net current assets	56,350
Equity	
Capital	55,000
add Profit	1,350
	56,350

3. Cadiz Ltd

Cadiz Ltd
Income statement for the year ended 31 December

	€000	*€000*
Sales		5,750
less Cost of sales		
Inventory 1 Jan	250	
Purchases	2,160	
Inventory 31 Dec	(380)	
		2,030
Gross profit		3,720
Light and heat	570	
Wages	1,200	
Rent	800	
Office expenses	320	
		2,890
Net profit for the year		830

Cadiz Ltd
Balance sheet as at 31 December

		€000
Non-current assets		
Fixtures and fittings		285
Current assets		
Inventory	380	
Accounts receivable	450	
Cash at bank	2,188	
	3,018	
Current liabilities		
Accounts payable	623	
Net current assets		2,395
		2,680
Non-current liabilities		
Borrowings		500
		2,180
Equity		
Capital		1,350
add Profit		830
		2,180

4. Dublin Ltd

Dublin Ltd
Income statement for the year ended 31 December

	€000	*€000*
Sales		50,220
less Cost of sales		
Inventory 1 Jan	400	
Purchases	18,750	
Inventory 31 Dec	−500	
		18,650
Gross profit		31,570
less Expenses		
Office expenses	3,610	
Power	7,185	
Rent and property taxes	6,200	
Repairs	3,116	
Stationery	350	
Van expenses	2,134	
Wages	4,520	
		27,115
Net profit for the year		4,455

Dublin
Ltd Balance sheet as at 31 December

		€000
Non-current assets		
Fixtures and fittings		23,230
Motor van		8,050
		31,280
Current assets		
Inventory	500	
Accounts receivable	6,200	
Cash at bank	6,000	
	12,700	
Current liabilities		
Accounts payable	4,525	
		8,175
Net current assets		39,455
Equity		
Capital		35,000
add Profit		4,455
		39,455

5. Edinburgh Ltd

Electricity bills paid during the year	4,500
add: due for November and December 2/3 × 1,500	1,000
Expense for the year	5,500
Accrued expense as liability at year end	1,000

6. Florence Ltd

		Expense charged to income statement	*Item outstanding on balance sheet*	
(a)	2,232 + 310	2,542	310	Current liability
(b)	5,400 − 760	4,640	760	Current asset
(c)	2,200 − 150+520	2,570	520	Current liability
(d)	5,760 + 400 − 280	5,880	280	Current asset

7. Geneva Ltd

Expense for year ended 31 June X1 = 15,000 + 30,000 + (1/4 × 72,000)
= 63,000

Current asset at 31 June X1 = (3/4 × 72,000)
= 54,000

8. Hobart Co.

Depreciation charge = (Cost less residual value)/useful life
= (200,000 − 40,000)/5 years
= 160,000/5 years
= 32,000 per annum

Recording entry will be:

Debit Depreciation expense (against income)
Credit Accumulated depreciation (against the cost of the asset)

	Income statement Depreciation exp. €000	*Balance sheet Cost less accumulated depreciation €000*
Yr end 31 Dec X7	16	200 − 16 = 184
Yr end 31 Dec X8	32	200 − 48 = 152
Yr end 31 Dec X9	32	200 − 80 = 120
Loss* on sale: 110 − 120	10	0

*Loss on sale	Sale proceeds	€110,000
	less Net book value	€120,000
		€10,000

9. Kiev Co.

The machine is subject to a depreciation charge of €24,000 per annum, charged on a monthly basis.

- Six months to 30 June 20X4, depreciation charge = 12,000

On 30th June 20X4, 4.5 years' depreciation will have been charged = 108,000
Net book value will be 240,000108,000 = 132,000
Sale proceeds of machine = 120,000
- Loss on sale of machine = 12,000

On 31 December 20X4
- Depreciation for six months on new vehicle = €120,000 × 25% × 6/12
= €15,000

Total charge for the year for non-current assets = €39,000

10. Joburg Co.

Adjustments should be recorded as follows.

Detail	*Debit*	*Credit*
	€	€
1. Interest expense	4,000	
Accrued expenses		4,000
Being the interest due for six months to 31 Dec X7		
2. Long-term loan	5,000	
Short-term loan (current liabilities)		5,000
Being the appropriate disclosure of the portion of the loan due for repayment in the next 12 months		
3. Depreciation expense (selling and distribution)	200,000	
Vehicles – accumulated depreciation		200,000
Being depreciation charged on vehicles		
4. Plant and machinery	75,000	
Accounts payable (current liabilities)		75,000
Being machine purchased on credit terms		
5. Bad debts expense (selling and distribution)	4,000	
Accounts receivable (current assets)		4,000
Being €4,000 bad debts written off		
6. Power (cost of sales)	12,000	
Accrued expenses (current liabilities)		12,000
Being the final quarter's cost of electricity		
7. Taxation expense	69,000	
Accrued expenses (current liabilities)		69,000
Being the taxation charge for the year (270 − 4 − 20 − 4 − 12 = 230 @ 30% = 69)		

Joburg Co.
Income statement for the year ended 31 Dec X7

	€000
Sales	2,180
Cost of sales	612
Gross profit	1,568
Selling and distribution expense	824
Administrative expenses	506
Profit before interest	238
Interest	8
	230
Taxation	69
Profit for the year	161

Balance sheet as at 31 Dec X7

		€000
Non-current assets		
Plant and machinery		1,675
Vehicles		300
		1,975
Current assets		
Inventory	300	
Accounts receivable	96	
Bank	80	
	476	
Current liabilities		
Accounts payable	200	
Accrued expenses	160	
Short-term loan	5	
	365	
Net current assets		111
		2,086
Long-term loan (8%)		95
		1,991
Capital and reserves		
Share capital		1,320
Retained earnings (510 + 161)		671
		1,991

11. Mumbai Co.

Adjustments should be recorded as follows.

	Debit	*Credit*
	€000	*€000*
1. Closing inventory – current asset	850	
Closing inventory from cost of sales		850
Being inventory on hand at balance sheet date		
2. Doubtful debt expense	5	
Allowance for doubtful debts		5
Being the adjustment required to give a balance of €15,000 on Allowance for doubtful debts account		
3. Rent	300	
Accrued expenses		300
Being rent accrued at balance sheet date		
4. Prepayments	125	
Insurance		125
Being insurance prepaid at balance sheet date		
5. Depreciation expense	52	
Furniture – accumulated depreciation		52
Being depreciation charged on office furniture (1,040 × 5%)		

Mumbai Co.
Income statement for the year ended 31 December

	€000	*€000*
Sales		9,642
Cost of sales		
Inventory at 1 January	600	
Purchases	5,020	
Inventory at 31 December	(850)	
		4,770
Gross profit		4,872
Expenses		
Bad debts 21 + 5	26	
Insurance 864 − 125	739	
Light and heat	1,226	
Printing and stationery	731	
Professional fees	860	
Wages	2,196	
Rent 874 + 300	1,174	
Depreciation	52	
		7,004
Loss for the year		(2,132)

Mumbai Co.
Balance sheet as at 31 December

		€000
Non-current assets		
Premises		6,200
Furniture (1,040 − 272)		768
		6,968
Current assets		
Inventory	850	
Accounts receivable (812 − 15)	797	
Prepayments	125	
Bank	922	
	2,694	
Current liabilities		
Accounts payable	768	
Accrued expenses	300	
	1,068	
Net current assets		1,626
		8,594
Capital and reserves		
Share capital		10,726
Retained earnings		(2,132)
		8,594

12. Nairobi Co.

		Debit *€000*	*Credit* *€000*
1.	Closing inventory – current asset	168	
	Closing inventory from cost of sales		168
	Being inventory on hand at balance sheet date		
2.	Wages and salaries	7	
	Accrued expenses		7
	Being wages accrued at balance sheet date		
3.	Prepayments	1	
	Insurance		1
	Being insurance prepaid at balance sheet date		
4.	Depreciation expense	24	
	Fixtures – accumulated depreciation		15
	Buildings – accumulated depreciation		9
	Being depreciation charged at 10% on fittings 150 and 2% on buildings 450		
5.	Doubtful debt expense	1	
	Allowance for doubtful debts		1
	Being the adjustment required to give a balance of €4,000 on Allowance for doubtful debts account		
6.	Interest expense	5	
	Accrued expenses		5
	Being second half-year's debenture interest accrued		
7.	Taxation expense	30	
	Accrued expenses		30
	Being taxation accrued at balance sheet date		

Nairobi Co.
Income statement for the year ended 31 Dec 20X7

	€000	*€000*
Sales		1,218
less Returns inwards		12
		1,206
Cost of sales		
Opening inventory	120	
Purchases	660	
add Delivery	6	
less Returns out	−9	
	777	
less Closing inventory	168	
		609
Gross profit		597
Discounts received		16
		613
Expenses		
Audit fee	16	
Repairs	17	
Wages and salaries 220 + 7	227	
Discounts allowed	18	
Insurance (5 − 1)	4	
Bad debts (7 + 1)	8	
General expenses	55	
Directors' remuneration	90	
Depreciation – buildings 2% × 450	9	
Depreciation – fixtures 10% × 150	15	
		459
Profit before interest and tax		154
Interest (debentures 5 + 5)		10
Profit for the year before tax		144
Tax on profit for the year		30
Profit for the year		114

Nairobi Co.
Balance sheet as at 31 Dec X7

	€000	*€000*	*€000*
Non-current assets	*Cost*	*Acc. Dep*	
Land and buildings	450	19	431
Fixtures	150	27	123
	600	46	554
Current assets			
Inventory		168	
Accounts receivable	150		
less Allowance for doubtful debts	4		
		146	
Prepayments		1	
Bank		51	
		366	
Current liabilities			
Trade payables	80		
Accruals	12		
Taxation	30		
		122	
Net current assets			244
Total assets less current liabilities			798
Non-current liabilities			
10% debentures			100
			698
Capital and reserves			
Share capital			500
Share premium			20
Retained earnings (64 + 114)			178
			698

13. Oslo Co.

Oslo Co.
Income statement for the year ended 31 July 20X7

	€000	*€000*
Sales		1,244,000
Cost of sales		
Opening inventory	165,000	
Purchases	850,000	
add Delivery in	5,000	
less Closing inventory	−180,000	
		840,000
Gross profit		404,000
Expenses		
Bad debts 6,000 + 1,200	7,200	
Delivery out	7,000	
Depreciation – buildings 2% × 320	6,400	
Depreciation – vehicles 20% × 312	62,400	
Depreciation – fixtures 10% × 60	6,000	
General administrative	94,000	
General selling	100,000	
Light and heat 9,000 + 500	9,500	
Rent 10,000 − 1,000	9,000	
		301,500
Profit before interest and tax		102,500
Interest		8,000
Profit for the year before tax		94,500
Tax on profit for the year		17,000
Profit for the year		77,500

Oslo Co.
Balance sheet as at 31 July 20X7

	€000	*€000*	*€000*
Non-current assets	*Cost*	*Acc. Dep*	
Land and buildings	320,000	115,200	204,800
Motor vehicles	312,000	118,400	193,600
Fixtures	60,000	42,000	18,000
	692,000	275,600	416,400
Current assets			
Inventory		180,000	
Trade receivables	120,000		
less Allowance for doubtful debts	−1,200		
		118,800	
Prepayments		1,000	
Cash in hand and at bank		58,800	
		358,600	
Current liabilities			
Trade payables	96,000		
Accruals	12,500		
Taxation	17,000		
		125,500	
Net current assets			233,100
Total assets less current liabilities			649,500
Non-current liabilities			
5% debentures			160,000
			489,500
Capital and reserves			
Share capital – preference			100,000
Share capital – ordinary			200,000
Share premium			20,000
Retained earnings (100,000 + 77,500 − 8,000)			169,500
			489,500

14. Penang Co.

Penang Co.
Income statement for the year ended 31 July 20X7

	€000	*€000*
Sales		4,910
less Returns inwards		−20
		4,890
Cost of sales		
Opening inventory	1,135	
Purchases	2,695	
add Delivery	81	
less Returns outwards	−15	
less Closing inventory	−1,361	
		2,535
Gross profit		2,355
Discounts received		10
		2,365
Expenses		
Audit fee (accrued)	50	
Depreciation – buildings 2% × 5,500	110	
Depreciation – equipment 10% × 420	42	
Depreciation – vehicles 20% × 860	172	
Directors' remuneration	315	
Discount allowed	8	
General expense	28	
Motor expense	406	
Insurance 147 – 7	140	
Salaries and wages	312	
		1,583
Profit before interest and tax		782
Interest (75 + 75)		150
Profit for the year before tax		632
Tax on profit for the year		80
Profit for the year		552

Penang Co.
Balance sheet as at 31 July 20X7

	€000	*€000*	*€000*
Non-current assets	*Cost*	*Acc. Dep*	
Land and buildings	5,500	190	5,310
Equipment	420	142	278
Vehicles	860	370	490
	6,780	702	6,078
Current assets			
Inventory		1,361	
Trade receivables		1,080	
Prepayments		7	
Cash at bank		709	
		3,157	
Current liabilities			
Trade payables	569		
Accruals (75 + 50)	125		
Taxation	80		
		774	
Net current assets			2,383
Total assets *less* current liabilities			8,461
Non-current liabilities			
10% debentures			1,500
			6,961
Capital and reserves			
Share capital			4,500
Share premium			700
Retained earnings (1,384 + 552 − 175)			1,761
			6,961

15. Shanghai Co.

Shanghai Co.
Income statement for the year ended 31 Mar 20X7

	€m	€m
Sales		1,300
Cost of sales		
Opening inventory	128	
Purchases	580	
less Returns outwards	−30	
less Closing inventory	−133	
		545
Gross profit		755
Expenses		
Bad and doubtful debts (17 + 2)	19	
Depreciation – buildings	4	
Depreciation – plant	10	
Depreciation – vehicles	4	
Directors' remuneration	115	
Discount allowed	12	
General expense	20	
Office expense	24	
Power and light (34 + 5)	39	
Rent (27 − 4)	23	
Salaries and wages (175 + 7)	182	
		452
Profit before interest and tax		303
Interest (3 + 3)		6
Profit for the year before tax		297
Tax on profit for the year		83
Profit for the year		214

Shanghai Co.
Balance sheet as at 31 Mar 20X7

	€m	€m	€m
Non-current assets	*Cost*	*Acc. Dep*	
Land and buildings	210	52	158
Equipment	125	85	40
Vehicles	60	48	12
	395	185	210
Current assets			
Inventory		133	
Trade receivables (less provision)		720	
Prepayments		4	
Cash at bank		15	
		872	
Current liabilities			
Trade payables	160		
Accruals	15		
Taxation	83		
		258	
Net current assets			614
Total assets less current liabilities			824
Non-current liabilities			
10% debentures			60
			764
Capital and reserves			
Share capital			200
Retained earnings (350 + 214)			564
			764

Appendix B

An outline of the content of International Financial Reporting Standards

This appendix summarizes the content of IFRSs extant at the beginning of 2016.

IAS 1 *Presentation of Financial Statements*

This standard was revised in 1997 and superseded the old IAS 1, IAS 5 and IAS 13. It was revised again several times up to 2015. The components of financial statements are the balance sheet, statement of profit or loss and other comprehensive income, statement of changes in equity, cash flow statement and notes (paragraph 10). Fair presentation is required and this may sometimes entail departure from an IFRS, which departure must then be disclosed including its numerical effect (paragraphs 15–24).

The going concern assumption must be assessed for each set of financial statements and departed from (in a disclosed way) when appropriate (paragraph 25). Offsetting is only allowed when specifically permitted by another standard (paragraph 32). Comparative information must be given relating to the previous period (paragraph 38).

The current/non-current distinction is preferred, but not presumed (paragraph 60). There are no required formats but there are lists of minimum contents of financial statements. There are also illustrations of formats in an appendix.

IAS 2 *Inventories*

Inventories should be valued at the lower of cost and net realizable value (paragraph 9). Cost includes all costs to bring the inventories to their present condition and location (paragraph 10). Where specific cost is not appropriate, FIFO or weighted average is required.

IAS 3

Replaced by IAS 27, then IFRS 10.

IAS 4

Withdrawn, because the content (on depreciation) is covered by asset standards (particularly IAS 16 and IAS 38).

IAS 5

Replaced by IAS 1.

IAS 6

Replaced by IAS 15.

IAS 7 *Cash Flow Statements*

Cash flow statements are required (paragraph 1). They should classify cash flows into operating, investing and financial activities (paragraph 10). Cash and cash equivalents include short-term investments subject to insignificant risk of changes in value (paragraph 6).

Either the direct or indirect method is allowed (paragraph 18). Cash flows from taxes should be disclosed separately, within one of the three headings (paragraph 35).

IAS 8 *Accounting Policies, Changes in Accounting Estimates and Errors*

If a change in policy is caused by a new or revised accounting standard, the entity should follow the specific transitional provisions of the relevant standard. If the change is voluntary, it should be applied retrospectively, by adjusting the earliest presented opening balance of retained earnings (paragraph 19). The latter also applies to the correction of errors (paragraph 42).

IAS 9 Replaced by IAS 38.

IAS 10 *Events after the Reporting Date*

Events occurring after the reporting (balance sheet) date that provide additional information on conditions existing at that date should lead to adjustment of the financial statements (paragraph 8). However, disclosure should be made for other events, if necessary for proper evaluation (paragraph 21). Proposed dividends should not be accrued (paragraph 12).

IAS 11 *Construction Contracts* (being replaced by IFRS 15)

There is no reference to the length of a contract in its definition, but there is a requirement that the contract should be specifically negotiated (paragraph 3).

When the outcome of such a contract can be estimated reliably, revenues and costs should be estimated by stage of completion. Expected losses should be recognized (paragraph 22). The conditions for reliable estimation are (paragraph 23):

(a) revenue can be reliably measured;
(b) it is probable that the benefits will flow to the entity;
(c) future costs and stage of completion can be measured reliably;
(d) costs can be identified and measured reliably.

If the outcome cannot be measured reliably, costs should be expensed and revenues should be recognized in line with recoverable costs (paragraph 32).

IAS 12 *Income Taxes*

'Temporary differences' are differences between the carrying amount of an asset or liability and its tax base (paragraph 5). Deferred tax assets and liabilities should be recognized for temporary differences except when relating to goodwill (unless the amortization is tax-deductible) or certain transactions with no effect on tax or accounting profit (paragraphs 15 and 24). Deferred tax assets should not be accounted

for unless sufficient future taxable income is probable (paragraphs 24 and 34). Certain deferred tax assets and liabilities relating to group companies should be recognized where the temporary differences will reverse (paragraphs 39 and 44).

Current and deferred tax assets and liabilities should use enacted or substantially enacted tax rates (paragraphs 46 and 47). Deferred tax assets and liabilities should not be discounted (paragraph 53).

Current and deferred taxes should be recognized as income or expense except to the extent that they relate to transactions not recognized in income or expense (paragraph 58).

IAS 13 Replaced by IAS 1.

IAS 14 Replaced by IFRS 8.

IAS 15 Withdrawn.

IAS 16 *Property, Plant and Equipment*

Property, plant and equipment (PPE) should be recognized when (a) it is probable that future benefits will flow from it and (b) its cost can be measured reliably (paragraph 7).

Initial measurement should be at cost (paragraph 15). Subsequently, cost or an up-to-date fair value by class of assets (paragraphs 30, 31 and 36). Revaluations should be credited to 'other comprehensive income' unless reversing a previous charge to profit or loss. Decreases in valuation should be charged to profit or loss unless reversing a previous credit to 'other comprehensive income' (paragraphs 39 and 40).

Gains or losses on retirement or disposal of an asset should be calculated by reference to the carrying amount (paragraph 71).

IAS 17 *Leases* (being replaced by IFRS 16)

Finance leases are those that transfer substantially all risks and rewards to the lessee (paragraph 4). Finance leases should be capitalized by lessees at the lower of the fair value and the present value of the minimum lease payments (paragraph 20).

Rental payments should be split into (a) a reduction of liability and (b) a finance charge designed to reduce in line with the liability (paragraph 25). Depreciation on leased assets should be calculated using useful life, unless there is no reasonable certainty of eventual ownership. In this latter case, the shorter of useful life and lease term should be used (paragraph 27).

Operating leases should be expensed on a systematic basis (paragraph 33).

For lessors, finance leases should be recorded as receivables (paragraph 36). Lease income should be recognized on the basis of a constant periodic rate of return (paragraph 39). The net investment method should be used (paragraph 39).

For sale and leaseback that results in a finance lease, any excess of proceeds over carrying amount should be deferred and amortized over the lease term (paragraph 59).

IAS 18 *Revenue* (being replaced by IFRS 15)

Revenue should be measured at fair value of consideration received or receivable (paragraph 9). Revenue should be recognized when (paragraph 14):

(a) significant risks and rewards are transferred to the buyer;
(b) managerial involvement and control have passed;
(c) revenue can be measured reliably;
(d) it is probable that benefits will flow to the entity;
(e) costs of the transaction can be measured reliably.

For services, similar conditions apply by stage of completion when the outcome can be estimated reliably (paragraph 20).

IAS 19 *Employee Benefits*

For defined contribution plans, the contributions of a period should be recognized as expenses (paragraph 51).

For defined benefit plans, the liability should be the total of the present value of the obligation, plus unrecognized actuarial gains, minus unrecognized past service costs and minus the fair value of plan assets (paragraph 57). The income statement charge should be the total of current service cost, interest cost, past service cost, and the effect of curtailments and settlements (paragraph 57).

The actuarial valuation method is specified (one called the 'projected unit credit' method) (paragraph 67). The discount rate used should be based on the market yield on high-quality corporate bonds (paragraph 83).

Actuarial gains and losses are taken directly to OCI (paragraph 57), as is the return on plan assets.

IAS 20 *Government Grants*

Grants should not be credited directly to reserves but should be recognized as income in a way matched with the related costs (paragraphs 7 and 12). Grants related to assets should be deducted from the cost or treated as deferred income (paragraph 24).

IAS 21 *The Effects of Changes in Foreign Exchange Rates*

An entity should report in its functional currency, namely the currency of the primary economic environment in which it operates (paragraphs 8 and 9). A foreign currency transaction is initially recognized by applying the spot exchange rate at the date of the transaction (paragraph 21).

At the end of each subsequent period, monetary items are translated at the closing rate. Non-monetary items are translated at the date of the historical transaction or the date of the fair value measurement if relevant (paragraph 23). Exchange differences are generally taken to profit or loss (paragraph 28).

Translation from the functional currency to a different presentation currency is permitted (paragraphs 38–43).

IAS 22 Replaced by IFRS 3.

IAS 23 *Borrowing Costs*

Borrowing costs directly attributable to construction, etc. must be capitalized (paragraph 8). Where funds are specifically borrowed, the borrowing costs should be calculated after

any investment income on temporary investment of the borrowings (paragraph 12). If funds are borrowed generally, then a capitalization rate should be used based on the weighted average of borrowing costs for general borrowings outstanding during the period. Borrowing costs capitalized should not exceed those incurred (paragraph 14).

Capitalization should commence when expenditures and borrowing costs are being incurred and activities are in progress to prepare the asset for use or sale (paragraph 17). Suspension should occur when active development is suspended for extended periods and cessation should occur when substantially all activities are complete (paragraphs 20 and 22).

IAS 24 *Related Party Disclosures*

Related parties are those able to control or exercise significant influence, although some exceptions are noted (paragraphs 9 and 11). Relationships and transactions should be disclosed (paragraphs 13 and 17).

IAS 25 Replaced by IAS 39 and IAS 40.

IAS 26 *Reporting by Retirement Benefit Plans*

This standard relates to accounting and reporting by retirement benefit plans themselves, not by employers. Separate rules are set out for defined benefit plans and defined contribution plans.

IAS 27 *Separate Financial Statements*

In parent financial statements, investments in subsidiaries, joint ventures and associates may be shown at cost, accounted for using the equity method or treated as available for sale investments (paragraph 10).

IAS 28 *Investments in Associates and Joint Ventures*

An associate is an entity over which the investor has significant influence, i.e. the power to participate in financial and operating policy decisions (paragraph 3). This is a rebuttable presumption when there is a holding of 20 per cent or more in the voting rights (paragraph 5).

Associates and joint ventures should be accounted for by the equity method in consolidated accounts, unless held for disposal in the near future (paragraph 13).

IAS 29 *Financial Reporting in Hyperinflationary Economies*

Hyperinflation is indicated by several features, including cumulative inflation over three years of 100 per cent or more (paragraph 3).

Financial statements (including corresponding figures) should be presented in a measuring unit that is current at the balance sheet date (paragraph 8).

IAS 30 Replaced by IFRS 7.

IAS 31 Replaced by IFRS 11.

IAS 32 *Financial Instruments: Presentation*

Financial instruments should be classified by issuers into liabilities and equity, which includes splitting compound instruments into these components (paragraphs 15 and 28).

Financial assets and liabilities should be set off when, and only when, there is a legally enforceable right and an intention to do so (paragraph 42).

IAS 33 *Earnings per Share*

The standard applies to entities with publicly traded shares (paragraph 2).

Basic earnings per share (EPS) should be calculated using (a) the net profit or loss attributable to ordinary shareholders and (b) the weighted average number of ordinary shares outstanding in the period (paragraph 10). The weighted average should be adjusted for all periods presented for events (e.g. bonus issues) that change the number of shares but not the resources (paragraph 19).

Diluted EPS should adjust earnings and shares for all dilutive potential ordinary shares (paragraph 31).

Presentation of basic and diluted EPS should be on the face of the statement of comprehensive income (paragraph 66).

IAS 34 *Interim Financial Reporting*

This standard is not mandatory but might be imposed by, for example, stock exchange authorities (paragraph 1).

The minimum contents of an interim report should be a condensed statement of financial position statement of comprehensive income, presented as either (a) a condensed single statement or (b) a condensed separate income statement and a condensed statement of comprehensive income; statement of changes in equity; statement of cash flows; and selected explanatory notes (paragraph 8). Minimum contents of the statements and the notes are specified (paragraphs 10 and 15). Prior period data should be presented (paragraph 20).

The frequency of reporting should not affect the annual results (paragraph 28). In most ways, the end of a period should be treated as the end of a year (paragraphs 28, 37 and 39).

IAS 35 Replaced by IFRS 5.

IAS 36 *Impairment of Assets*

Entities are required to check at each balance sheet date whether there are any indications of impairment or not and several examples are given (paragraphs 9 and 12). When there is an indication of impairment, an entity should calculate the asset's recoverable amount, which is the larger of its net selling price and its value in use. The latter is equivalent to the discounted expected net cash inflows, which should be calculated for the smallest group of assets (cash-generating unit) for which the calculation is practicable (paragraph 66).

If the asset's recoverable amount is less than its carrying value, an impairment loss must be recognized (paragraph 59). Impairment losses should first be allocated to goodwill (paragraph 104). Impairment losses should be reversed under certain circumstances (paragraph 110).

IAS 37 *Provisions, Contingent Liabilities and Contingent Assets*

A provision is defined as a liability of uncertain timing or amount. A liability requires there to be an obligation at the balance sheet date (paragraph 10). Provisions should be recognized unless a reliable estimate cannot be made or the possibility of outflow is unlikely (paragraph 14).

Contingent liabilities (where there is no obligation or where there is no reliable measure or no probability of outflow) should not be recognized as liabilities but disclosed, unless remote (paragraphs 10, 27 and 28). Contingent assets should not be recognized (paragraph 31).

IAS 38 *Intangible Assets*

Intangible assets should be recognized where it is probable that benefits will flow to the entity and cost can be measured reliably (paragraph 21).

Internally generated goodwill must not be capitalized (paragraph 48). Research and many other internally generated intangibles cannot meet the above recognition criteria (paragraphs 63 and 68). Development expenditure might sometimes meet the criteria and more detailed guidance is given on this (paragraph 57). Costs treated as expenses cannot subsequently be capitalized (paragraph 71).

Intangible assets for which there is an active market can be carried at fair value (paragraph 75).

Annual impairment tests are required for assets with no finite life (paragraph 108), but amortization is not permitted (paragraph 107).

IAS 39 *Financial Instruments: Recognition and Measurement* (being replaced by IFRS 9)

All financial assets and liabilities, including derivatives, should be recognized on the balance sheet unless covered by other IASs (paragraph 2).

Financial assets should be held at fair value except that the following should be held at cost:

(a) loans and receivables originated by the entity and not held for trading;
(b) held-to-maturity investments;
(c) assets the fair value of which cannot be measured reliably (paragraph 46).

Financial liabilities should be held at cost, except that fair value should be used for those held for trading and for derivatives (paragraph 47).

There is an option to treat certain financial investments at fair value.

Gains and losses should be recognized in profit or loss, except that non-trading items are taken to equity (paragraph 55).

Hedge accounting is permitted under certain circumstances for derivatives and (only for foreign currency risks) for other financial instruments. The hedges must be designated and effective (paragraph 71).

IAS 40 *Investment Property*

Investment property is held to earn rentals or for capital appreciation, rather than being owner-occupied (paragraph 5).

Initial measurement should be at cost and there should be subsequent capitalization of expenditure that improves the originally assessed standard of performance (paragraphs 17 and 20). There should then be an entity-wide choice of the fair value model or the cost model (paragraph 30). Under the first of these, gains and losses are taken to profit or loss (paragraph 35). If, under the fair value model, fair value of a particular property is not determinable at the beginning, then cost should be used (paragraph 53).

Transfers to owner-occupied property or inventory should take place at fair value (paragraph 60). Transfers to investment property should treat the initial change to fair value as a revaluation under IAS 16 (paragraph 61).

Under the cost model, fair value should be disclosed (paragraph 79).

IAS 41 *Agriculture*

This standard covers all biological assets to the point of harvest (paragraphs 1 and 3) (except for bearer plants which are to be dealt with under IAS 16). Such assets are measured at fair value less point-of-sale costs (paragraph 12). If fair value is not reliably determinable, then cost should be used (paragraph 30).

Agricultural produce is measured at harvest at fair value less point-of-sale costs, which then becomes the cost for inventory accounting (paragraph 13).

Gains and losses on changes in fair value should be taken to profit or loss when their conditions are met (paragraph 26).

IFRS 1 *First-time Adoption of International Financial Reporting Standards*

This standard relates to entities that, for the first time, give an explicit and unreserved statement of compliance with IFRS (paragraph 3). An entity has to prepare an opening balance sheet for the earliest period presented that is in accordance with the standards ruling at the reporting date (paragraph 6). No other versions of standards are relevant. The transitional provisions of standards are not relevant. A series of exemptions are allowed, e.g. for business combinations (paragraph 18). A few retrospective applications are not allowed, e.g. related to hedge accounting (paragraph 13).

A reconciliation is required from accounting under the old rules to the opening IFRS balance sheet (paragraph 23).

IFRS 2 *Share-based Payments*

Share-based payments should be recognized as an expense unless an asset is recognized. The payments can be settled in cash or in shares. The former give rise to liabilities; the latter to equity. The recognition should take place as the goods or services are received (paragraphs 7 and 8). Share-settled payments should be recognized at fair value of the goods or services (for non-employees) or of the equity (for employees) (paragraph 10).

No adjustment should be made if shares or share options are forfeited or not exercised after vesting date (paragraph 23).

IFRS 3 *Business Combinations*

All business combinations should be treated as purchases (paragraph 4). Goodwill is the difference between the fair value of the consideration given and the fair value of

the subsidiary's assets, liabilities and contingent liabilities at the date of acquisition (paragraph 32). Acquisition costs are treated as expenses (paragraph 53). Any resulting contingent liabilities should continue to be recognized despite IAS 37 (paragraph 56).

Goodwill should be tested annually for impairment; negative goodwill should be recognized as income immediately (paragraph 54).

IFRS 4 *Insurance Contracts*

This standard applies to insurance contracts whatever sort of company holds them (paragraph 2).

Insurers are temporarily exempted from the general requirements of IAS 8 on accounting policies. This is pending a full standard on insurance contracts (paragraph 13). Changes to policies are only allowed if the resulting information is more relevant (paragraph 22). A liability adequacy test is required (paragraph 15).

IFRS 5 *Non-current Assets Held for Sale and Discontinued Operations*

Non-current assets should be classified as held for sale if expected to be sold within one year (paragraphs 6–8). They should be shown separately on the balance sheet at the lower of carrying value and fair value less costs to sell (paragraph 15).

A discontinued operation is a separate major line of business that has been disposed of or is classified as held for sale (paragraph 32). The statement of comprehensive income should show a single amount for all items related to discontinued operations (paragraph 33).

IFRS 6 *Exploration for and Evaluation of Mineral Resources*

Pending a full standard on this subject, entities are exempted from certain requirements of IAS 8 on accounting policies (paragraph 7). Measurement of assets should follow IAS 16 (paragraph 12).

A special rule on impairment applies, which allows cash-generating units to be as large, but not larger than, a segment (paragraph 21).

IFRS 7 *Financial Instruments: Disclosures*

All types of entities are required to make disclosures about financial instruments on a wide range of issues, including fair values (paragraph 25), credit risk (paragraph 36), liquidity risk (paragraph 39) and market risk (paragraph 40).

IFRS 8 *Operating Segments*

Unusually, this standard applies only to entities the debt or equity of which is publicly traded (paragraph 2).

The IFRS requires an entity to report financial and descriptive information about its reportable segments. Reportable segments are operating segments or aggregations of operating segments that meet specified criteria (paragraphs 5–10). Operating segments are components of an entity about which separate financial information is available that is evaluated regularly by the chief operating decision-maker in deciding

how to allocate resources and in assessing performance. Generally, financial information is required to be reported on the same basis as is used internally for evaluating operating segment performance and deciding how to allocate resources to operating segments.

IFRS 9 *Financial Instruments*

IFRS 9 has had a long and difficult gestation period. It was finally completed in July 2014, and is now specified as mandatory with effect from 1 January 2018. A financial instrument is defined in IAS 32 paragraph 11 as any contract which gives rise to a financial asset of one entity or a financial liability of another entity.

IFRS 9 incorporates two measurement bases for financial assets, which should be used according to their 'business model': fair value and amortized cost (Section 4.1). After initial recognition, the measurement basis for financial assets is fair value (with gains and losses presented in profit or loss), except for loans and receivables and held-to-maturity investments, which are measured at amortized cost, and equity instruments with no active market. For financial liabilities, measurement is at amortized cost, with some complicated exceptions.

IFRS 10 *Consolidated Financial Statements*

Subsidiaries are entities controlled by an investor (paragraph 2). Control means having power over an investee, having exposure or rights to variable returns from it, and having the ability to use the power to affect those returns (paragraph 7).

Unlisted parents are exempted from preparing consolidated statements if they are themselves wholly owned subsidiaries (or in some cases partially owned subsidiaries), as long as the ultimate parent publishes IFRS statements (paragraph 4).

When preparing consolidated statements, uniform accounting policies should be used (paragraph 19). Non-controlling interests should be shown in equity but separately from parent's equity (paragraph 22).

IFRS 11 *Joint Arrangements*

Joint arrangements come in two types: joint operations and joint ventures (paragraph 14). In either case, the arrangement is jointly controlled by two or more parties through a contract that requires the unanimous consent of the parties over the direction of the activities that affect the returns of the arrangement (paragraph 7).

Joint operations are included in consolidated or unconsolidated statements by bringing the assets, liabilities, etc. into the appropriate parties' statements. Joint ventures (e.g. companies in which the venturers own all the shares between them) are included in the consolidated statements of the venturers by using the equity method under IAS 28 (paragraph 24). In unconsolidated statements, they are included (under IAS 27) at cost, or as financial assets under IFRS 9 (paragraph 26).

IFRS 12 *Disclosure of Interests in Other Entities*

This standard requires disclosures about interests in subsidiaries, joint ventures, associates and other 'structured entities' (paragraph 2). The information disclosed should enable

users of the consolidated statements to understand, among other things, the composition of the group and the restrictions and risks associated with it (paragraph 10).

IFRS 13 *Fair Value Measurement*

This standard does not change when fair value should be used (paragraph 5). It defines fair value as an 'exit price': a current market price for selling an asset or transferring a liability (paragraph 9). The fair value assumes current market conditions, an orderly market and the principal market used by the entity (paragraphs 11, 15, 16). The fair value is not adjusted for transaction costs (paragraph 25). A hierarchy of three levels of evidence for fair value is provided, starting with quoted prices in active markets, then observable inputs other than quoted prices, and finally unobservable inputs for the asset or liability (paragraphs 76–90).

IFRS 14 *Regulatory Deferral Accounts*

In some 'rate-regulated' industries under some national GAAPs, certain revenues and expenses are deferred in a way that is inconsistent with IFRS. IFRS 14 permits a first-time adopter of IFRS that is within its scope to recognize and measure resulting account balances in accordance with its previous GAAP.

IFRS 15 *Revenue from Contracts with Customers*

This standard is obligatory from 1 January 2018. When adopted it replaces IAS 11 and IAS 18. Under the standard, an entity recognizes revenue in an amount reflecting the consideration to which the entity expects to be entitled in exchange for those goods and services (paragraphs 46 and 47). The process of revenue recognition involves five steps:

- identify the contracts with a customer;
- identify the performance obligations in the contracts;
- determine the transaction price;
- allocate the transaction price to the performance obligations in the contracts;
- recognize revenue when (or as) the entity satisfies a performance obligation.

The last point means that there are some circumstances in which revenue is taken over a period (paragraph 35). Very extensive disclosure requirements are specified.

IFRS 16 *Leases*

This standard had not been issued by early December 2015, but it was expected imminently.

Appendix C

An outline of the content of the EU's Fourth Directive on company law (as amended in 2001, 2003, etc.), and a note on the 2013 replacement Directive

We deal first with the Fourth Directive of 1978. Article 1 states that the Directive relates to public and private companies throughout the European Community, except member states need not apply the provisions to banks, insurance companies and other financial institutions (for whom a special version of the Fourth Directive has been prepared). Article 2 defines the annual accounts to which it refers as the balance sheet, profit and loss account and notes. Reference to cash flow or funds flow statements, which are standard in some countries (e.g. Spain and the United Kingdom), is omitted. The accounts 'shall be drawn up clearly and in accordance with the provisions' of the Directive, except that the need to present a 'true and fair view' may require extra information or may demand a departure from the provisions of the Directive. Such departures must be disclosed. The Directive is intended to establish minimum standards and 'Member States may authorize or require' extra disclosure.

Articles 3–7 contain general provisions about the consistency and detail of the formats for financial statements. There is a specified order of items and some items cannot be combined or omitted. Corresponding figures for the previous year must be shown. Articles 8–10 detail two formats for balance sheets, one or both of which may be allowed by member states. These Articles allow some combination and omission of immaterial items, but the outline and much detail will be standard. In 2003, an extra option was added: to present using a current/non-current basis.

Articles 11 and 12 allow member states to permit small companies to publish considerably abridged balance sheets. 'Small companies' are those falling below two of the following limits: employees, 50; and balance sheet total and turnover thresholds (specified in EC unit of account), which are raised from time to time. There is also the possibility of lesser reductions for 'medium-sized companies' (see Articles 27 and 47), the size limits of which are also capable of being raised, as happened in 1984 and 1990. Articles 13 and 14 concern details of disclosure. Articles 15–21 concern the definition and disclosure of assets and liabilities. It is useful that downward adjustments in value must be disclosed (Article 15(3)(a)); this might make clearer the comparatively conservative revaluations that are common in Franco-German systems.

Articles 22–26 specify four formats for profit and loss accounts, which member states may allow companies to choose between. Two of these classify expenses and revenues by nature and the other two classify them by stage of production. There are two in each case because vertical or two-sided versions may be chosen. However, Article 27 allows member states to permit medium-sized companies to avoid disclosure of the items making up gross profit. In this case the limits are employees, 250, and thresholds for balance sheet total and turnover, which are double those for small companies. Articles 28–30 contain some definitions relating to the profit and loss accounts.

Articles 31 and 32 set out general rules of valuation. The normal principles of accounting (including the accruals convention) are promulgated. Article 33 is a fairly lengthy series of member state options on accounting for inflation or for specific price changes. Whatever happens, member states must ensure that historical cost information is either shown or can be calculated using notes to the accounts. However, member states may permit or require supplementary or main accounts to be prepared on a replacement value, current purchasing power or other basis. Revaluation of assets would entail a balancing revaluation reserve; there are detailed requirements relating to this. In 2001 and 2003, member state options were added in order to allow fair values to be used for various assets and for gains and losses to be taken to income.

Articles 34–42 relate to detailed valuation and disclosure requirements for various balance sheet items. Again, the point about the disclosure of 'exceptional' value adjustments is made, this time with specific reference to taxation-induced writings down (Articles 35(1)(d) and 39(1)(e)). The periods over which research and development expenditure and goodwill are written off are regulated (Article 37).

Articles 43–46 concern the large number of disclosures that are obligatory in the annual report, including the notes to the accounts. 'Small companies' (as in Article 11) may be partially exempted. Articles 47–51 relate to the audit and publication of accounts. In general, procedures for these matters may remain as they were under different national laws. Member states may exempt 'small companies' from publishing profit and loss accounts (Article 47(2)(b)) and from audit (Article 51). This would mean that they would only produce unaudited abridged balance sheets. Article 47(3) allows member states to permit 'medium-sized companies' (as in Article 27) to abridge their balance sheets and notes. However, this abridgement is not as extensive as that for 'small companies' and both audits and profit and loss accounts are necessary.

Articles 52–62 deal with the implementation of the Directive and with transitional problems – particularly those relating to consolidation – that awaited the EU Seventh Directive. A 'Contact Committee' was to be set up to facilitate the application of the (Fourth, then also the Seventh) Directive and to advise on amendments or additions. Article 55 called for member states to pass the necessary laws within two years of the July 1978 notification, then to bring these into force within a further 18 months. (As Table 5.12 shows, no country managed the first of these dates.)

By 2013, when the new Directive (2013/34/EU) was issued to replace the Fourth and the Seventh, the European accounting regulatory world had changed fundamentally. The consolidated financial statements of entities listed on a European stock exchange are covered by the Regulation of 2002 and therefore must use IFRS as adopted in the EU. Thus, the new Directive is essentially designed for use by unlisted groups and for individual company (legal entity) reporting. Attempts at simplification have been made, but much optionality remains. A detailed 'correlation table' between the new Directive and the previous two Directives is provided in the new Directive.

Articles 1–3 specify the scope of the Directive, give a series of definitions, and categorize and distinguish seven different types of entity: micro, small, medium and large undertakings, and small, medium and large groups. Article 4 contains general provisions, including unchanged the true and fair view requirements of the original Directive. Articles 6–8 contain general reporting principles, including the cost principle with optional derogations for 'revalued amounts' and fair value, and a compulsory derogation to fair value for financial instruments. Reporting shall 'have regard to' the substance of a transaction or arrangement, but member states may opt out of this requirement.

Articles 9–14, incorporating annexes III–VI, give details of the content and presentation of the balance sheet and profit and loss account. Two balance sheet layouts are described, horizontal and vertical, and two profit and loss account layouts, both vertical, by either nature of expense or function of expense. Simplifications are permitted for small and medium-sized undertakings. Articles 15–18 concern the notes to the financial statements, with distinctions for different sizes of entity, Articles 19 and 20 specify the contents of a management report and a corporate governance statement.

Articles 21–29 deal at length with requirements to prepare consolidated financial statements. Consolidation where there is legal control is compulsory, with some obligatory and some optional exemptions, but consolidation because of the 'power to govern' is a member state option. Proportional consolidation for jointly controlled undertakings is also a member state option. Articles 30–33 deal with publication requirements, including exemptions for small and medium undertakings, and Articles 34 and 35 cover audit reports. Articles 36–40 contain a variety of exemptions, of which those for micro-undertakings are significant. Articles 41–48 prescribe in some detail a new 'report on payments to governments', and Articles 49–55 contain some formal final provisions, including a requirement to bring the contents of the Directive into application by financial years beginning in 2016.

Appendix D

Answers to multiple choice questions

Chapter 1

1a. A
1b. B
1c. B
1d. C
1e. D
1f. D

Chapter 2

2a. C
2b. A
2c. B
2d. A
2e. C

Chapter 3

3a. A
3b. D
3c. D
3d. C
3e. D

Chapter 4

4a. B
4b. C
4c. B
4d. C

Chapter 5

5a. A
5b. A
5c. B
5d. B
5e. B
5f. B
5g. B
5h. A

Chapter 6

6a. A
6b. B
6c. B
6d. A
6e. B
6f. A
6g. A

Chapter 7

7a. C
7b. B
7c. C
7d. C
7e. C
7f. E
7g. C
7h. C
7i. B
7j. A
7k. A
7l. A

Chapter 8

8a. C
8b. D
8c. D
8d. A
8e. B
8f. B
8g. C
8h. D
8i. C
8j. D
8k. B

Chapter 9

9a. A
9b. B
9c. B
9d. C
9e. B
9f. C
9g. B
9h. A
9i. B
9j. B

Chapter 10

10a. C
10b. D
10c. A
10d. B

Chapter 11

11a. B
11b. A
11c. A
11d. C

Chapter 12

12a. C
12b. C
12c. C
12d. C
12e. B
12f. D

Chapter 13

13a. D
13b. D
13c. B
13d. A
13e. A
13f. D
13g. D

Chapter 14

14a. D
14b. A
14c. C
14d. C
14e. C
14f. D
14g. C
14h. B
14i. C

Chapter 15

15a. A
15b. C
15c. A
15d. D

Chapter 16

16a. C
16b. B
16c. E
16d. E
16e. D
16f. A
16g. B
16h. D

Appendix E

Feedback on exercises

Use of exercises

We have attempted to provide a wide variety of exercises without excessive volume or uninteresting repetition. There are different views on the advantages and disadvantages of giving suggested feedback on the exercises in the book. **Our policy is to give outline feedback here on about half of the exercises for each chapter**. Outline feedback on the remaining exercises is available elsewhere for teachers, as described in the Preface.

The exercises examine many of the points made in the chapters and provide an opportunity to develop the flexible and critical thinking that is so necessary for the understanding of accounting practice. Readers with a particular focus on interpreting financial statements, rather than preparing them, may sensibly omit some of the longer technical exercises.

It is clearly desirable to tackle an exercise thoroughly before looking at our own suggestions. Equally, the feedback given should be regarded as an input into the thinking and the discussion. It should never be regarded as automatically correct and should never be used to stifle alternative viewpoints.

Chapter 1

1.1. Theoretically, certainly. Financial accounting can provide useful information and therefore lead to more efficient and effective decision-making by outside users. However, it is only justified in practice if:

(a) the information is actually useful;
(b) the information is actually used;
(c) the costs of producing and circulating the information do not exceed its benefits.

This may mean that financial reporting to outsiders is more likely to be justified for large companies with many shareholders than for small enterprises where there are only a few owners, who are also the managers.

1.2. Pointers towards the various likely information needs are given in the text (see Section 1.1) and significant differences of need or emphasis are suggested there. One solution would be just to provide more and more information, but this leads to acute problems of confusion and misunderstanding (as well as cost). Separate reports for different purposes? A general report ideal for nobody? Note that *managers* are usually considered separately, via management accounting, and that *tax authorities* may use a different set of rules from those for financial accounting.

1.3. Decisions are by definition about the future. You can decide what to eat tomorrow, but you cannot decide what to eat yesterday. Accounting information is usually based on past events. However, current values of certain assets (e.g. some investments) are sometimes used. Information about the past is generally more reliable than estimates of today's values or of future cash flows. Consequently, reporting of some elements of the financial statements, particularly assets, tends to concentrate on the past. Nevertheless, this is only useful for decisions if it helps with the prediction of the future.

Chapter 2

2.1. (a) F's balance sheets (in euros) are as follows:

	31.12.X7 €	*31.12.X8* €
Freehold shop	135,000	135,000
Delivery vans	10,000	10,000
Inventory of goods	32,000	29,000
Amounts owed by customers	35,000	34,000
Cash at bank	19,000	36,000
Cash	500	2,000
	231,500	246,000
Capital	154,200	174,000
Loans	50,000	50,000
Amounts owed to supplier	26,500	21,250
Wages owed to staff	800	750
	231,500	246,000

The missing item was the **capital** at the relevant date.

(b) For 20X7, the opening capital was €150,000 and the closing capital was €154,200. The increase presumably represents the profit for the year of €4,200. Similarly, for 20X8, the profit would appear to be €174,000 – €154,200 = €19,800. Note that the capital figure is cumulative; its increase from €150,000 to €174,000 represents the combined profits of the two years.

(c) If enterprise F paid €15,000 during 20X7 to the owner, the 31.12.X7 capital would be the net amount *after* deducting the dividend paid. This gives (in euros) for 20X7:

$$150{,}000 + \text{profit} - 15{,}000 = 154{,}200$$

The conclusion would therefore be that profits for the year 20X7 must have been €19,200.

(d) In several possible senses the delivery vans could be expected to be less good resources as they become older. It could be argued that some of the original new vans must have been used up during the operations of the two years. This might suggest that the assets figure, particularly for 20X8, is overstated, assuming that no new vans had been purchased. This would mean that the profit figure is also overstated. Think of possible ways of allowing for this, before the problem is considered more formally later.

2.2. Suggested adjustments are shown in the table below. Alternative answers are not necessarily wrong. For example, consider item (g), for which no adjustment is made below. Historically, practice here has differed sharply in different countries. In some countries, such as the United Kingdom, it was once normal practice to reduce retained profit by such intended future dividends, adding the figure to creditors, on the grounds that the profit is not intended to be retained and a current liability exists by intention. However, it can be argued that company G has not yet done anything, merely indicated a future intention. If nothing has been done and the formal process of 'declaring' the dividend has not yet happened, then no entries should be made, according to IFRS.

		(a)	*(b)*	*(c)*	*(d)*	*(e)*	*(f)*	*(g)*
Shares	50,000							
Retained profit	7,000	+1,200	−400				+300	
Creditors	12,000			−8,000				
	69,000							
Premises	20,000							
Equipment	9,000						−400	
Vehicle	7,000				−7,000			
Inventory	15,500	−2,800						
Debtors	2,500	+1,000				−2,500		
Bank	14,700		−400	−5,000	+7,000	+2,000		
Cash	300	+3,000		−3,000		+500	+700	
	69,000							

Chapter 3

3.1. There is scope for wide differences of view and considerable debate. For users, comparability seems vital because it relates to the basic decision-making purpose. Similarly, information that is not relevant can hardly be useful. Faithful representation also reaches the heart of the matter. We suspect that verifiability and prudence (which is no longer in the Framework) are likely to come higher up the 'importance' scale for accountants and auditors than they are up the 'useful' scale. This would lead to discussion of whether the user matters more or the producer matters more!

3.2. This is quite a complicated issue. Terms need to be defined, as in the text, and then explained in commonsense non-technical terms (not so easy). Perhaps the fundamental idea behind the problem here can be highlighted by posing another question: if a uniform accounting treatment is imposed for some particular transaction or type of contract based on its superficial legal form, is this:

(a) good, because uniformity automatically leads to comparability; or
(b) bad, because the information given is likely to be irrelevant to the particular situations involved and therefore the information cannot adequately allow comparison of those situations?

There is clearly scope for discussion here. One conclusion might be that if the substance of transactions is the same, then a uniform approach should be required. This suggests that preparers need mechanisms for identifying the substance.

3.3. An expansion of Section 3.1 would be a basis for an answer to the first part of this question. Section 1.1 is also relevant. Section 3.3 is relevant for the second part.

Chapter 4

4.1. There is scope for discussion here and the backgrounds of those discussing the issue are likely to influence opinions. Note that it is necessary to discuss the objectives of financial accounting first and agreement on this may not be reached. However, if the objective is to provide useful information to large numbers of outside investors in a fast-changing world, there seem to be good arguments for private-sector standard-setting. This may fit better in a common law context. Nevertheless, an enforcement mechanism is of great importance and some government involvement is probably needed here. However, a government regulatory agency (e.g. the SEC in the United States) is compatible with a common law system.

4.2. Here, again, opinions may differ. Essentially, arguments for private-sector standards would include factors such as expertise, professionalism, speed and flexibility. Arguments for legal rules would include factors such as precision and control by the state, which is supposed to democratically represent the people as a whole.

4.3. To the extent that IFRS is being used in Germany and the United Kingdom, then the national state is not involved in setting the accounting rules, but it is involved in enforcement. Of course, the EU is involved in endorsement of IFRS.

In terms of the national accounting regulations, the state is most involved in Germany. The Commercial Code (HGB) contains the basic legal rules for financial reporting. Because of *Massgeblichkeit*, the tax regulations and the decisions of the tax court are relevant, particularly in cases where the HGB is silent or allows choices. Only in 1998 was a standard-setter established and its rules need governmental approval and only apply to consolidated statements.

In the United Kingdom, the Companies Act is of some relevance but private-sector standards are more detailed and sometimes use the true and fair view to override the details of the law. The Act is important as part of enforcement of standards, although standards are not legally compulsory.

In the United States, there is no Commercial Code or general Companies Act. At first sight, the rules come mainly from the private-sector FASB. However, SEC-registered companies have to comply with the regulations of the SEC, a government agency. The SEC's rules include Regulations S-X and S-K and it enthusiastically enforces standards. The FASB is, no doubt, affected by the SEC's existence.

Chapter 5

5.1. The basic thesis is this:

1. In all countries, the government will be interested in the calculation of profit in order to calculate taxable income and prudently distributable profit.
2. Financial reporting rules in a country tend to be driven by large companies because they exercise the greatest influence over the rule-makers.
3. In countries with large numbers of listed companies that have large numbers of non-director shareholders, there will be a demand for large quantities of published, audited financial information used for making financial decisions.

4. In these countries, the government's accounting/tax rules will be unsuitable for financial reporting and so accounting calculations will have to be done twice.
5. In other countries, a few large 'international' companies may volunteer to use non-tax rules for group accounts.

If, for example, the United Kingdom and the United States are countries as described in point (3) above, whereas Germany and Italy are not, the financial reporting will differ.

5.2. The users are addressed in Chapter 1. The beneficiaries from harmonization might be split into (a) users and (b) preparers. Governments might be seen to be users for the purposes of tax collection, but they also might wish to help users and preparers. The same applies to inter-governmental organizations, e.g. the European Union.

Users include investors and lenders who operate across national borders. These would include institutions, e.g. banks. Companies, in their capacity as purchasers of shares in other companies or as analysts of suppliers or customers, would also gain from harmonization.

Preparers of multinational financial statements would gain from simplifications and they would also benefit as users of their own accounting information from various parts of the group. Accountancy firms are sometimes seen as beneficiaries, but at present they gain work as auditors and consultants from the existence of international differences.

In terms of who is doing what to bring about harmonization, the picture is initially confusing, because the greater beneficiaries are seen to be doing little; i.e. users are not sufficiently aware or sufficiently organized to address the problem. Preparers are too busy to act because they are trying to cope with – or to take advantage of – all the differences. However, some senior businessmen put public and private pressure on accountants to reduce differences. This is most notable in the case of companies such as the oil company Shell, which is listed on several exchanges and tries to produce one annual report for all purposes.

Governments are nevertheless taking action – e.g. the harmonization programme in the EU was active in the 1970s and 1980s. Also, the International Organization of Securities Commissions (IOSCO) is a committee of government agencies that has put considerable backing behind the IASB.

Perhaps the harmonizing body with the highest profile is the IASB, the predecessor of which (the IASC) was a committee of accountancy bodies that is largely controlled by the auditing professions. Of course, the international differences severely complicate the work of some auditors. However, there is an element of paradox in the fact that auditors are the most active in trying to remove lucrative international differences.

The influence of the IASB increased rapidly, as outlined in Section 5.6, but many difficulties still lie ahead.

5.3. The question is phrased in such a way that a suggested answer is difficult. However, there is plenty of relevant material in Section 5.3.

5.4. Of course, classifications are designed to simplify masses of facts into a digestible picture. Naturally, plenty of important detail is lost on the way. It is important to

specify the purpose of the classification, what exactly is being classified and how. Without some form of classification, the world would be full of a large number of apparently unconnected and incoherent individual members of populations.

5.5. As with Exercise 5.3, the phrasing prohibits a standard answer.

Chapter 6

6.1. The structure of an answer here requires, first, a discussion of what the needs of financial statement users are, as outlined in Chapter 1; and, second, an outline of aspects of disclosure as in Chapter 6. An argued opinion should follow. Note that your views on the adequacy of disclosure requirements may be influenced by your ranking of user needs and your views may change as your studies develop.

Assuming that sophisticated investors are seen as the main users, it is relevant that the old IASC Board contained representatives of the financial analysis profession for many years. From 2001, three of the Board members are selected from this background. This suggests that serious note is taken of their professed needs.

Perhaps, for unsophisticated shareholders, IFRS statements provide an unnecessary amount of data.

6.2. In essence, the two formats highlight different subtotals, total assets for the horizontal format and net assets for the vertical format, and you should consider the differing importance and usefulness of these. Note that it is possible to conclude that the choice of format does not matter much, because users can rearrange the numbers. Note also that, in practice, local law or custom may make the decision for you.

Chapter 7

7.1. The five required ratios for each company are set out in the table below.

	P	*Q*
$\frac{\text{Gross profit}}{\text{Sales}}$	$\frac{4{,}000}{34{,}000} = 12\%$	$\frac{8{,}182}{40{,}909} = 20\%$
$\frac{\text{Net operating profit}}{\text{Sales}}$	$\frac{5{,}000}{44{,}000} = 11\%$	$\frac{4{,}091}{40{,}909} = 10\%$
$\frac{\text{Net profit}}{\text{Owners' equity}}$	$\frac{4{,}000}{34{,}000} = 12\%$	$\frac{3{,}901}{28{,}250} = 14\%$
ROCE	$\frac{5{,}000}{44{,}000} = 11\%$	$\frac{4{,}901}{38{,}250} = 13\%$
Gearing	$\frac{10{,}000}{34{,}000} = 29\%$	$\frac{10{,}000}{28{,}250} = 35\%$

Although P and Q appear somewhat similar in overall profile, Q shows itself to be more efficient in its operations and use of resources through the third and fourth ratios. On the other hand, Q has a higher gearing ratio, which would tend to make potential future lenders slightly more wary of Q than of P, other things being equal.

7.2.

	20X2 (€000)	*20X3* (€000)
Workings		
Sales	541	675
less Cost of sales	369	481
Gross profit (GP)	172 (derived)	194 (derived)
GP/Sales	(172 × 100)/541 = 31.8%	(194 × 100)/675 = 28.7%
Closing reserves	53	82
Dividends proposed	20	30
	73	112
less Opening reserves	21	53
Net profit (NP)	52 (derived)	59 (derived)
NP/Sales	(52 × 100)/541 = 9.6%	(59 × 100)/675 = 8.7%
Sales/NAE	541/303 = 1.8 ×	675/432 = 1.6 ×
NP/NAE	(52 × 100)/303 = 17.2%	(59 × 100)/432 = 13.7%
CA/CL	188/92:1 = 2.0:1	269/162:1 = 1.7:1
QA/CL	102/92:1 = 1.1:1	92/162:1 = 0.6:1

GP/Sales	The deterioration could be due to a rise in purchase prices not passed on in increased selling prices and/or a change in sales mix, etc.
NP/Sales	Roughly in line with the decline in GP/Sales, it could also be caused by high administration and/or selling expenses.
Sales/NAE	The full-year effect of the increased investment has not yet materialized. In addition, year-end inventories have doubled, possibly indicating a build-up for a promotional drive.
NP/NAE	The decline is attributable to the combined effects of the two preceding ratios.
CA/CL	Working capital has increased, notably due to inventory and debtors. The inventory build-up, partly financed by an increase in creditors, has been noted above and this may be coupled with a planned (or lax) credit control.
QA/CL	The increased investment has produced a liquidity problem.

7.3.

	Mosca	*Vespa*
(i) Return on capital employed	$\frac{14,000}{90,000} = 15.5\%$	$\frac{4,000}{90,000} = 4.4\%$
(ii) Gross profit margin	$\frac{24,000}{144,000} = 16.6\%$	$\frac{20,000}{140,000} = 14.3\%$
(iii) Current ratio	$\frac{60,000}{24,000} = 2.5{:}1\%$	$\frac{65,000}{5,000} = 13{:}1$
(iv) Inventory turnover period	$\frac{20,000}{120,000} \times 365 = 61$ days	$\frac{10,000}{120,000} \times 365 = 30$ days
(v) Receivables collection period	$\frac{30,000}{144,000} \times 365 = 76$ days	$\frac{50,000}{140,000} \times 365 = 130$ days
(vi) Payables payment period	$\frac{240,000}{120,000} \times 365 = 73$ days	$\frac{5,000}{120,000} \times 365 = 15$ days

In broad terms, Mosca seems to be in the stronger position. As regards the profitability ratios, this is clearly so. As regards the liquidity position, Vespa obviously has the stronger current ratio. This is caused partly by its much lower payables figure and partly by its higher receivables figure. Vespa takes an average of 130 days to receive the money from its sales activities, which is definitely not favourable. Mosca has cash available to pay some of its creditors, but has not done so, presumably because there is no need to shorten the 73-day average payback period.

Chapter 8

8.1. See text (Sections 2.2 and 8.1), but avoid the unthinking use of technical phrases and formal definitions. Remember that it would be possible to define the terms differently from the IASB's definitions. Also, remember that not all elements meet the criteria for recognition in financial statements.

8.2. (a) No, traditional financial accounting based on the historical cost convention does not make the going concern convention unnecessary. Indeed, traditional and current practice relies heavily on the going concern convention. Inventory is evaluated on the assumption that it will eventually be sold in the ordinary course of business. Non-current assets are depreciated over their estimated useful lives to the business and this requires the assumption that the business will continue to operate over the period of those lives. Prepayments assume that the firm will operate and use the service acquired, because the basis of the accruals convention is that the business is a continuing operation. The going concern convention is, therefore, crucial to current accounting practice even though that practice is based on historical cost.

(b) The reason why a shareholder needs a report at all is to use it to influence some future action or decision. If this is not so, then the shareholder has no important use for the report, whatever its contents. However, the above does not strictly answer the question. The shareholder may well find a report on past events extremely useful as a guide to predicting future outcomes and future trends. Equally, however, the shareholder may find management's estimates of future events to be directly useful. Perhaps the short answer to the question is 'both'!

8.3. $A_1 + E_1 = L_1 + OE_0 + R_1$

Chapter 9

9.1. A (non-current) fixed asset may be distinguished from other types of asset in so far as it has all of the following characteristics:

- it is intended to be held by an entity for use in the production or supply of goods and services on a continuing basis;
- it is intended to have a life of more than one accounting period;
- it is not intended for sale in the ordinary course of business.

In a full answer, all these points could be illustrated.

9.2. The proposition as stated is certainly defensible. On the other hand, it could be suggested that:

(a) past information can be relevant if it improves the quality of estimates about the future;
(b) management cannot be allowed to produce its own estimates because they might introduce biases and accountants must therefore seek to confine themselves as far as possible to 'facts'.

Of course, even conventional accounting has large amounts of 'future' in it. For example, the definitions of 'asset' and 'liability' involve expectations. Also, estimates of the future are needed in order to measure change in, e.g.:

- receivables (expected receipts);
- depreciation (expected lives of assets);
- pension liabilities (expected lives and future pay levels of employees – see Chapter 11).

9.3. (a) Machine 1 is an operating lease as there is no transfer of the risks or rewards of ownership.
(b) Machine 2 involves a total payment of €12,000. Since this is much greater than €8,000, it implies (depending on the discount rate) that rewards of ownership are transferred. So, it is a finance lease.
(c) Machine 3 involves a total payment of €7,200 which, on present value terms, will never equate to anything approaching €8,000. Therefore, it is an operating lease.

9.4. Machine 1 will cause a simple expense at the rate of €250 per month, with corresponding reductions in the bank balance.

Machine 2 will involve an opening entry:

Dr Leasehold machine	8,000
Cr Lease liability	8,000

Each payment of €1,500 will contain some interest and some repayment of the liability. Thus:

Dr Interest expenses	X
Dr Lease liability	X
Cr Bank	1,500

Additionally there will be an annual depreciation charge based on the €8,000 cost figure.

Machine 3, being an operating lease like Machine 1, will involve an expense charge of the amounts due.

9.5. Briefly, there is no legal ownership of the tangible asset, but there is legal ownership of the right to use it. There is ownership and control over an economic resource. Are financial statements supposed to be about economic or legal situations? In the end, this question requires a consensus answer, because there is no

theoretical one. Furthermore, the exact economic rights and obligations depend upon the exact legal terms in the lease contract. Users interested in the protection of creditors would note that leased assets cannot be sold by the lessee. Those interested in the comparison of performance would note that the leasing arrangements have similar effects to a purchase, for a going concern. Even the creditors should be worried about the obligations of the lessee.

9.6. Assuming that an enterprise can keep its research findings secret or legally protected, then it can control the discoveries. Also, there seem to be past transactions. The problem with research is identifying the benefits and assessing whether or not they are probable. In conclusion, it seems reasonable to assume that there is often an asset resulting from research work, but not one reliable enough to be recognized. This is the conclusion of IAS 38.

Chapter 10

10.1. The inventory figure for production cost of manufactured items can certainly never be reliable in the sense that it involves no estimates. However, it can be precisely determined and precisely calculated, once the necessary arbitrary assumptions about overhead behaviour have been made. Such precision could be seen as improving comparability and therefore relevance.

10.2. (a) **Violas**. Since the inventory is reduced to nil by 30 September, profits under all historical cost assumptions will be the same, as differences in calculated profit arise in other cases only because of different assumptions about usage.

Thus we have a unified result for requirements (i)–(iii):

	€
Sales	2,700
Cost of sales	1,750
Gross profit	950
Value of closing inventory	250

(iv) However, under replacement cost:

		€	€
Sales			2,700
Cost of sales	31 March	400	
	30 June	350	
	30 September	900	
			1,650
Operating profit			1,050
Holding loss realized	1 April	50	
	30 November	50	
			100
Gross profit			950

(a) ***Cellos***

(i) FIFO:

	€	€
Sales		3,200
Purchases	3,600	
Closing inventory		
(1 @ 800)		
(1 @ 900)	1,700	1,900
Gross profit		1,300

(ii) LIFO:

	€	€
Sales		3,200
Purchases	3,600	
Closing inventory		
(1 @ 600)		
(1 @ 900)	1,500	2,100
Gross profit		1,100

(iii) Weighted average calculation:

Inventory to 30 June

2 @ 600	=	1,200
$\frac{1}{3}$ @ 700	=	700
		1,900

30 June weighted average = 633 (i.e. 1,900 ÷ 3)

2 @ 633	=	1,266
$\frac{1}{3}$ @ 800	=	800
		2,066

30 September weighted average = 689 (i.e. 2,066 ÷ 3)

1 @ 689	=	689
$\frac{1}{2}$ @ 900	=	900
		1,589 (closing inventory)

	€
Sales	3,200
Cost of sales	
1 @ 633	
2 @ 689	2,011
Gross profit	1,189

(iv) Replacement cost calculation:

As at 30 June, replacement cost of inventory	$= 3 \times 700$	=	2,100
Profit on sale		=	300
Holding gains		=	200
As at 30 September, replacement cost of inventory	$= 3 \times 800$	=	2,400
Profit on sale		=	600
Holding gains		=	200
As at 30 November, replacement cost of inventory	$= 2 \times 900$	=	1,800
Holding gain		=	100
Total operating profit		=	900
Total holding gains		=	500

(b) In relation to the various methods:

(i) FIFO seems to produce more up-to-date costs in the balance sheet.
(ii) LIFO seems to produce more up-to-date expense figures in the income calculation.
(iii) The weighted average method achieves neither of the above, or a bit of both, depending on your attitude.
(iv) The use of replacement cost achieves both, at the cost of more complexity and more subjectivity if actual replacement costs are used (rather than the price of the most recent purchase).

10.3. Schedule of number of units held:

1.	Beginning of 20X1	0
2.	End of 20X1	7,000
3.	End of 20X2	0
4.	End of 20X3	2,000

Chapter 11

11.1. This should cause a bit of thought. What about receipts for sales where the delivery has not yet been made? Presumably, these could be seen as amounts owing to customers. What if the expected cost to the business is less than the amount received from the customer? Conventionally, this would be shown as a form of liability, even when the expected outflow is smaller. Furthermore, a problem occurs with the treatment of government grants received in relation to assets. These are often shown as 'deferred income', which is presented outside equity. This treatment seems doubtful, but the topic is beyond the scope of this book. What about balances of depreciation and balances for possible bad debts? These are credit balances in the detailed accounting records, although they are likely to be shown as deductions on the asset side of the balance sheet. They are sometimes called 'provisions' but they would be better described as 'allowances' or 'value adjustments'. The proper word in IFRS for the bad debts is 'impairments'.

11.2. The point is that, if provisions are overstated, then expenses and liabilities are too large. This makes profit (and therefore reserves) too small. This can be called the creation of secret reserves. The point is almost certainly overstated in the

question, but the general direction of the argument is surely correct. Human attitude will always be a factor, but 'whim' can be influenced and perhaps controlled by the creation of professional norms and practices. Some would argue that legal or centrally inspired accounting plans can remove the human element, but others might reply that such plans are purely arbitrary and are indeed themselves created by human whim. There is scope for debate here!

11.3. In these circumstances, the authors would think that they had gained. The gain is reliably measurable and could be turned into cash with a telephone call. Note that a distinction between 'gained' and 'better off' does not seem useful. Surely, one is better off and that must mean one has gained. The gain meets the IASB's definition of 'income'. However, it is not the same type of income as cash received for selling inventory. Different types of income are presented differently in IFRS. For example, some gains are presented as 'other comprehensive income'.

11.4. Of course, the quotation contains an error in the sense that receivables are not valued at what the entity is owed. The entity has to estimate how much might not be received, then take account of any impairment. Also, the value of a receipt could reasonably be said to fall the longer one has to wait for it. The determination of discount rates is a notorious problem.

Chapter 12

12.1. Of course, tax regulations in any country are likely to affect the economic behaviour of managers. This would be reflected in the financial statements. However, let us assume that the question refers to a more direct effect of tax on accounting practices.

One would expect major influence in countries where accounting practice must follow tax rules. There would also be influence where accounting practice tends to follow tax rules, because of the absence of accounting rules on a particular topic or because of the need to establish deductibility for tax purposes or to avoid taxable gains. This issue is addressed in Chapter 5.

It is clear that the effect of tax on asset valuation, depreciation and impairment is larger under German national accounting rules for unconsolidated statements than it is in, for example, the United Kingdom. In general, in many continental European countries, because tax calculations are based closely on accounting numbers, tax minimization involves avoiding upward valuations, maximizing depreciation within the tax limits, seeking ways of writing down assets and increasing provisions. To a large extent, such activities would have little effect on tax liabilities in the United Kingdom or the United States. Furthermore, companies in capital market countries would be wary of the potential commercial disadvantages of making their financial statements look less attractive.

In principle, it ought to be possible to relieve the consolidated financial statements from some of these pressures, because such statements are not relevant for tax purposes in most countries. The EU Seventh Directive allows group accounts to use different rules from parent accounts. In 1998, laws were passed in Germany and several other countries enabling the use of international standards in consolidated statements and this became compulsory for EU listed companies for 2005 onwards.

12.2.

Year	*1*	*2*	*3*	*4*
Tax balances				
Asset balance 1 January	7,000	9,600	12,480	15,584
Additions	5,000	6,000	7,000	–
Depreciation (20%)	2,400	3,120	3,896	3,117
Balance 31 December	9,600	12,480	15,584	12,467
Accounting balances				
31 December (as question)	13,500	17,550	22,095	19,885
Temporary difference	3,900	5,070	6,511	7,418
Deferred tax liability	1,170	1,521	1,302	1,484
Effect on income statement		−351	+219	−182

Chapter 13

13.1. The statement that expenses and incomes are subjective is in general correct, although there can be very large variations in degree of subjectivity. For example, the wages expense is not very subjective but the depreciation expense is. Whilst past cash flows are facts in the sense that they have demonstrably happened, their timing – and, indeed, their existence – can be manipulated by management. For example, management could make cash flow look good by:

(a) postponing the purchase of necessary non-current assets;
(b) selling non-current assets that are needed;
(c) selling valuable investments that had originally been intended to be held for the long term;
(d) borrowing money just before the year end and paying it back just after;
(e) postponing all payments in the last month of the year until the first day of next year.

The implications for trend considerations of such manipulation could be considerable.

13.2. The first major figure to look at is the net cash flow provided by operating activities, of 5,060 million, which is larger than the operating profit, mainly because of the depreciation charges, which have no cash effect. A large amount of this has been used in net investing activities, which can be expected to lead to future profits and positive cash flows. Unusually, this non-financial company bought a large amount of short-term financial assets. The interest and dividends paid are both sizeable and the retirement of old debt exceeds the creation of new debt by some 400 million. The net effect of all this is that the cash and cash equivalents figures between the start and the end of the year have fallen by over 1 billion. However, the balance still seems large, especially when added to the short-term financial assets. Perhaps a key question is what Bayer intends to do with all this money.

Chapter 14

14.1. See text. Briefly:

(a) a subsidiary implies control, usually through majority shareholding or dominant influence;

(b) a joint venture implies joint control by two or more parties;
(c) an associate implies significant influence, without control or dominant influence;
(d) an investment in shares implies a relatively passive role, with no significant influence.

With a subsidiary, the usual approach is consolidation, including complete combination of individual enterprise accounting statements, with any necessary recognition of non-controlling interests. With an associate, the IFRS approach is equity accounting, where the investment figure is increased by the appropriate proportion of the success of the associate, i.e. in effect a one-line proportional consolidation. With a joint venture, equity accounting is required under IFRS from 2013, but line-by-line proportional consolidation was previously allowed and is required under French GAAP. With an investment in shares, no benefits are taken into the consolidated income statement except for dividends.

Note that there may be practical difficulties of differentiation that underlie the above apparently straightforward distinctions.

14.2.

Consolidated balance sheet as at 30.6.X8

	€000
Assets	
Goodwill (Note 1)	50
Land and plant	1,200
Inventory (1,000 – 10)	990
Receivables (240 – 2)	238
	2,478
Liabilities	
Payables (46 – 2)	44
	2,434
Represented by	
Ordinary A1 shares	1,000
Reserves (Note 2)	1,280.5
	2,280.5
Non-controlling interest (Note 3)	153.5
	2,434

	€	€
Note 1		
Cost of investment in B		275
less Ordinary shares acquired	75	
Reserves acquired 75% × 200	150	225
Goodwill on acquisition		50
Note 2		
Reserves A		1,045
Reserves since acquisition of B		
75% (524 – 10 – 200)		235.5
		1,280.5
Note 3		
Non-controlling interest		
25% ordinary shares		25
25% reserves = 25% × 514		128.5
		153.5

Chapter 15

15.1. (a)

Loan–Debtor

	€		€
Year 1	10,000	Loss on loan	500
		Balance carried down	9,500
	10,000		10,000
Year 2 balance brought down	9,500		
Gain	1,000	Balance carried down	10,500
	10,500		10,500
Year 3 balance brought down	10,500	Cash	10,600
Gain	100		–
	10,600		10,600

(b) The transactions would be handled thus under IFRS:

- year 1, loss of €500 taken to profit or loss;
- year 2, gain of €1,000 taken to profit or loss;
- year 3, gain of €100 taken to profit or loss.

15.2. (a) Closing rate method (foreign functional currency)

Income statement for year to 31 December 20X0

	Rate of exchange	*FC*
Net profit	2	150
Taxation	2	75
		75
Dividend	2	30
		45

Balance sheet as at 31 December 20X0

	Rate of exchange	*FC*	*FC*
Non-current assets	2		165
Inventory	2	180	
Receivables	2	120	
		300	
Payables	2	120	180
			345
Ordinary share capital	3		200
Retained profits (from above)			45
Reserves – exchange difference			100
			345

(b) Temporal rate method (parent's currency functional)

Income statement for year to 31 December 20X0

	Rate of exchange	*FC*	*FC*
Sales	2.5		600
Opening inventory	3	80	
Purchases	2.5	480	
		560	
Closing inventory	2	180	380
			220
Depreciation	3		40
			180
Taxation	2		75
			105
Dividends	2		30
			75
Gain on exchange (from balance sheet)			15
			90

Balance sheet as at 31 December 20X0

	Rate of exchange	*FC*	*FC*
Non-current assets	3		110
Inventory	2	180	
Receivables	2	120	
		300	
Payables	2	120	180
			290
Ordinary share capital	3		200
Retained profits (75 + balance 15)			90
			290

Chapter 16

16.1. (a) Nine ratios are readily available.

	A	*B*
Gearing	$\frac{100}{200} = 50\%$	$\frac{130}{650} = 20\%$
Working capital	$\frac{180}{160} = 9{:}8$	$\frac{200}{120} = 5{:}3$
Quick assets	$\frac{100}{160} = 62\%$	$\frac{100}{120} = 83\%$
ROE	$\frac{30}{100} = 30\%$	$\frac{100}{520} = 19\%$
ROCE	$\frac{30 + 10}{200} = 20\%$	$\frac{100 + 13}{650} = 17\%$
$\frac{\text{Gross profit}}{\text{Sales}}$	$\frac{600}{1{,}000} = 60\%$	$\frac{1{,}000}{3{,}000} = 33\%$

	A	*B*
$\frac{\text{Net profit}}{\text{Sales}}$	$\frac{30}{1{,}000} = 3\%$	$\frac{100}{3{,}000} = 3\%$
$\frac{\text{Debtors} \times 365}{\text{Sales}}$	$\frac{100 \times 365}{1{,}000} = 36$ days	$\frac{90 \times 365}{3{,}000} = 11$ days
$\frac{\text{Creditors} \times 365}{\text{Cost of sales}}$	$\frac{110 \times 365}{400} = 100$ days	$\frac{120 \times 365}{2{,}000} = 22$ days

(b) Although A and B have very similar net profit to sales percentages, they reach this point in different ways. A has a high gross profit percentage (lower turnover, higher margin) and a higher ROCE. Its materially higher gearing ratio turns this slightly higher ROCE into a considerably higher ROE. From a shareholder viewpoint, most of this makes A sound preferable to B, but it should be remembered that B has more 'slack' in its structure. A lender might well feel happier granting further loans to B, because it has a lower gearing ratio and better liquidity ratios. A's receivables' payback and – particularly, and, worryingly – payables' payback periods are much higher.

It must be noted that B's balance sheet includes a large revaluation of its land. This is a major change in accounting policy and distorts the comparison of the figures considerably. In terms of return on *original* investments, ROE and ROCE for B are considerably understated. Perhaps more usefully in terms of return on current value invested, ROE and ROCE for A are overstated.

16.3. In three words, the problem is: different accounting policies. Many examples can be given, as Part 2 has discussed in some detail. Note, however, that if two enterprises treat an apparently similar problem in different ways, then this *may* be because the economic circumstances and implications are genuinely different. This limitation is being addressed by companies and regulators by moving towards an internationally agreed set of accounting rules. In the meantime, analysts have to try to adjust financial statements to a common benchmark.

Another limitation on analysis is that non-financial factors are not easily included but should be taken into account.

Chapter 17

17.1. Now you are on your own. It is not easy, but it is what real-life international accounting is all about!

Glossary of terms

This glossary is primarily written in English, as used by the International Accounting Standards Board. Much of this is British English, although we include many cross-references to US English. Many continental European companies translate their financial statements into a form of mid-Atlantic English.

Terms used in an entry that are themselves defined elsewhere in the glossary are shown in small capitals.

accelerated depreciation DEPRECIATION that is either at a faster rate than would be suggested by an asset's expected life or using methods that charge proportionately more DEPRECIATION in earlier years. This is most commonly found in the context of tax concessions designed to encourage investment. For the calculation of taxable income in such cases, businesses would be allowed to depreciate certain assets (such as energy-saving devices or assets in depressed regions) more quickly than accountants otherwise would. This occurs in many countries.

account A record of all the bookkeeping entries relating to a particular item. For example, the wages account would record all the payments of wages. An account in the double-entry system has a debit side (left) and a credit side (right). Often accounts are referred to as T-accounts because of the rulings on the page that divide the left from the right and underline the title. Of course, pages have now generally been replaced by spaces on a computer file.

A business may have thousands of accounts, including one for each DEBTOR (receivable) and CREDITOR (payable). In the early days of accounting, there were only these personal accounts (relating to people who owed and were owed money). Later, there were 'real' accounts for property of various sorts and 'nominal' accounts for impersonal, unreal items such as wages and electricity. Accounts may be collected together in groups in ledgers, or, books of account.

'Accounts' may also mean financial statements, such as BALANCE SHEETS and INCOME STATEMENTS.

accountability The major original purpose of accounting, so that the owners of resources (now, e.g. shareholders) can check up on the managers or stewards of those resources (now, e.g. boards of directors). This concept is also called 'stewardship'.

accountancy and accounting Terms used interchangeably by many people. However, in the United Kingdom it tends to be, for example, the *accountancy* profession, but management *accounting*. That is, accountancy tends to be associated with the profession and accounting with the subject matter, particularly in the context of education or theory. In the United States, the word 'accountancy' is rarer.

accounting policies The detailed methods of valuation and MEASUREMENT that a particular company has chosen from those generally accepted by law, accounting

standards or commercial practice. These policies must be used consistently from item to similar item and, generally, from year to year.

accounting principles In the United States, conventions of practice, but in the United Kingdom something more fundamental and theoretical. Thus, the American GENERALLY ACCEPTED ACCOUNTING PRINCIPLES encompass a wide range of broad and detailed accounting rules of practice.

accounting standards Technical accounting rules of RECOGNITION, MEASUREMENT and disclosure set by committees of accountants. The exact title of accounting standards varies from country to country. The practical use of the words seems to originate officially with the Accounting Standards Steering Committee (later the Accounting Standards Committee) in the United Kingdom in 1970.

accounts payable US (and now IASB) expression for amounts owed by the business, usually as a result of purchases in the normal course of trade from suppliers who allow the business to pay at some point after purchase. Discounts will often be allowed for early payment of such accounts. The total of accounts payable at the period end form part of CURRENT LIABILITIES on a BALANCE SHEET. The British term is 'trade CREDITORS'.

accounts receivable US (and now IASB) expression for the amounts to be paid to the business by outsiders, normally as a result of sales to customers who have not yet settled their bills. The equivalent UK term is 'trade DEBTORS'. Accounts receivable are valued at the amount of the accounts, less an ALLOWANCE or IMPAIRMENT (sometimes called a PROVISION in UK terminology) for any amounts thought likely to be uncollectable. Those that are fairly certain to be uncollectable are bad debts; there may also be allowances for specific amounts expected to be uncollectable and general allowances against the total of accounts receivable. The general allowances would be calculated in the light of experience with bad debts. In certain countries, the size of allowances is, in effect, controlled by the amounts allowed for tax purposes. After taking into account these allowances, the total of accounts receivable will be part of CURRENT ASSETS on a BALANCE SHEET.

accruals basis of accounting The standard practice of concentrating on the period to which an expense or income relates rather than on the period in which cash is paid or received. Part of it is the MATCHING principle. More details are given under that heading.

accrued expenses (or accruals) Expenses that relate to a year but for which payment will not be made until the following year. RECOGNITION of accrued expenses results from the need regularly to draw up financial statements at a fixed time (e.g. at the end of a company's year).

During a year, electricity will be used or properties will be rented, yet at the year end the related bills may not have been received. Thus, at the year end, 'accrued' expenses are charged against income by accountants even though cash has not been paid or the bills even received. The double entry for this is the creation of a CURRENT LIABILITY on the balance sheets. This practice may apply also to wages and salaries, taxes and so on. An allocation of amounts to 'this year' and 'next year' may be necessary where a supplier's account straddles two accounting years. The practice is an example of the use of the MATCHING concept.

Similarly, some accounts of suppliers that are paid in any year may be wholly or partly paid on behalf of the activities of the next year. In this case, the relevant expenses for the year will have to be adjusted downwards by the accountant and a CURRENT ASSET called 'prepayments' recorded on the balance sheet. Thus, payments of property taxes and insurance premiums may be partly prepayments.

accumulated depreciation The total amount by which the accounting value of a NON-CURRENT ASSET has so far been reduced to take account of the fact that it is wearing out or becoming obsolete (see DEPRECIATION).

acid test The name sometimes given to a ratio of some of a business's liquid assets to some of its short-term debts. It is thus one test of the likelihood of liquidity problems. It is also called the quick ratio. A common formula is to express the CURRENT ASSETS except for INVENTORIES as a proportion of the CURRENT LIABILITIES.

activity-based costing (ABC) The practice of relating as many expenses as possible, often previously regarded as overheads, to particular production activities.

allowances US expression for amounts charged against profit for reductions in value (or IMPAIRMENTS) of assets.

amortization DEPRECIATION of INTANGIBLE ASSETS.

annual general meeting (AGM) The meeting at which shareholders may question directors on the contents of a company's annual report and financial statements; vote on the directors' recommendation for DIVIDENDS; vote on replacement for retiring members of the Board; appoint auditors and conduct other business within the company's rules.

asset According to the IASB's CONCEPTUAL FRAMEWORK: a resource controlled by an entity, as a result of past events, from which future economic benefits are expected to flow to the entity.

associate (or associated company) IASB or British term for an entity over which another has SIGNIFICANT INFLUENCE. The term is not so well known in the United States. According to IAS 28 and the EU Seventh DIRECTIVE, a company will be presumed to be an associate if it is owned to the extent of 20 per cent or more and is not a subsidiary or joint venture (see CONSOLIDATED FINANCIAL STATEMENTS).

auditing standards Rules for the practice of auditors, formalized in a similar way to the technical rules of ACCOUNTING STANDARDS. The rules contain ethical guidelines as well as detailing the work to be covered by an audit and the standard practice for the audit report.

authorized share capital The maximum amount of a particular type of share in a particular company that may be issued. It may be interesting information to shareholders as it puts a limit on the number of co-owners.

average cost (AVCO) In the context of INVENTORY valuation, a method of determining the HISTORICAL COST of a particular type of inventory. As its name suggests, the cost of any unit of inventory or material used is deemed to be the average of the unit costs at which the inventory was bought. The average can be worked out at set intervals or each time there is a further purchase. AVCO is allowed by IAS 2 and by the EU Fourth DIRECTIVE and is a common practice in some countries. See FIFO and LIFO.

balance sheet A snapshot of the accounting records of ASSETS, LIABILITIES and EQUITY of a business at a particular moment, most obviously the accounting year end. The balance sheet is the longest established of the main financial statements produced by a business. As its name suggests, it is a sheet of the balances from the double-entry system at a particular time. It is important to note that it is probably neither a snapshot of what the business is *worth* nor of what the separate assets are worth. This is because not all the business's items of value are recognized by accountants as ASSETS, and because the asset valuation methods used are normally based on past costs rather than on present market values. As part of an attempt to give the balance sheet more meaning, the IASB has adopted the term 'STATEMENT OF FINANCIAL POSITION' instead.

Big Four (formerly Big Eight, then Big Six, then Big Five) An expression used to describe the world's largest accounting firms, which have offices virtually throughout the world. In alphabetical order these are:

- Deloitte (or Deloitte Touche Tohmatsu)
- Ernst & Young
- KPMG (standing for Klynveld Peat Marwick Goerdeler)
- PricewaterhouseCoopers

business combinations Acquisitions or mergers involving two or more business entities.

capital allowances A system of DEPRECIATION used in the determination of taxable income in the UK and Ireland. This tends to be more generous than the depreciation that accountants charge for financial accounting purposes.

capital employed The aggregate finance used by a business. Sometimes the expression is used to refer to the total of all LIABILITIES and capital; sometimes it means 'net capital employed' – i.e. it can exclude CURRENT LIABILITIES.

capital lease US term for FINANCE LEASE.

capitalization The inclusion of an item in a BALANCE SHEET. See also RECOGNITION.

cash flow Sometimes used to refer very loosely to the amount of cash coming into or out of a business in a particular period. However, it can be used as a more precise accounting term, particularly in North America, to refer to NET INCOME with DEPRECIATION charges added back. The latter will have been deducted in the calculation of the former but is not of course a cash payment of the period in question. Thus, profit plus depreciation gives an impression of cash generated by trading operations. This is not very exact, particularly because of changes in INVENTORY (stocks) and because of outstanding credit SALES and purchases that have been included in the calculation of profit but will not yet have led to cash movements. However, as a quick measure it may have its uses.

cash flow statements Financial statements that concentrate on the movement of cash (or cash and cash equivalents) in the year, rather than using the ACCRUALS BASIS.

closing rate method UK term for the method of foreign currency translation, whereby the BALANCE SHEET items of a subsidiary are translated at the balance sheet rate of exchange, and the INCOME STATEMENT items translated at that rate or at the average for the period.

common stock US term for the ORDINARY SHARES in a corporation. Normally a majority of the ownership capital will comprise issues of common stock, though PREFERENCE/PREFERRED SHARES are also issued by some companies.

comprehensive income All the gains and losses recorded for a period, not just those recorded in profit or loss.

conceptual framework A theoretical structure to underlie the technical rules in accounting. Several standard-setting bodies have published such frameworks since the mid-1970s, beginning in the USA. The IASC published its Framework in 1989 and amended parts of it in 2010.

conservatism The fundamental and ancient accounting concept that accountants should, when in doubt, show the worse picture rather than the better. Conservatism requires that assets should be shown at the lowest of all reasonable values; all foreseeable losses should be accounted for immediately, but profits should never be recorded until they become REALIZED. See also PRUDENCE.

consistency The concept that a company should use the same rules of MEASUREMENT and valuation from item to item and from year to year in its financial statements. This is now well established in most developed countries. A company may be allowed to change in special circumstances, e.g. an alteration in ACCOUNTING STANDARDS, but the change should always be disclosed in the annual report. The purpose of consistency is to enable a better comparison of a year's profits and values with those of previous years. The concept that different *companies* should use the same rules to assist intercompany comparisons might be called UNIFORMITY.

consolidated financial statements A means of presenting the position and results of a PARENT and its subsidiary companies as if they were a single entity. Consolidation ignores the separation of PARENTS and subsidiaries due to legal and geographical factors; it accounts for the group of companies as if they were a single entity. Approximately, the financial statements of all the companies in a group are added together, with adjustments to extract intra-group trading and indebtedness.

contingent liabilities Possible future obligations or present obligations that have no probable outflow or are unquantifiable. They are not accounted for, in the sense of adjusting the financial statements, but are explained in the notes to the BALANCE SHEET.

creative accounting The stretching of the rules of financial reporting in order to present a better picture of an entity.

creditor A 'truster', i.e. someone to whom a business owes money. The US expression (now adopted by the IASB) is ACCOUNTS PAYABLE. Creditors are generally created by purchases 'on credit' but would include tax bills. Short-term creditors are included under 'CURRENT LIABILITIES' on a BALANCE SHEET; they are expected to be paid within the year. If credit purchases are the cause, the title used might be 'trade creditors'.

'Long-term' creditors are those who are not expected to be paid within the year. These might be trade creditors but would more likely be holders of bonds or debentures. The latter would normally be entitled to receive interest, whereas trade creditors are generally not. However, trade creditors often offer discounts for prompt payment, which is an implied way of charging interest.

current asset An ASSET on a BALANCE SHEET that is not intended for continuing use in the business or is expected to turn into cash within one year. Such assets include INVENTORIES, ACCOUNTS RECEIVABLE (US)/DEBTORS (UK) and cash. Also, a BALANCE SHEET may include CURRENT ASSET investments.

current cost accounting (CCA) One of many possible systems designed to adjust accounting for changing prices. It is often included under the generic heading INFLATION ACCOUNTING, although its normal form does not involve adjustments for inflation but for specific price changes relating to the business's ASSETS.

current liabilities Generally, those amounts on a BALANCE SHEET that are expected to be paid by the business within a year. Thus they will include trade CREDITORS (UK)/ACCOUNTS PAYABLE (US) and certain tax liabilities. Bank overdrafts are included on the grounds that they fluctuate in size and are technically recallable at short notice.

current purchasing power (CPP) accounting A UK term for the method of adjusting HISTORICAL COST ACCOUNTING financial statements to take account of inflation. The US equivalent is GENERAL PRICE LEVEL-ADJUSTED or constant dollar accounting.

current rate method The US term for a method of foreign currency translation. The UK term is CLOSING RATE METHOD, although this implies some greater flexibility in the choice of rates.

current ratio The CURRENT ASSETS divided by the CURRENT LIABILITIES of an entity at a particular date.

debtors In a BALANCE SHEET, debtors are usually mostly trade debtors, i.e. customers who have not yet paid cash. The US (and now IASB) terminology is ACCOUNTS RECEIVABLE. Such amounts are shown as CURRENT ASSETS because they are generally expected to be paid within a year.

deferred tax Under IASB or US rules, the tax related to TEMPORARY DIFFERENCES between the financial reporting value of an ASSET or LIABILITY and its tax basis.

depreciation A charge against the income of a period to represent the wearing out, usage or consumption of NON-CURRENT (FIXED) ASSETS in that period. So, machinery and equipment, vehicles and buildings are generally depreciated, although land normally is not. The technique of depreciation means that accountants do not charge the whole cost of a fixed asset against the income of the year of purchase, but they charge it gradually over the years of the use and wearing out of the asset.

deprival value The amount by which a business would be worse off if it were deprived of a particular ASSET.

Directives of the EU on company law Blueprints for laws that must be enacted as laws throughout the European Union. This is part of the process of harmonization of company law and accountancy. The European Commission drafts Directives, which are then adopted by the Council of Ministers and implemented in national laws. The most important Directives for accounting are the Fourth and the Seventh, replaced by a revised Directive in 2013.

discounted cash flow (DCF) Future CASH FLOWS, adjusted to take account of their timing. Such 'discounted' cash flows are calculated when making investment choices between competing projects. The most reliable method of deciding which project is best and whether or not any particular one is worth doing is to work out each project's net PRESENT VALUE (NPV) by adding up all the discounted expected net cash flows. The NPV calculation will include the outflow of the initial investment. A project with a positive NPV is worth doing; the project with the highest NPV is the best. DCF is also used in financial reporting, e.g. to measure the RECOVERABLE AMOUNT of an impaired asset.

dividend A payment by a company to its shareholders out of the profits made by the company.

earnings A technical accounting term, meaning the amount of profit (normally for a year) available to the ordinary shareholders (UK)/common stockholders (US). That is, it is the profit or loss after all operating expenses, interest charges, taxes and DIVIDENDS on PREFERRED/PREFERENCE stock. Earnings does not include OTHER COMPREHENSIVE INCOME.

earnings per share (EPS) The most recent year's EARNINGS divided by the average number of ORDINARY/COMMON SHARES outstanding in the year.

efficient market hypothesis An elegant and important theory, usually applied to the price of shares on large stock exchanges, that all publicly available information is immediately taken into account in the price of shares. In markets such as the New York or London stock exchanges, there are many buyers and sellers of shares, the prices are well known and much other information is freely available. In such cases, one would expect that new, relevant information about a company would very rapidly affect its share price.

equity An element of the balance sheet showing the owners' interests. It is equal to the total ASSETS minus the total LIABILITIES.

equity method A method used, particularly as part of the preparation of CONSOLIDATED FINANCIAL STATEMENTS, for the inclusion of ASSOCIATES (those entities over which a group has 'SIGNIFICANT INFLUENCE' but not a controlling interest) and for some joint ventures.

exceptional items A former UK expression for those items in a PROFIT AND LOSS ACCOUNT that are within the ordinary activities of the business but are of unusual size. The treatment for these is to disclose them separately in the account or the notes to it. Such items are to be distinguished from EXTRAORDINARY ITEMS.

exposure drafts Documents that precede the issue of ACCOUNTING STANDARDS. They are intended to attract response from companies, auditors, academics, investment analysts, financial institutions, etc.

extraordinary items Gains or losses that are outside the ordinary activities of the business, are of material size and are not expected to recur. The narrowness of interpretation of this expression differs greatly internationally. Under IASB rules, such a category is no longer shown.

fair presentation The overall objective of financial statements under IFRS. The term is similar to TRUE AND FAIR VIEW.

fair value The price that would be received for an ASSET sold or paid to transfer a LIABILITY in an orderly transaction between participants in a market at the MEASUREMENT date. For example, ASSETS and LIABILITIES of new subsidiaries are brought into consolidated ACCOUNTS at fair values rather than book values. This is designed to be an estimate of their cost to the group at the date of acquisition of a subsidiary. Fair value is not adjusted for the costs of buying or selling.

FEE The Fédération des Experts Comptables Européens, a Brussels-based body of European professional accountancy institutes.

FIFO (first in, first out) A common assumption for accounting purposes about the flow of items of raw materials or other INVENTORIES. It need not be expected that this corresponds with physical reality but may be used for accounting purposes. The assumption is that the first units to be received as part of INVENTORIES are the first ones to be used up or sold. This means that the most recent units are deemed to be those left at the period end. When prices are rising, and assuming a reasonably constant purchasing of materials, FIFO leads to a fairly up-to-date closing inventory figure. However, it gives an out-of-date and therefore low figure for the cost of SALES. This leads to what many argue is an overstatement of profit figures when prices are rising.

finance lease A contract that transfers, substantially, the risks and rewards of an ASSET to the lessee.

financial instrument A contract involving the creation of a financial ASSET of one entity and a financial LIABILITY or EQUITY instrument of another entity.

fiscal year US expression for the period for which companies prepare their annual financial statements. The majority of US companies use 31 December as the fiscal year end, which corresponds with the year end for tax purposes. In the United Kingdom, the expression 'fiscal year' means tax year.

fixed assets The UK term for NON-CURRENT ASSETS.

gearing A measurement of the degree to which a business is funded by loans rather than SHAREHOLDERS' EQUITY. The US expression is LEVERAGE.

generally accepted accounting principles (GAAP) A technical term, particularly used in the United States, to include the ACCOUNTING STANDARDS of the Financial Accounting Standards Board and extant rules of predecessor bodies. Also included are the rules of the SECURITIES AND EXCHANGE COMMISSION (SEC).

general price level-adjusted accounting (GPLA) A US term for a system of adjusting HISTORICAL COST ACCOUNTING by price indices to take account of inflation. It is also called constant dollar accounting or, in the United Kingdom, CURRENT PURCHASING POWER ACCOUNTING.

going concern An important underlying concept in accounting practice. The assumption for most businesses is that they will continue for the foreseeable future. This means that, for most businesses, the break-up or forced sale value of the assets is not relevant.

goodwill The amount paid for a company in excess of the FAIR VALUE of its NET ASSETS at the date of acquisition. Goodwill exists because a GOING CONCERN business is

usually worth more than the sum of the accounting values of its identifiable NET ASSETS. This may be looked upon as its ability to earn future profits above those of a similar newly formed company or it may be seen as the 'goodwill' of customers, the established network of contacts, loyal staff, skilled management and so on.

group accounts UK expression for CONSOLIDATED FINANCIAL STATEMENTS.

historical cost accounting The conventional system of accounting, widely established throughout the world except in some countries where inflation is endemic and high. Even in the latter countries, the GENERAL PRICE LEVEL-ADJUSTED system is a set of simple adjustments carried out annually from historical cost records. Under IFRS, many assets are measured at historical cost, but some (e.g. equity instrument financial assets) are held at FAIR VALUE.

holding company A company that owns or controls other entities. In the narrow use of the expression, it implies that the company does not actively trade but operates through various subsidiaries.

IASB See INTERNATIONAL ACCOUNTING STANDARDS BOARD.

IFRS When used collectively, all the extant accounting standards and interpretations issued by the IASB and its predecessor.

IFRS Foundation A trust that is the parent body of the IASB.

IFRS for SMEs A version of IFRS designed for entities without public ACCOUNTABILITY, mainly unlisted companies.

impairment The loss of value of an ASSET below its book value (i.e. generally, its depreciated cost). Under IAS 36, impairment is measured by comparing the book value with the RECOVERABLE AMOUNT (usually the DISCOUNTED CASH FLOWS expected from the ASSET).

income statement The statement of income and expenses of a particular period. However, the term might to be used to describe the first part of a comprehensive income statement, leading to the calculation of NET INCOME or NET PROFIT. The format of the income statement is either 'vertical'/'statement' form or 'horizontal'/'two-sided'/'account' form.

The equivalent UK statement is the PROFIT AND LOSS ACCOUNT. See OTHER COMPREHENSIVE INCOME.

inflation accounting Usually interpreted as encompassing various systems that might adjust or replace HISTORICAL COST ACCOUNTING to take account of changing prices. Many such systems are poorly described by the term, because they do not involve a RECOGNITION of general price-level movements. Systems that do adjust for inflation are called CURRENT PURCHASING POWER ACCOUNTING (UK), GENERAL PRICE LEVEL-ADJUSTED ACCOUNTING (US) or constant dollar accounting (US).

intangible assets ASSETS, e.g. patents or brands, that are not physical/tangible or monetary. Technically, in IFRS, GOODWILL falls outside of the definition, but it is generally regarded as an intangible asset.

interim dividend DIVIDEND payment based on the profits of less than a full accounting period.

interim report A half-yearly or more frequent report generally from companies listed on a stock exchange.

International Accounting Standards Board (IASB) The standard-setting body set up in 2001 by the International Accounting Standards Committee Foundation (now the IFRS Foundation), as a private-sector trust.

International Accounting Standards Committee (IASC) An organization the purpose of which was to devise and promulgate international standards in order to reduce the variation of practices in financial reporting throughout the world. It was founded in 1973 by accountancy bodies and replaced in 2001 by the IASB.

International Federation of Accountants (IFAC) A body comprising representatives from the accountancy professions of many nations. It was formed in 1977 and is based in New York. Its largest task is the organization of the four-yearly World Congresses of Accountants. It also has committees that promote international harmonization of auditing and management accounting. However, it leaves the area of accounting standards to the IASB.

International Financial Reporting Interpretations Committee (IFRIC) A subsidary committee of the IASB that issues interpretations of standards. It is now called the IFRS Interpretations Committee.

inventories Raw materials, work-in-progress and goods ready for sale. In the United Kingdom, the word 'stocks' is generally used instead.

investment properties Land or buildings held by a business for investment or rental income, rather than for owner occupation or as inventory.

lease A contract whereby one party (the lessor) agrees to give the use of an ASSET to another party (the lessee) in exchange for a rental payment.

leverage US term for the degree to which a business is funded by loans rather than by SHAREHOLDERS' EQUITY. In a profitable highly levered company, a percentage increase in trading profit will be magnified by the time it reaches the stockholders, because the return to the lenders is a fixed amount of interest. The equivalent UK expression is GEARING.

liabilities Present obligations of an entity, arising from past events, the settlement of which is expected to result in an outflow of resources (usually cash). Most liabilities are of known amount and date. They include long-term loans, bank overdrafts and amounts owed to suppliers. There are current and non-current liabilities. The former are expected to be paid within a year from the date of the BALANCE SHEET on which they appear. Most measures of liquidity include knowing the total of current liabilities; NET CURRENT ASSETS is the difference between the current assets and the current liabilities.

Liabilities are valued at the amounts expected to be paid at the expected maturity date. In some cases, amounts that are not quite certain will be included as liabilities (PROVISIONS); they will be valued at the best estimate available.

LIFO (last in, first out) One of the methods available under US rules (but not under IAS 2) for the calculation of the cost of INVENTORIES, in those frequent cases where it is difficult or impossible to determine exactly which items remain or have been used. When prices are rising, LIFO will lead to more up-to-date values for the use of

inventory in cost of SALES and, thus, lower profits. Therefore, it is popular with many companies in Germany, Italy and the United States, where it is allowed for tax purposes.

However, an inventory value shown in a BALANCE SHEET may be seriously misleading as it can be based on very old prices.

matching A convention that the expenses and REVENUES measured in order to calculate the profit for a period should be those that can be related together for that period.

materiality A concept in IFRS accounting that rules need not be strictly applied to unimportant amounts and that financial statements should not be swamped by unimportant items. For example, some companies may have very small amounts of a particular income, expense, ASSET or LIABILITY; if such an account would normally be shown in the financial statements, it nevertheless need not be if it is immaterial in size. This will help to make the statements clearer, by omission of trivial amounts. Materiality is also to be seen at work in the extensive rounding of numbers in financial statements.

Similarly, a strictly correct MEASUREMENT or valuation method may be ignored for immaterial items. For example, the fitting of new and improved door locks on an office building is strictly an enhancement of the building and should lead to that asset being shown at a higher cost in the relevant BALANCE SHEET. However, the cost will be immaterial in the context of the building, and CAPITALIZATION would complicate future depreciation charges. Thus, it would be normal to treat the new locks as an expense.

There is no precise definition of what is material. However, an item is immaterial if omission or mistreatment of it would not alter a reader's assessment of the financial statements. As a rule of thumb, this might be expressed as a few per cent of SALES or profit.

measurement The calculation of the value of an item to be recorded in a financial statement.

merger accounting A method of accounting for a business combination. In the United States it was (until 2001) in fairly common use, under the name of POOLING OF INTERESTS, under which heading more details may be found. The method is not now allowed under IFRS or US GAAP.

minority interests See NON-CONTROLLING INTERESTS.

net assets The worth of a business in accounting terms as measured from its BALANCE SHEET. That is, it is the total of all the recorded ASSETS less the LIABILITIES that are owed to outsiders. Naturally, this total equals the SHAREHOLDERS' EQUITY.

However, a business is nearly always worth more than its net assets, because accountants will generally have been using HISTORICAL COST ACCOUNTING as a MEASUREMENT basis, and because important assets such as the GOODWILL of customers will have been excluded. Thus, the market CAPITALIZATION of a company will nearly always be greater than its accounting 'net assets'.

net current assets The net current assets or WORKING CAPITAL of a business is the excess of the CURRENT ASSETS (such as cash, INVENTORIES and DEBTORS/ACCOUNTS RECEIVABLE) over the CURRENT LIABILITIES (such as trade payables and overdrafts).

This is a measure of the extent to which a business is safe from liquidity problems. See also CURRENT RATIO.

net income Normal US expression for NET PROFIT in UK terminology.

net profit Normal UK expression for the excess of all the incomes over all the expenses of a business for a period. The PROFIT AND LOSS ACCOUNT of a business will show the net profit before tax and the net profit after tax. The profit is then available for distribution as DIVIDENDS (assuming there is sufficient cash) or for transfer to various RESERVES. After any DIVIDENDS on PREFERENCE SHARES have been deducted, the figure may be called EARNINGS.

net realizable value (NRV) The amount that could be raised by selling an ASSET, less the costs of the sale. Normally, NRV implies a sale in the normal course of trade. Thus, there would also be a deduction for any costs to bring the ASSET into a saleable state.

nominal value Most shares have a nominal or par value. This is little more than a label to distinguish a share from any of a different value issued by the same company. Normally, the shares will be currently exchanged at above the nominal value, so the company will consequently issue any new shares at approximately the market rate.

DIVIDENDS may be expressed as a percentage of nominal value and share capital is recorded at nominal value, any excess being recorded as SHARE PREMIUM.

non-controlling interests The capital provided by group shareholders who are not PARENT company shareholders. Many subsidiary companies are not fully owned by the PARENT company. This means that they are partly owned by 'non-controlling' shareholders outside the group. In the preparation of consolidated financial statements, accountants bring in 100 per cent of all ASSETS, LIABILITIES, expenses and REVENUES of subsidiaries. This is because the group fully *controls* the subsidiary, even if it does not fully *own* it. In such financial statements, the subsidiary is subsumed into the rest of the group, and the capital provided by the non-controlling shareholders is separately recognized as part of the capital of the group. This amount grows each time the relevant subsidiary makes a profit that is not distributed.

In the consolidated INCOME STATEMENT, the share of the group profit owned by non-controlling interests is also shown separately.

These amounts were formerly called 'minority interests'.

non-current assets The assets that are to continue to be used in the business, such as land, buildings and machines, and certain INTANGIBLE ASSETS and investments. The complement is CURRENT ASSETS. The equivalent UK term is FIXED ASSETS.

off-balance sheet finance An entity's obligations that are not recorded on its balance sheet. One important example of off-balance sheet finance is the existence of LEASES that are not treated as ASSETS and LIABILITIES (capitalized). Suppose that a business decided to lease most of its plant and equipment rather than buying it. Suppose, too, that it does not capitalize its leases, because it or its leases fall outside the rules or because it is in a country where capitalization is not required. Now, let us compare this company with a similar one that has borrowed money and bought all its assets. The lessee apparently has few assets and few loans, whereas the buying company has many assets and many loans. Thus, the lessee will appear to have a much better GEARING/LEVERAGE position and a better return on capital. This is despite the fact

that it is using the same amount of ASSETS and has contracted to make LEASE payments for many future years.

In several countries (and under IFRS), it is now necessary for FINANCE LEASES to be capitalized as though owned and for an equal LIABILITY to be created. This adjusts for the otherwise misleading off-balance sheet finance. It expresses SUBSTANCE OVER FORM. There are many other ways of achieving off-balance sheet finance. In the context of CONSOLIDATED FINANCIAL STATEMENTS, it may be possible to exclude companies that are in substance subsidiaries.

ordinary shares The normal type of shares, called COMMON STOCK in the United States. They can be distinguished from PREFERENCE SHARES.

other comprehensive income (OCI) Various gains and losses required by ACCOUNTING STANDARDS to be excluded from profit or loss. Examples of OCI include actuarial gains and losses, and certain foreign currency gains and losses.

own shares Shares in a company bought back by the company from its shareholders. In the United States, own shares are called TREASURY STOCK. Under IFRS, they are called TREASURY SHARES.

paid-in surplus US expression for SHARE PREMIUM.

par value The normal US expression for NOMINAL VALUE.

parent An entity that controls another (the subsidiary).

pay-back method A popular technique for appraising the likely success of projects or for choosing between projects. It involves the analysis of their expected future net cash inflows, followed by a calculation of how many years it will take for the original capital investment to be recovered. It seems to be popular because it is simple to use and, perhaps more importantly, simple to explain to non-financial managers.

pooling of interests A method of accounting for business combinations that was fairly common in the United States until 2001. It was then abolished in the US, and by IASB from 2005. The method has several attractions to companies and it was therefore necessary for there to be rules to control its use. In the United States, these rules were to be found in APB Opinion 16, and they included that the merger should be accomplished by the exchange of shares only, so that no cash leaves the group of companies. The UK equivalent term was 'MERGER ACCOUNTING'.

The 'acquisition' or 'purchase' method of preparing CONSOLIDATED FINANCIAL STATEMENTS is now used for all combinations under IFRS or US rules. However, former poolings/mergers are still in place in today's financial statements.

preferred stock (US)/preference shares (UK) Shares normally having preference over ORDINARY SHARES/COMMON STOCK for DIVIDEND payments and for the return of capital if a company is wound up. That is, ordinary/common DIVIDENDS cannot be paid in a particular year until the preference/preferred DIVIDEND (generally including arrears), which is usually a fixed percentage, has been paid.

present value The value(s) of something reduced by a discount rate to allow for the time value of money.

private limited company A company that is not allowed to create a market in its securities. Such companies have special designatory letters after their names, such as Ltd,

GmbH, Sarl, BV, Srl. They are to be distinguished from PUBLIC LIMITED COMPANIES. In most countries where this distinction exists, private companies are much more numerous than public companies. Rules of disclosure, audit, profit distribution, etc. may be less onerous for private companies.

profit and loss account The UK expression for the financial statement that summarizes the difference between the incomes and expenses of a period. Such statements may be drawn up frequently for the managers of a business, but a full audited statement is normally only published for each accounting year. The equivalent US expression is INCOME STATEMENT; and generally, the IASB also uses this term. See also STATEMENT OF TOTAL RECOGNIZED GAINS AND LOSSES.

profit or loss The NET INCOME of an entity before OTHER COMPREHENSIVE INCOME is included.

proportional (or proportionate) consolidation A technique, used as part of the preparation of CONSOLIDATED FINANCIAL STATEMENTS for a group of companies, that brings into those statements the group's share of all the ASSETS, LIABILITIES, incomes and expenses of the partly owned company. The method is virtually unknown in the United Kingdom and the United States, but was allowed under IASB rules until 2013 and is still used in several European countries for dealing with investments in entities that are held on a joint venture basis with one or more other investing companies.

provision A liability of uncertain timing or amount. However, the word is also used in the UK to mean an allowance against the value of an asset. Alternatively, RESERVE is an amount voluntarily or compulsorily set aside out of profit (after it has been calculated), often in order to demonstrate that the amount is not to be distributed as DIVIDENDS.

US usage of the words is also loose. For example, accountants and others talk about a 'bad debt RESERVE' or 'pension RESERVE'; and in some continental European countries there may be very large 'provisions for contingencies' that Anglo-Saxon practice would treat as RESERVES. In US terminology, 'allowance' is often used instead of 'provision'.

prudence A concept found in the accounting practices of nearly all countries. It implies being cautious in the valuation of ASSETS or the MEASUREMENT of profit. It means taking the lowest reasonable estimate of the value of ASSETS, anticipating losses but not profits.

In the United States, 'CONSERVATISM' is the word generally used for this concept. However, in 2010, the concept was deleted from the IASB and US CONCEPTUAL FRAMEWORK, but the IASB plans to re-introduce it.

public limited company A company the securities (shares and loan stock) of which may legally be publicly traded. In the United Kingdom, the legal form of such a company is set out in the Companies Acts. The company must have 'public limited company' (or PLC) as part of its name. There are equivalents to this form in other European countries (e.g. SA, AG, NV and SpA), but in the United States the nearest equivalent is a corporation that is registered with the SECURITIES AND EXCHANGE COMMISSION. Often, the expression 'public company' is used loosely to mean companies that actually have traded shares.

quarterly reporting Abbreviated financial statements as, for example, published quarterly by companies registered with the SECURITIES AND EXCHANGE COMMISSION in the United States.

quick ratio See ACID TEST.

realization convention A well-established principle of conventional accounting, that gains or profits should only be recognized when they have been objectively realized by some transaction or event. This is consistent with the concept of CONSERVATISM, which anticipates losses but never profits. However, the convention is increasingly departed from under IFRS.

receivables The IASB and US expression for amounts of money due to a business; often known as ACCOUNTS RECEIVABLE. The UK term is DEBTORS.

recognition The process of incorporating an item in a financial statement.

recoverable amount The higher of an ASSET'S DISCOUNTED CASH FLOWS and net selling price. This amount is used as the measure of an impaired asset under IFRS.

reducing balance depreciation A technique of calculating the DEPRECIATION charge, usually for machines, whereby the annual charge reduces over the years of an asset's life. A fixed percentage DEPRECIATION is charged each year on the cost (first year) or the undepreciated cost (subsequent years).

replacement cost accounting A system of preparing financial statements in which all ASSETS (and expenses relating to them, such as DEPRECIATION) are valued at current replacement costs.

reserves UK term for undistributed gains. These include accumulated profits and REVALUATIONS. There is no equivalent US term. Reserves should be distinguished from PROVISIONS, which are charged in the calculation of profit and represent LIABILITIES. Of course, neither reserves nor PROVISIONS are amounts of cash. Reserves belong to shareholders and are part of a total of SHAREHOLDERS' EQUITY, which also includes share capital. This total is represented by all the assets of the business, less the LIABILITIES owed to outsiders.

It should be noted that this terminology is used somewhat loosely by some accountants. In the United States, 'reserve' is used to cover some of the meanings of PROVISION in the United Kingdom.

restricted surplus A US expression for amounts of past profit that are unavailable for distribution to shareholders. The UK equivalent would be UNDISTRIBUTABLE RESERVES.

retained profit/earnings Amounts of profit, earned in the preceding year and former years that have not yet been paid out as DIVIDENDS. 'Retained earnings' is a typical US expression for such amounts, though it would also be understood in the United Kingdom. 'Retained profit' is a more usual UK expression.

revaluation HISTORICAL COST is the basis for the valuation of many ASSETS. However, under IASB and some other rules, it is acceptable to revalue FIXED ASSETS annually. These revaluations can be done on the basis of FAIR VALUE or NET REALIZABLE VALUE. It is quite normal for large companies in some European countries to show land and

buildings at revalued amounts in their balance sheets. Clearly, one purpose of this is to avoid a seriously misleading impression of their worth, when prices have risen substantially.

revenue The first line of an INCOME STATEMENT, which records the increase in EQUITY caused by a gross inflow of resources (e.g. cash) from customers. See also SALES.

sale-and-leaseback A method of raising funds by a company without immediately depleting resources or incurring LIABILITIES. If a company owns and uses NON-CURRENT ASSETS, it may find it advantageous, for tax or other reasons, to sell them to a financial institution (the lessor) who then leases them back to the company.

The ASSETS do not physically move as part of this process, so the company's business is not interrupted. The company receives a lump sum, which it may need for various purposes, and agrees to make future LEASE payments. Legally, it no longer owns the ASSETS, nor does it have a legal liability. However, since the real substance of the situation is not well represented by the legal form, it has now become accounting practice for certain LEASES in several countries to be recorded as both an ASSET and a LIABILITY in the lessee's BALANCE SHEET.

sales The figure for sales recorded in the financial statements for a period, including all those sales agreed or delivered in the period, rather than those that are paid for in cash. The sales figure will be shown net of sales taxes (VAT, etc.).

In the United Kingdom, the word TURNOVER is used in the financial statements, although 'sales' is generally used in the books of account. The IFRS term is 'revenue'.

secret reserves Various means by which a company, particularly a financial institution, can make its true financial strength unclear in its financial statements. The purpose of this is to build up resources in case of future difficulty. If that future difficulty eventually emerges, it may be possible to hide it completely by merely absorbing it using the secret reserves. This may avoid a dangerous loss of confidence in the bank or other company concerned.

Secret reserves may be created by deliberately allowing NON-CURRENT ASSETS or INVENTORIES to be undervalued or by creating unnecessary PROVISIONS.

The problem with such accounting practices is that they do indeed obscure the true financial position of a company from its shareholders and lenders. Thus, deliberate creation of secret reserves has gradually been outlawed in most countries. It is certainly not allowed under IFRS.

Securities and Exchange Commission (SEC) A US government agency set up in 1934 after the Wall Street Crash of 1929. Its function is to control the issue and exchange of publicly traded shares. Companies with such shares must register with the SEC, then obey a mass of detailed regulations about disclosure and audit of financial information. An SEC-registered company in the United States is the nearest equivalent to a PUBLIC LIMITED COMPANY in Europe. In both cases, not all such companies are listed on a stock exchange.

segment reporting The disclosure of SALES, profit or ASSETS by line of business or by geographical area.

shareholders' equity The total of the shareholders' interest in a company. This will include the original share capital, amounts contributed in excess of the PAR VALUE of shares (i.e. SHARE PREMIUM or PAID-IN SURPLUS) and RETAINED PROFITS.

share premium Amounts paid into a company (by shareholders when they purchased shares from the company) in excess of the NOMINAL VALUE of the shares. Shares are recorded at NOMINAL VALUES. However, share premium may be treated for most purposes exactly as if it were share capital. Both are included in SHAREHOLDERS' EQUITY.

In the United States there are many equivalent expressions, e.g. 'PAID-IN SURPLUS' or 'additional paid-in capital'.

significant influence The power to influence the financial and operating policies of an entity. Under IASB rules, this is presumed to exist once an investor has a 20 per cent or more holding in the voting shares of the entity.

Statement of financial position The official IASB term for the BALANCE SHEET. It is also sometimes used in the United States.

Statement of profit or loss and other comprehensive income The IFRS term for the statement that shows all of an entity's income and expenses. It can be split into two parts: profit or loss, and OTHER COMPREHENSIVE INCOME.

Statement of recognized income and expense An old term for an IFRS statement of OTHER COMPREHENSIVE INCOME.

statement of total recognized gains and losses The former UK equivalent of a statement of OTHER COMPREHENSIVE INCOME.

stock US term for securities of various kinds, e.g. COMMON STOCK or PREFERRED STOCK (equivalent to ordinary and preference shares in UK terminology). However, the word 'share' is also understood in the United States, so that 'stockholder' and 'shareholder' are interchangeable. In the United Kingdom this meaning survives, particularly in the expressions 'Stock Exchange' and 'Loan Stock'.

A source of great confusion in Anglo-American conversation is the British use of the word 'stocks' for what are called INVENTORIES in the United States and under IFRS.

straight-line depreciation A system of calculating the annual DEPRECIATION expense of a NON-CURRENT ASSET. This method charges equal annual instalments against profit over the useful life of the ASSET. In total, the cost of the asset less any estimated residual scrap value is depreciated. This method is simple to use and thus popular.

STRGL See STATEMENT OF TOTAL RECOGNIZED GAINS AND LOSSES.

substance over form The presentation in financial statements of the underlying economic substance of a particular transaction rather than the superficial legal or technical form of it. This is a fundamental idea in accounting. For example, when plant is leased by a lessee from a lessor there is no transfer of legal ownership or creation of legal liabilities. However, in many cases, the transaction is very similar to a purchase of ASSETS and borrowing of money by the lessee. The plant will be at the lessee's premises and the lessee will have contracted to pay a series of future LEASE payments. To concentrate on the legal form of the transaction would ignore the economic reality. However, of course, the economic substance depends on the exact legal form of the LEASE contract.

tangible assets ASSETS with physical existence, such as property, plant or equipment.

temporal method The principal method of foreign currency translation used in the United States between 1975 and 1981. It is now only to be used in particular circumstances in IASB rules, i.e. when the PARENT's currency is the functional currency of a foreign subsidiary.

temporary difference The difference between the financial reporting value of an ASSET or LIABILITY and its basis for tax purposes.

timing difference A difference between the expenses and incomes recorded in the calculation of profit and the amounts treated as deductions or increases in the calculation of taxable income. For example, accelerated DEPRECIATION for tax purposes will allow the cost of plant and machinery to be charged for tax purposes over a shorter period than that used by accountants as the useful life for DEPRECIATION in financial statements.

treasury shares A company's shares that have been bought back by the company and not cancelled. The shares are held 'in the corporate treasury'. Such shares are shown as a deduction for EQUITY. The UK equivalent term is OWN SHARES.

treasury stock US expression for TREASURY SHARES. The term 'treasury stock' is confusing to a UK reader because it might appear to refer to government bonds issued by the Treasury.

trial balance Part of the process of producing financial statements from the records in a double-entry bookkeeping system. The trial balance marshals all the debit and credit balances on the various ACCOUNTS on to one page. If this does not balance immediately, then errors must be investigated. Once balance is achieved, then some of the individual items are used to prepare the INCOME STATEMENT and the remaining items are shown on the BALANCE SHEET.

true and fair view The overriding legal requirement for the presentation of financial statements of companies in the United Kingdom, most of the (British) Commonwealth and the European Union. The nearest IASB or US equivalent is 'fair presentation'.

turnover The UK expression used in PROFIT AND LOSS ACCOUNTS for the SALES REVENUE of an accounting period. This is shown net of value added tax.

undistributable reserves Amounts, paid in by shareholders or notionally allocated out of profits, that are not available for distribution to the shareholders as DIVIDENDS. The US term is RESTRICTED SURPLUS.

Undistributable reserves would include SHARE PREMIUM and reserves on the REVALUATION of ASSETS.

uniformity The use of the same rules of accounting or financial statement presentation from one company to another. Improvements in uniformity are encouraged by the setting of ACCOUNTING STANDARDS. One reason for this is to improve comparability between the financial statements of different companies.

uniting of interests The former IASB term for POOLING OF INTERESTS.

unusual items US term for amounts that are not outside the ordinary course of the business but are unusual in size or incidence. The approximate UK equivalent is EXCEPTIONAL ITEMS.

window dressing The manipulation of figures in financial statements in order to make them appear better (or perhaps worse) than they otherwise would be. A company might wish to do this in order to affect the actions of existing or potential shareholders or lenders, the government or other readers of financial statements.

working capital The difference between CURRENT ASSETS and CURRENT LIABILITIES. This total is also known as NET CURRENT ASSETS, under which entry there are more details.

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