

Chapter 1

The Pillars of Accounting

Reference: The Framework and IAS 1 (revised September 2007)

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1 Introduction

1.1 Accounting, science and languages

Believe it or not, accounting has much in common with

- Chemistry: there are four very basic elements in chemistry (earth, fire, water and air) and in accounting, there are five very basic elements (assets, liabilities, income, expenses and equity); and
- Language: this perhaps needs more explanation.

Through the ages, very many languages developed; Latin, English, French, Spanish and Zulu, to name but a few. Now English, for instance, is used to communicate information and opinions to other English-speaking people (or to those who are at least able to understand it). Accounting is also a language, but one that is used by accountants to communicate financial information and opinions to other accountants (and, of course, to those other interested parties who are able and willing to *try* to understand it).

In order to communicate effectively in the 'language of English' (as in all other languages), there are certain rules to observe when spelling and pronouncing words and when stringing them together in the right order to make an understandable sentence. When communicating in our 'accounting language', there are similar rules. These rules are set out in detail and are commonly referred to as statements of *generally accepted accounting practice* (GAAP).

1.2 The problem

Technology, such as phones, faxes, email, jet engines and the internet, has made it possible to communicate instantly with people in countries that are thousands of miles away and to physically visit them within a matter of hours. Much of this globe-shrinking technology has been around for many years now, so communication has already begun between countries that, only a few hundred years ago, did not even know of each other's existence. And this includes communication amongst accountants and amongst businesses!

The problem is that with so many different languages, communication between different nationalities can sometimes become almost impossible; picture the scene where an English-speaking New Zealander and a Swahili-speaking East African are trying to have a conversation. Even when speaking the same language, there are some accents that make a conversation between, for instance, an English-speaking American and an English-speaking Briton, just as amusing.

Accounting, as a language, is no different. Almost every country has its own accounting language. The language (GAAP) used in one country is often vastly different to that in another country; so different, in fact, that it is like comparing French with Ndebele. In other cases, however, the differences between two country's GAAP may be relatively minor that it is similar to comparing Dutch with Afrikaans or Scottish with Irish. These differences, however small, will still result in miscommunication. Whereas miscommunication on street level often leads to tragedies ranging from divorce to war, miscommunication between businesses often leads to court cases and sometimes even final liquidation of the businesses.

1.3 The International Harmonisation Project

To avoid this miscommunication, accountants all over the world are joining together to develop a single global accounting language. This amazing process is referred to as the 'International Harmonisation Project'.

Its basic objective is to produce a language that is understandable and of a high quality. The rules of this language are explained in a set of global standards, (referred to as the International Financial Reporting Standards or IFRSs).

The process of harmonisation involves discussion amongst standard setters in any country wishing to be part of the process, during which the reporting processes currently used by these standard setters (their local statements of GAAP) are considered and then the best processes are selected to constitute or form the basis of the new international standard going forward.

Although most countries (108 participating countries as at 5 November 2007, www.iasplus.com) are already using this single language, there are, as can be expected, a few countries who have refused. This project is therefore expected to be a long and politically volatile one, but one which, in the end, will hopefully enable accountants all around the globe to communicate in one language.

All countries that adopt the global accounting language, must comply with these rules (IFRSs) in their financial statements for financial periods beginning on or after 1 January 2005.

1.3.1 More about the Standards and their Interpretations

1.3.1.1 The standards

The idea of a single global accounting language is not new. It all started with the International Accounting Standards Committee (IASC) in 1973. Over the years, this committee developed 41 global accounting standards, referred to as International Accounting Standards (IAS). This committee was then replaced by the International Accounting Standards Board (IASB), established in 2001. This new board adopted all 41 IASs and started the development of more global accounting standards. So far, the newly created IASB has developed 8 new standards, referred to as the International Financial Reporting Standards (IFRSs).

We now, therefore, have a total of 49 global accounting standards (IFRS):

- 41 of which are referenced as IAS 1 – 41 (produced by the old committee) and
- 8 of which are referenced as IFRS 1 – 8 (produced by the new board).

1.3.1.2 The interpretations of the standards

Many global accounting standards have had to be interpreted. These interpretations are developed when accountants and auditors notify the board of difficulties in understanding and applying certain parts of a standard. These interpretations were previously developed by a committee called the Standing Interpretations Committee (SIC). This committee developed 34 interpretations (SIC 1 – SIC 34), only 11 of which still stand, with the rest having been gradually withdrawn as a result of the harmonisation process. The interpretations are now developed by a committee of the new IASB, called the International Financial Reporting Interpretations Committee (IFRIC). To date, 14 new interpretations have been developed by the IFRIC (IFRIC 1 – IFRIC 14).

1.3.1.3 How the standards and interpretations are developed

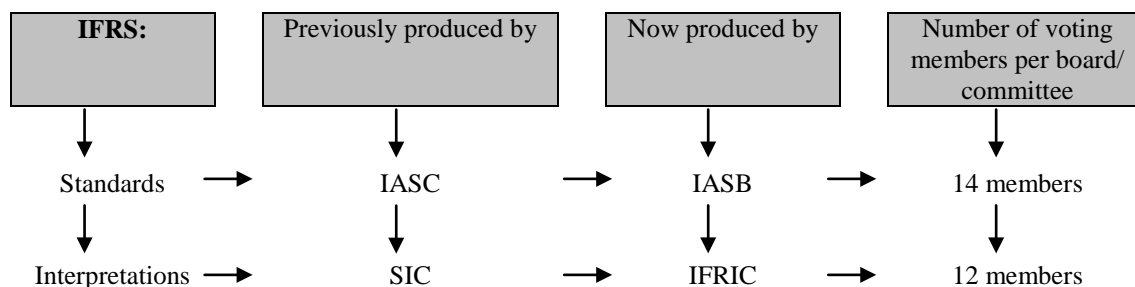
When these boards and committees develop the global accounting standards (a term that refers to both the standards and their interpretations), it requires members of the IASB and the IFRIC to consult with national standard-setters from all of the participating countries to ensure that all of their ideas have been considered. In considering which ideas or combination of ideas to adopt as the new standard, they use what is referred to as the Framework. This framework sets out the basic objectives, characteristics, concepts, definitions, recognition and measurement criteria relevant for a good set of financial statements.

In summary, the rules of our global accounting language consist of:

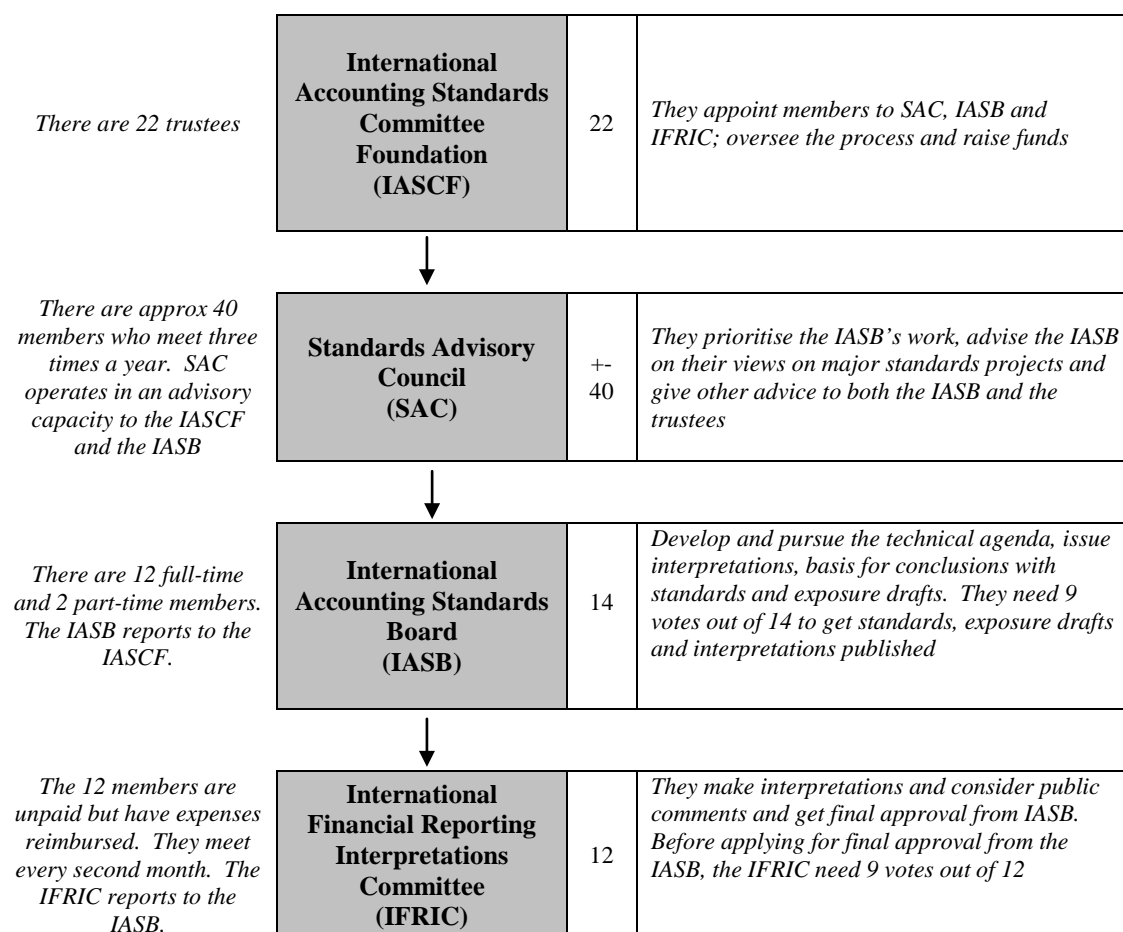
- The Framework and
- the global accounting standards (IFRS), including both the:
 - Standards (IASs and IFRSs); and their
 - Interpretations (SICs and IFRICs).

In time, it is expected that all standards will be renumbered and referred to as IFRSs and all interpretations will be renumbered and referred to as IFRICs. In the meantime, financial statements that are reported to comply with IFRSs are assumed to comply with all standards (IASs and IFRSs) and their interpretations (SICs and IFRICs).

A tabular summary of the above is as follows:



The IASC has been replaced by the IASB, but the IASC Foundation is the organisation upon which the IASB and the IFRIC are built. The structure of the team behind the preparation of the IFRS and IFRICs is presented below:



1.4 The International Improvements Project

During the process of harmonisation, *new* ideas develop that result in changes having to be made to some of the existing standards and their interpretations. This is what is referred to as the *Improvements Project*.

1.5 Due process and transparency

Before a new standard is issued, an exposure draft is first issued. The exposure draft may only be issued after approval by at least nine of the fourteen members of the IASB and is issued together with:

- the opinions of those members of the IASB who did not approve of the exposure draft and
- the basis for the conclusions that were made by the rest of the IASB members.

Any interested party may comment on these drafts. The comments received are thoroughly investigated after which the draft is adopted as a new standard (either verbatim or with changes having been made for the comments received) or is re-issued as a revised exposure draft for further comment.

2. IFRS versus GAAP

2.1 Overview

The Statements of GAAP is short for: *Statements of Generally Accepted Accounting Practice*. These include the documented acceptable methods used by businesses to ‘recognise, measure and disclose’ business transactions. The best of these statements from all over the world are being merged into the IFRSs, which is short for *International Financial Reporting Standards*.

2.2 Compliance with IFRS

Legally, financial statements must generally comply with the national statutory requirements of the relevant country. The problem is that most statutes (laws) of many countries currently require compliance with either *generally accepted accounting practice* or the *statements of generally accepted accounting practice*. A strict interpretation of the requirement to comply with *generally accepted accounting practice* (GAAP) suggests that ‘if everyone is doing it, so can we’, or in other words, the official *Statements or Standards* need not be complied with.

In all cases, if a country wishes its business entities to use global accounting standards (IFRS), the terms included in that country’s legislation will have to require compliance with *international financial reporting standards and the interpretations thereof (IFRS)* instead.

In addition to the requirements of the legal statute of the country, IAS 1 (Presentation of Financial Statements) requires that where companies do comply with *international financial reporting standards and the interpretations thereof* (in their entirety), disclosure of this fact must be made in their financial statements. By implication, those companies that do not comply, may not make such a declaration. It is obviously beneficial to be able to make such a declaration since it lends credibility to the financial statements, makes them understandable to foreigners and thus encourages investment.

3. The Pillars

This section (and the entire chapter) relates to what I call the ‘pillars of accounting’, a very important area, without which the ‘top floor’ of your knowledge cannot be built. The foundations of this ‘building’ were built in prior years of accounting study. If you feel that there may be cracks in your foundation, right now is the time to fix them by revising your work from prior years. Please read this chapter very carefully because every other chapter in this book will assume a thorough understanding thereof.

There are two areas of the global standards that make up these pillars:

- the Framework and
- IAS 1: Presentation of Financial Statements.

3.1 The Framework

The Framework is technically not a standard but the *foundation* for all standards and interpretations. It therefore does not override any of the IFRSs but should be referred to as the basic logic when interpreting and applying a difficult IFRS (the term IFRS includes the standards and the interpretations). It sets out the:

- objective of financial statements, that is to say, the information that each component of a set of financial statement should offer;
- underlying assumptions inherent in a set of financial statements;
- qualitative characteristics that the financial statements should have;
- elements in the financial statements (assets, liabilities, equity, income and expenses);
- recognition criteria that need to be met before the element may be recognised in the financial statements;
- measurement bases that may be used when measuring the elements; and
- concepts of capital and capital maintenance.

IFRSs are designed to be used by profit-orientated entities (commercial, industrial and business entities in either the public or private sector) when preparing general purpose financial statements (i.e. financial statements that are used by a wide variety of users).

3.2 IAS 1: Presentation of financial statements

IAS 1 builds onto the Framework and in some areas tends to overlap a little. IAS 1 has as its main objective ‘comparability’ and with this in mind, sets out:

- the purpose of financial statements;
- the general features of a set of financial statements;
- the structure and minimum content of the five main components of financial statements:
 - the statement of financial position (as at the end of the period);
 - the statement of comprehensive income (for the period);
 - the statement of changes in equity (for the period);
 - the statement of cash flows (for the period); and
 - the notes to the financial statements;
- other presentation issues, such as how to differentiate between items that are considered current and those that are considered non-current (necessary when drawing up the statement of financial position).

4. The Framework

4.1 The objectives of financial statements

The objective of financial statements is to provide information that is useful to a wide range of users regarding the entity's:

- financial position: found mainly in the statement of financial position;
- financial performance: found mainly in the statement of comprehensive income;
- changes in financial position: found mainly in the statement of changes in equity; and
- management's stewardship of the resources entrusted to it.

It is important to note that users are not limited to shareholders and governments, but include, amongst others, employees, lenders, suppliers, competitors, customers and the general public.

4.2 Underlying assumptions

The Framework lists two underlying assumptions:

- going concern; and
- accrual basis.

These are discussed in more depth under overall considerations (see Part 5: IAS 1 Presentation of Financial Statements).

4.3 Qualitative characteristics

In order for financial statements to be useful to its users, it must have certain qualitative characteristics or attributes. The four main qualities that a set of financial statements should have are listed as follows:

- understandability
- relevance
- reliability
- comparability.

Although one must try to achieve these qualitative characteristics, the Framework itself admits to the difficulty in trying to achieve a balance of characteristics. For example: to ensure that the information contained in a set of financial statements is relevant, one must ensure that it is published quickly. This emphasis on speed may, however, affect the reliability of the reports. This balancing act is the fifth attribute listed to in the Framework, and is referred to as *constraints on relevant and reliable information*.

If the four principal qualitative characteristics and the Standards are complied with, one should achieve fair presentation, which is the sixth and final attribute listed in the Framework.

4.3.1 Understandability

The financial statements must be *understandable* to the user but you may assume, in this regard, that the user has:

- a reasonable knowledge of accounting and
- a willingness to carefully study the financial information provided.

4.3.2 Relevance

When deciding what is *relevant*, one must consider the:

- users' needs in decision-making:
A user will use financial statements to predict, for example, the future asset structure, profitability and liquidity of the business and to confirm his previous predictions. The predictive and confirmatory role of the financial statements is therefore very important to

consider when presenting financial statements. By way of example, unusual items should be displayed separately because these, by nature, are not expected to recur frequently;

- materiality of the items:
Consider the materiality of the size of the item or the potential error in user-judgement if it were omitted or misstated;
- nature:
For example, reporting a new segment may be relevant to users even if profits are not material.

Materiality is a term that you will encounter very often in your accounting studies and is thus important for you to understand. The Framework explains that you should consider something (an amount or some other information) to be material:

- if the economic decisions of the users
- could be influenced if it were misstated or omitted.

Materiality is considered to be a 'threshold' or 'cut-off point' to help in determining what would be useful to users and is therefore not a primary qualitative characteristic. For example, all revenue types above a certain amount may be considered to be material to an entity and thus the entity would disclose each revenue type separately.

4.3.3 Reliability

In order for financial statements to be reliable, they should not include material error or bias and should:

- be a faithful representation;
- show the substance rather than the legal form of the transaction;
- be neutral;
- be prudent (but not to the extent that reserves become hidden); and
- be complete (within the confines of materiality and cost).

4.3.3.1 Faithful representation

Most financial statements have some level of risk that not all transactions and events have been properly identified and that the measurement basis used for some of the more complex transactions might not be the most appropriate. Sometimes events or transactions can be so difficult to measure that the entity chooses not to include them in the financial statements. The most common example of this is the internal goodwill that the entity is probably creating but which it cannot recognise due to the inability to clearly identify it and the inability to measure it reliably.

4.3.3.2 Substance over form

This requires that the legal form of a transaction be ignored if the substance or economic reality thereof differs. A typical example here is a lease agreement (the legal document). The term 'lease' that is used in the legal document suggests that you are borrowing an asset in exchange for payments (rental) over a period of time. Many of these so-called lease agreements result in the lessee (the person 'borrowing' the asset) keeping the asset at the end of the 'rental' period. This means that the lease agreement is actually, in substance, not a lease but an agreement to purchase (the 'lessee' was actually purchasing the asset and not renting the asset). This lease is referred to as a finance lease, but as accountants, we will recognise the transaction as a purchase (and not as a pure lease).

4.3.3.3 Neutrality

For financial statements to be neutral, they must be free from bias. Bias is the selection or presentation of information in such a way that you achieve a 'pre-determined result or outcome' in order to influence the decisions of users.

4.3.3.4 Prudence

Applying prudence when drawing up financial statements means to be cautious if judgement is required when making estimates under conditions of uncertainty. The idea behind prudence is to:

- avoid overstating assets and income, and
 - avoid understating liabilities and expenses,
- but without :
- creating hidden reserves and excessive provisions, or
 - deliberately understating assets and income, or
 - overstating liabilities and expenses for reasons of bias.

4.3.3.5 Completeness

Financial statements need to be as complete as possible given the confines of materiality and cost. This is because omission of information could be misleading and result in information that is therefore unreliable and not relevant. Immaterial items may be excluded if too costly to include.

4.3.4 Comparability

Financial statements should be comparable:

- from one year to the next: therefore, accounting policies must be consistently applied, meaning that transactions of a similar nature should be treated in the same way that they were treated in the prior years; and
- from one entity to the next: therefore entities must all comply with the same standards, so that when comparing two entities a measure of comparability is guaranteed.

As a result of requiring comparability, users need to be provided with information for the comparative year and should be provided with the accounting policies used by the entity (and any changes that may have been made to the accounting policies used in a previous year).

4.3.5 Constraints to relevance and reliability

Although one must strive to achieve these qualitative characteristics, the Framework itself admits to at least two constraints encountered most often when trying to achieve relevance and reliability in a set of financial statements.

These constraints are essentially time and money:

- timeliness:
 - the financial statements need to be issued soon after year-end to be relevant, but this race against time leads to reduced reliability; and
- cost versus benefit:
 - to create financial statements that are perfect in terms of their relevance and reliability can lead to undue effort, with the result that this benefit is outweighed by the enormous cost to the entity; and a
- balance among the qualitative characteristics.

Bearing in mind that only fresh information is *relevant*, the 1999 financial statements of a business are not relevant to a user in 2008 who is trying to decide whether or not to invest in that business. The problem is, in the rush to produce relevant and timely financial statements, there is a greater risk that they now contain errors and omissions and are thus *unreliable*.

This balancing act is compounded by the constraint of *cost*. Money is obviously a constraint in all profit organisations whose basic idea is that the benefit to the business should outweigh the cost. To produce financial statements obviously costs the business money, but this cost increases the faster one tries to produce them (due to costs such as overtime) and the better one tries to do them (more time and better accountants cost more money). Businesses often

find this a difficult pill to swallow because, on the face of it, it is the business that incurs these costs and yet it is the user who benefits. It should be remembered, however, that the benefits are often hidden. If the user or bank is suitably impressed by your financial statements, the business may benefit by more investment, higher share prices, lower interest rates on bank loans and more business partners, ventures and opportunities.

4.4 Elements

The five elements are as follows:

- asset;
- liability;
- equity;
- income; and
- expense

4.4.1 Asset

- a resource
- controlled by the entity
- as a result of past events
- from which future economic benefits are expected to flow to the entity.

4.4.2 Liability

- a present obligation (*not a future commitment!*)
- of the entity
- as a result of past events
- the settlement of which is expected to result in an outflow from the entity of economic benefits.

4.4.3 Equity

- the residual interest in the assets
- after deducting all liabilities.

4.4.4 Income

- an increase in economic benefits
- during the accounting period
- in the form of inflows or enhancements of assets or decreases in liabilities
- resulting in increases in equity (other than contributions from equity participants).

4.4.5 Expense

- a decrease in economic benefits
- during the accounting period
- in the form of outflows or depletions of assets or an increase in liabilities
- resulting in decreases in equity (other than distributions to equity participants).

4.5 Recognition

The term ‘recognition’ means the actual recording (journalising) of a transaction or event. Once recorded, the element will be included in the journals, trial balance and then in the financial statements.

An item may only be recognised when it:

- meets the relevant definitions (i.e. is an element as defined); and
- meets the recognition criteria.

The basic *recognition criteria* are as follows:

- the flow of future economic benefits caused by this element are *probable*; and
- the element has a cost/value that can be *reliably measured*.

Assets or liabilities must meet the recognition criteria in full (must be measured reliably and the flow of benefits must be probable).

Income or expenses need not meet the recognition criteria in full: they only need to be measured reliably.

It is important to read the definition of income and expense again and grasp how these two elements may only be recognised when there is a change in the carrying amount of an asset or liability. This means that for an item of income or expense to be recognised, the definition of asset or liability would first need to be met.

4.6 Measurement

If an item meets the definition of an element and meets the necessary recognition criteria, we will need to process a journal entry. To do this, we need an amount. The term ‘measurement’ refers to the process of deciding or calculating the amount to use in this journal entry.

There are a number of different methods that may be used to measure the amounts of the individual elements recognised in the financial statements, some of which are listed below:

- The historical cost method
 - measures an asset at the actual amount paid for it at the time of the acquisition; and
 - measures the liability at the amount of cash (or other asset) received as a loan or at the actual amount to be paid to settle the obligation in the normal course of business.
- The present value method
 - measures an asset at the present value of the future cash inflows (i.e. discounted) to be derived from it through the normal course of business; and
 - measures liabilities at the present value of the future cash outflows (i.e. discounted) expected to be paid to settle the obligation during the normal course of business.
- The realisable value method
 - measures an asset at the cash amount for which it can be currently sold in an orderly disposal; and
 - measures liabilities at the actual amount of cash (undiscounted) that would be required to settle the liability during the normal course of business.
- The current cost method
 - measures an asset at the amount that would currently have to be paid if a similar asset were to be acquired today; and
 - measures liabilities at the actual amount of cash (undiscounted) that would be required to settle the liability today.

There are a variety of combinations of the above methods, many of which are largely dictated by the relevant standard. For instance, assets that are purchased with the intention of resale are measured in terms of *IAS 2: Inventories*, which states that inventories should be measured at the *lower* of cost or net realisable value. Assets that are purchased to be used over more than one period are measured in terms of *IAS 16: Property, Plant and Equipment*, which allows an asset to be recognised at either historical cost or fair value (determined in accordance with a discounted future cash flow technique: present value, or in terms of an active market: current cost). Redeemable debentures (a liability) are measured in terms of *IAS 39: Financial Instruments: Recognition and Measurement*.

Although most companies seem to still be measuring many of their assets at historical cost, there appears to be a definite interest in fair value accounting, where present values and current costs are considered more appropriate than historical cost. There is an argument that says that the historical cost basis should be abandoned and replaced by fair value accounting since the generally rising costs caused by inflation results in the historical amount paid for an

item having no relevance to its current worth. A problem with fair value accounting, however, is its potentially subjective and volatile measurements which could reduce the reliability of the financial statements. The possibility of reduced reliability could be the reason why most companies still use historical costs for many of their assets, where the latest fair values are disclosed in their notes for those users who are interested.

4.7 When the element is not recognised

Items that do not meet the relevant definitions and recognition criteria in full may not be recognised in the financial statements. Information about this item may, however, still be considered to be 'relevant' to the user, in which case it should be *disclosed* in the notes.

4.8 Recognition versus disclosure

As mentioned earlier, the term '*recognition*' means the actual recording (journalising) of a transaction or event. Once recorded, the element will be included in the journals, trial balance and then channelled into one of the financial statements: statement of comprehensive income, statement of changes in equity or statement of financial position (all presented on the accrual basis), as well as the statement of cash flows (a financial statement presented on the cash basis).

The term 'disclosure' means giving *detail* about specific transactions or events that are either:

- already recognised in the financial statements; or
- not recognised in the financial statements but yet are considered material enough to affect possible economic decisions made by the users of the financial statements.

Some items that are *recognised* may require further disclosure. Where this disclosure involves a lot of detail, this is normally given in the notes to the financial statements.

Other items that are *recognised* may not need to be *disclosed*. For example, the purchase of a computer would be recorded in the source documents, journals, trial balance and finally in the statement of financial position. Unless this computer was particularly unusual, it would be included in the total of the non-current assets on the face of the statement of financial position, but would not be separately disclosed anywhere in the financial statements since it would not be relevant to the user when making his economic decisions.

Conversely, some items that are *not recognised* may need to be *disclosed*. This happens where either the definition or recognition criteria (or both) are not met, but yet the information is still expected to be relevant to users in making their economic decisions. A typical example is a law suit against the entity which has not been recognised because the financial impact on the entity has not been able to be reliably estimated but which is considered to be information critical to a user in making his economic decisions.

4.9 Answering discussion type questions

When answering a discussion type question involving the recognition of the elements, it is generally advisable to structure your answer as follows:

- quote the definition of the relevant element/s and discuss each aspect of it with reference to the transaction in order to ascertain whether or not the definition/s is met;
- quote the relevant recognition criteria and then discuss whether the element meets each of the recognition criteria; and
- conclude by stating which element the item should be classified as (based on the definition) and then whether or not this element should be recognised at all (based on the recognition criteria).

The structure of your answer depends entirely on the wording of the question. If the question asks for you to discuss the *recognition* of an element, it may require the word for word repetition of both the definitions and recognition criteria unless your question specifically

tells you not to give these, in which case, just the discussion is required. Generally each aspect of the definition and recognition criteria should be discussed fully (use your mark allocation as a guide) but some questions may not require a full discussion but may require you to identify what element should be recognised and to support this with only a brief explanation.

The question may ask you to *prove* that the debit or credit entry is a certain element (e.g. a liability), in which case it is generally fine to simply discuss the definition and recognition criteria relevant to that element (i.e. the liability). In other cases, you may be required to *discuss* which element the debit or credit entry represents, in which case you are generally required to discuss both the asset and expense definitions if it is a debit entry, or the liability, income and perhaps even the equity definitions if it is a credit entry.

Your question may ask for a discussion of the issues surrounding measurement, in which case calculations of the amounts may also be required. If you are only asked to discuss the measurement of an amount, then do not discuss the recognition issues (i.e. do not discuss the definitions and recognition criteria – you will be wasting valuable time).

4.10 Some examples

Example 1: benefits earned over more than one period – expense or asset?

A machine is purchased for C4 000 in cash. The machine was delivered on the same day as the payment was made. It is expected to be used over a 4-year period to make widgets that will be sold profitably. At the end of the 4-year period, the asset will be scrapped.

Required:

Discuss how the purchase of the machine should be recognised and measured. The definitions and recognition criteria are not required.

Solution to example 1: benefits earned over more than one period – expense or asset?

Definition:

- A machine is a resource since it can be used to make widgets.
- The machine has been delivered (and been paid for) and is thus controlled by the entity.
- An inflow of future economic benefits is expected through the sale of the widgets.
- The past event is the payment of the purchase price/ delivery of the machine.

Since all aspects of the definition of an asset are met, the item (the machine) is an asset to the entity.

Recognition criteria:

- The cost is reliably measured: C4 000 already paid in full and final settlement.
- The inflow of future economic benefits is probable since there is no evidence that the widgets will not be produced and sold.

Conclusion:

Since both recognition criteria are met, the asset should be recognised.

	Debit	Credit
Machine: cost (A)	4 000	
Bank (A)		4 000
<i>Purchase of machine</i>		

PS. If you were also asked to briefly prove that the initial acquisition did not involve an expense, then you should provide the following discussion as well:

Since the entity's assets simultaneously increased (through the addition of a machine) and decreased (through the outflow of cash), there has been no effect on equity and therefore no expense.

Measurement:

The measurement on initial recognition is the invoice price (i.e. historical cost basis), but the future asset balances in the statement of financial position must reflect the state of the asset. As the machine's life is used up in the manufacturing process, so the remaining future economic benefits (expected

through its future use) will decrease. Since this decrease in the asset's value occurs with no simultaneous increase in assets or decrease in liabilities, the equity of the business will be decreased. The amount by which the asset's value is reduced is therefore recognised as an expense.

	Debit	Credit
<i>Journal in year 1, 2, 3 and 4</i>		
Depreciation: machine (E)	xxx	
Machine: accumulated depreciation (negative A)		xxx
<i>Depreciation of machine</i>		

The portion of the asset's value that is recognised as an expense each year is measured on a systematic rational basis over the 4-year period:

- If the widgets are expected to be manufactured and sold evenly over the 4-year period, then C1 000 should be expensed in each of these 4 years (C4 000 / 4 years).
- If 50% of the widgets are expected to be manufactured and sold in the first year, 30% in the second year and 10% in each of the remaining years, then a more rational and systematic basis of apportioning the expense over the 4 years would be as follows:
 - Year 1: C4 000 x 50% = 2 000
 - Year 2: C4 000 x 30% = 1 200
 - Year 3: C4 000 x 10% = 400
 - Year 4: C4 000 x 10% = 400

Example 2: an inflow – income or liability?

A gym receives a lumpsum payment of C4 000 from a new member for the purchase of a 4-year membership.

Required:

Briefly discuss whether the lumpsum received should be recognised as income or a liability. The definitions of both income and liability should be discussed (ignore recognition criteria).

Solution to example 2: an inflow – income or liability?

Liability definition:

- The entity has an obligation to provide the member with gym facilities over the next 4 years
- The past event is the entity's receipt of the C4 000.
- The obligation will result in an outflow of cash, for items such as salaries for the gym instructors, electricity and rental of the gym facilities.

Since all aspects of the liability definition are met, the receipt represents a liability.

Income definition:

- The initial lumpsum represents an increase in cash (an increase in assets)
- There is, however, an increase in liabilities since the club is now expected to provide the member with gym facilities for the next 4 years which effectively means that the gym has an equal and opposite obligation (an increase in its liabilities).
- For there to be income, there must be an increase in equity: since the increase in the asset equals the increase in the liability, there is no increase in equity (equity = assets – liabilities).

Since there is no increase in equity the receipt does not represent income – yet.

Conclusion:

At the time of the receipt, the lumpsum is recognised as a liability and journalised as follows:

	Debit	Credit
Bank (A)	4 000	
Income received in advance (L)		4 000
<i>Gym fees received as a lumpsum in advance</i>		

PS. Had you not been asked to only discuss the initial lumpsum received, you could then have given the following discussion as well:

As time progresses, the gym will discharge its obligation thus reducing the liability. The amount by which the liability reduces is then released to income since it meets the definition of income:

For example, after each year of providing gym facilities there is an inflow of economic benefits through the decrease in the liability: the obligation to provide 4 years of gym facilities, drops to 3 years, then 2 years, 1 more year and finally the obligation is reduced to zero.

In this way, the receipt is recognised as income on a systematic basis over the 4 years during which the entity will incur the cost of providing these services (i.e. the income is effectively matched with the expenses incurred over 4-years). In each of the 4 years during which the gym provides facilities to the member, the following journal will be processed (after processing 4 of these journals, there will be no balance on the liability account and the entire C4 000 received will have been recognised as income).

	Debit	Credit
Income received in advance (L)	1 000	
Membership fees (I)		1 000
<i>Portion of the lumpsum recognised as income</i>		

Example 3: staff costs – an asset?

Companies often maintain that their staff members constitute their biggest asset. However, the line-item ‘people’ is never seen under ‘assets’ in the statement of financial position.

Required:

Explain why staff members are not recognised as assets in the statement of financial position.

Solution to example 3: staff costs – an asset?

In order for ‘staff’ to appear in the statement of financial position as an asset, both the following need to be satisfied:

- the definition of an asset; and
- the recognition criteria.

First consider whether a ‘staff member’ meets the *definition of an ‘asset’*.

- *Is the staff member a resource?*
A staff member is a resource – a company would not pay a staff member a salary unless he/ she were regarded as a resource. In fact, employees are generally referred to as ‘*human resources*’.
- *Is he controlled by the entity?*
Whether or not the staff member is controlled by the entity is highly questionable: it is considered that, despite the existence of an employment contract, there would always be insufficient control due to the very nature of humans.
- *Is the staff member a result of a past event?*
The signing of the employment contract could be argued to be the past event.
- *Are future economic benefits expected to flow to the entity as a result of the staff member?*
It can be assumed that the entity would only employ persons who are expected to produce future economic benefits for the company.

In respect of the asset, the *recognition criteria* require that

- the flow of future economic benefits to the entity must be *probable*; AND
- the asset has a cost/value that can be *reliably measured*.

It is *probable* that future economic benefits will flow to the entity otherwise the entity would not employ the staff.

The problem arises when one tries to *reliably measure* the cost/value of each staff member. How would one value one staff member over another? Perhaps one could calculate the present value of their future salaries, but there are two reasons why this is unacceptable. Consider the following:

- Can you reliably measure the *cost* of a staff member? If one were to use future expected salaries and other related costs, consider the number of variables that would need to be estimated: the period that the staff member will remain in the employ of the entity, the inflation rate over the expected employment period, the fluctuation of the currency, the future performance of the staff

member and related promotions and bonuses. You will surely then agree that a *reliable* measure of their cost is really not possible.

- Since it is evident that we cannot reliably measure the cost of a staff member, can one reliably measure their *value* in another way? The value of a staff member to an entity refers to the value that he or she will bring to the entity in the future. It goes without saying that there would be absolutely no way of assessing this value *reliably*!

Staff members may therefore not be recognised as assets in the statement of financial position for two main reasons:

- there is insufficient control over humans; and
- it is not possible to reliably measure their cost or value.

5. IAS 1: Presentation of financial statements: an overview

5.1 Overview

IAS 1 was revised in September 2007. The main changes are as follows:

- the names of the components of a set of financial statements have been changed;
 - income statement is now: statement of comprehensive income;
 - balance sheet is now: statement of financial position;
 - cash flow statement is now: statement of cash flows;
- the introduction of a statement of comprehensive income, which incorporates the 'old income statement' followed by 'other comprehensive income', the latter being previously included in the statement of changes in equity;
- a simplified statement of changes in equity showing only transactions involving owners in their capacity as owners, where transactions that comprise 'non-owner changes in equity' (which were previously included) are now included in the statement of comprehensive income as 'other comprehensive income';
- other changes in terminology:
 - equity holders are now called: owners
 - balance sheet date is now called: end of the reporting period
 - overall considerations are now called: general features
- the introduction of an eighth general feature: frequency of reporting.

The main reasons given by the IASB for revising IAS 1 included:

- an intention to aggregate financial information on the basis of shared characteristics, thus:
 - changes in equity that *are due* to transactions with owners in their capacity as owners are included in the statement of changes in equity; whereas
 - changes in equity that *are not due* to transactions with owners in their capacity as owners are included in the statement of comprehensive income;
- convergence with the USA's *FASB Statement No. 130 Reporting Comprehensive Income*;
- making IAS 1 easier to read.

5.2 Scope (IAS 1.2 to IAS 1.6)

IAS 1 applies to profit-orientated entities in preparing and presenting general purpose financial statements. It therefore is *not designed* to meet the needs of non-profit entities.

It is also *not designed* to meet the needs of condensed interim financial statements, although five of the eight general features in IAS 1 should be applied to interim financial statements:

- fair presentation and compliance with IFRSs
- going concern
- accrual basis of accounting
- materiality and aggregation
- offsetting.

IAS 1 is designed for entities whose share capital is equity. If an entity does not have such equity, the presentation of owners' interests would need to be adapted.

5.3 Objective of IAS 1 (IAS 1.1)

The objective of IAS 1 is to prescribe how to (i.e. the basis on which to) present financial statements in order to achieve comparability (a qualitative characteristic listed in the Framework):

- With the entity's own financial statements for different periods; and
- With other entity's financial statements.

5.4 Objective of financial statements (IAS 1.9 and the Framework)

Here is a perfect example of the overlapping between the Framework and IAS1: both include the objective of financial statements. Financial statements are designed to be a

- structured representation of an entity's financial position, financial performance and cash flows
- that is useful to a wide range of users in making economic decisions; and
- showing the results of management's stewardship of the resources entrusted to it.

5.5 Definitions (IAS 1.7)

The following definitions are provided in IAS 1 (some of these definitions are simplified):

General purpose financial statements (referred to as '**financial statements**')

are those intended to meet the needs of users who are not in a position to require an entity to prepare reports tailored to their particular information needs.

Impracticable:

Applying a requirement is impracticable when the entity cannot apply it after making every reasonable effort to do so.

International Financial Reporting Standards (referred to as **IFRSs**):

are Standards and Interpretations adopted by the IASB (they include the following prefixes: IFRSs, IASs and IFRIC interpretations and SIC interpretations).

Materiality of omissions and misstatements of items:

Omissions and misstatements are material if they could individually or collectively influence the economic decisions that users make on the basis of the financial statements. Materiality depends on the size and nature of the omission or misstatement judged in the surrounding circumstances. The size or nature of the item, or a combination of both, could be the determining factor.

Notes:

- provide narrative descriptions or disaggregations of items presented in the other financial statements (e.g. statement of financial position); and
- provide information about items that did not qualify for recognition in those other financial statements.

Profit or loss:

- is the total of income less expenses,
- excluding the components of other comprehensive income.

Other comprehensive income:

- Comprises items of income and expense (including reclassification adjustments)
- That are either not required or not permitted to be recognised in profit or loss.
- The components of other comprehensive income include:

- (a) Changes in revaluation surplus (IAS 16 *Property, plant and equipment* and IAS 38 *Intangible assets*);
- (b) Actuarial gains and losses on defined benefit plans (being those recognised in accordance with paragraph 93A of IAS 19 *Employee Benefits*);
- (c) Gains and losses arising from translating the financial statements of a foreign operation (IAS 21 *The effects of changes in foreign exchange rates*);
- (d) Gains and losses on remeasuring available-for-sale financial assets (IAS 39 *Financial instruments: recognition and measurement*);
- (e) The effective portion of gains and losses on hedging instruments in a cash flow hedge (IAS 39 *Financial instruments: recognition and measurement*).

Total comprehensive income:

- Is the change in equity
- during a period
- resulting from transactions and other events,
- other than those changes resulting from transactions with owners in their capacity as owners.
- Total comprehensive income = 'profit or loss' + 'other comprehensive income'.

5.6 Complete set of financial statements (IAS 1.10)

There are five *main* statements in a complete set of financial statements:

- the statement of financial position (as at the end of the period);
- the statement of comprehensive income (for the period);
- the statement of changes in equity (for the period);
- the statement of cash flows (for the period); and
- the notes to the financial statements;

The statement of comprehensive income may be provided either as:

- a single statement: statement of comprehensive income; or
- two separate statements: an income statement (also referred to as a statement of profit or loss), followed by a statement of comprehensive income.

The general features, structure and content of these statements are now discussed in detail.

6. IAS 1: Presentation of financial statements: general features

6.1 Overview

IAS 1 lists eight general features to consider when producing financial statements (notice that this list includes two of the underlying assumptions included in the Framework):

- fair presentation and compliance with IFRS;
- going concern (also an underlying assumption per the Framework);
- accrual basis (also an underlying assumption per the Framework);
- materiality and aggregation;
- offsetting;
- frequency of reporting;
- comparative information; and
- consistency of presentation.

6.2 Fair presentation and compliance with IFRSs (IAS 1.15-24)

6.2.1 Achieving fair presentation (IAS 1.15 and IAS 1.17)

Fair presentation simply means that position, performance and cash flows must be recorded faithfully (truthfully).

Fair presentation will generally always be achieved if the transactions, events and conditions are recorded by:

- complying with the definitions and recognition criteria provided in the Framework,
- complying with all aspects of the IFRSs; and
- providing extra disclosure where necessary.

In order to ensure that fair presentation is achieved, the standard emphasises that one must:

- select and apply accounting policies in accordance with *IAS 8: Accounting Policies, Changes in Accounting Estimates and Errors*;
- present all information in a manner that provides relevant, reliable, comparable and understandable information (P.S. these are the qualitative characteristics per the *Framework*); and
- provide additional disclosure when the relevant standards are unable to provide the user with sufficient understanding of the impact of certain transactions, events and conditions on the financial position and performance of the entity.

6.2.2 Compliance with IFRSs (IAS 1.16 and IAS 1.24)

Where all aspects of the IFRS have been complied with, disclosure of this fact must be made in the financial statements. This disclosure may only be made if *absolutely all* the IFRSs (standards and interpretations) have been complied with in full.

6.2.3 Departure from IFRSs (IAS 1.16 and IAS 1.24)

In extremely rare circumstances, management may believe that by applying an IFRS the financial statements become misleading, so much so that the objective of financial statements is undermined. In order to come to such a dramatic conclusion, management must consider:

- why the objective of financial statements is not achieved in the entity's particular circumstances; and
- how the entity's circumstances differ from those of other entities that have successfully complied with the IFRS's requirement/s.

The obvious answer to this problem is to depart from the IFRS, but this is not always allowed.

6.2.3.1 When departure from an IFRS is required and allowed (IAS 1.19-22)

An entity shall depart from an IFRS:

- if compliance with the IFRS would result in financial statements that are so misleading that they 'would conflict with the objective of financial statements set out in the Framework', **and**
- if the relevant regulatory framework requires or does not prohibit such departure in this situation,

The extra disclosure required when there has been departure from an IFRS is as follows:

- management's conclusion that the financial statements 'fairly present the entity's financial position, financial performance and cash flows';
- a declaration to the effect that the entity has complied with applicable standards and interpretations of IFRS except that it has departed from a particular standard or interpretation in order to achieve fair presentation;
- the name of the standard (or interpretation) from which there has been departure;
- the nature of the departure, including the treatment that is required by the standard;
- the reason why it was considered to be so misleading;
- the treatment adopted; and
- the financial impact of the departure on each item that would otherwise have had to be reported had the IFRS been properly complied with.

The same disclosure (with the exception of management's conclusion and the declaration referred to above) would be required every year after the departure where that departure continues to affect the measurement of amounts recognised in the financial statements.

6.2.3.2 When departure from an IFRS is required but not allowed (IAS 1.23)

When departure from IFRS is considered necessary for fair presentation but yet is disallowed by the relevant regulatory framework, the financial statements will be misleading. Since the objective of financial statements is basically to provide useful information, the lack of fair presentation must be remedied through disclosure of the following:

- the name of the IFRS that is believed to have resulted in misleading information;
- the nature of the specific requirement in the IFRS that has led to misleading information;
- management's reasons for believing that the IFRS has resulted in financial statements that are so misleading that they do not meet the objectives of financial statements; and
- the adjustments that management believes *should* be made in order to achieve faithful representation.

6.3 Going concern (IAS 1.25-26)

6.3.1 Financial statement preparation (IAS 1.25)

Financial statements should be prepared on the going concern basis unless management:

- voluntarily or
- involuntarily (i.e. where there is no realistic alternative) plans to:
 - liquidate the entity; or
 - simply cease trading.

6.3.2 Management's responsibility (IAS 1.25-26)

Management is required to make an assessment of the entity's ability to continue as a going concern.

This assessment should:

- be made while the financial statements are being prepared;
- be based on all available information regarding the future (e.g. budgeted profits, debt repayment schedules and access to alternative sources of financing); and
- include a review of the available information relating to, at the very least, one year from statement of financial position date.

Such a detailed analysis is not required, however, if the entity has a history of profitable operations and ready access to funds.

6.3.3 If there is significant doubt that the going concern basis is appropriate (IAS 1.25)

If cessation or liquidation is not imminent, but there is significant doubt as to the ability of the entity to continue operating, the material uncertainties causing this doubt must be disclosed.

6.3.4 If the going concern basis is not appropriate (IAS 1.25)

If the entity is not considered to be a going concern, the financial statements must not be prepared on the going concern basis, and disclosure must include:

- this fact;
- the basis used to prepare the financial statements (e.g. the use of liquidation values); and
- the reason why the entity is not considered to be a going concern.

6.4 Accrual basis of accounting (IAS 1.27-28)

The accrual basis of accounting means recording elements (assets, liabilities, income, expenses and equity) when the definitions and recognition criteria are met. It results in

recognising transactions and events in the periods in which they occur rather than when cash is received or paid.

The accrual basis is applied to all components of a set of financial statements, with the exception of statement of cash flows, which obviously uses the cash basis instead.

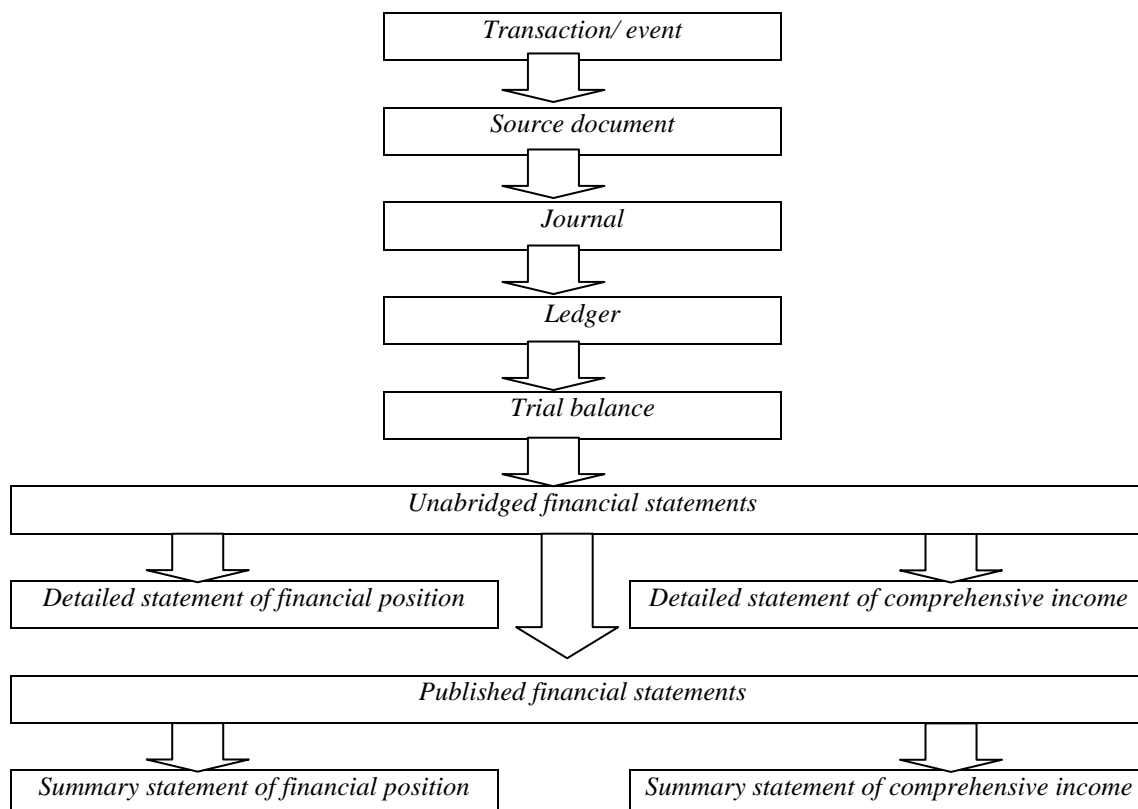
6.5 Materiality and aggregation (IAS 1.29-31)

6.5.1 Accountancy involves a process of logical summarisation

Simply speaking, the financial process starts with:

- a transaction that is first documented (onto a source document);
- the document is then journalised (in subsidiary journals);
- the journal is then posted (into the subsidiary and general ledger);
- the ledger is summarised into the trial balance;
- the trial balance is summarised into the detailed set of financial statements – a summary used by internal users (e.g. management); and
- these financial statements are then further summarised into what is referred to as the *published* set of annual financial statements.

The published annual financial statements do not show extensive detail because they are made available to a wide range of external users who would find that too much information would be confusing and irrelevant to their decision-making. It is interesting to note that it is only these published financial statements that are subjected to the disclosure requirements laid out in the IFRS.



6.5.2 Deciding whether an item is material and needs to be segregated (IAS 1.29-31)

Each *class* of items that is material should be separately disclosed (segregated). Where a *class* of items is immaterial, it must be aggregated (included) with another class of items. IAS 1 refers to a *class* of items as having a bearing on the *nature or function* of the items.

Materiality is a term that you will encounter very often in your accounting studies and is thus important for you to understand. Both the *Framework* and *IAS 1* explain that you should consider something to be material if the economic decisions of the users could be influenced if it were misstated or omitted. It is a threshold or cut-off point used to help identify whether something may be useful to a user. For example, an entity may have a materiality threshold for revenue of C100 000, with the result that any revenue types that exceed C100 000 will be separately disclosed.

A class of items that is very material may require disclosure separately on the *face* of the financial statements whereas another class of items, although material, may only require separate disclosure in the *notes*. It is a subjective decision requiring professional judgement.

So in summary, when considering whether to segregate (present separately) or aggregate an item (present as part of another total), consider its class, (being its nature or function) and if you think that knowledge of it:

- *would affect* the economic decisions of the user, then the item is material and should be disclosed separately (i.e. should be segregated); or
- *would not affect* the economic decisions of the user, then the item is not material and should *not* be disclosed separately (i.e. should be aggregated).

It is generally not considered necessary for an item to be material in nature, function and size before it should be separately disclosed, but logic should prevail.

Example 4: items with different functions

Explain whether or not the following classes should be separately disclosed: :

- inventory; and
- property, plant and equipment.

Solution to example 4: items with different functions

The function of inventory is to be sold at a profit whereas the function of property, plant and equipment is to be kept and used by the entity. The functions of these two assets are considered to be so different that they are considered sufficiently material to be disclosed separately on the face of the statement of financial position.

Example 5: items with different natures, but immaterial size

The total carrying amount of furniture is C100 000, and the total carrying amount of land is C50 000. The company's materiality limit is C300 000.

Required:

Explain whether or not the furniture and land should be disclosed as two separate categories.

Solution to example 5: items with different natures, but immaterial size

Although the carrying amount of each class is below the materiality limit, the two classes would be disclosed separately (generally only in the notes) since although the assets may be argued to be similar in the sense that both are assets to be used in the business, the difference in function or nature of each is material enough for the amount spent on each to be relevant to the economic decisions of the user.

Example 6: items that are material in size, but not in nature or function

A company's materiality limit is C300 000 and the total carrying amount of its:

- machinery is C500 000, including machine A, with a carrying amount of C450 000;
- office furniture is C300 000; and
- office equipment is C310 000.

Required:

Explain whether or not:

- machine A should be separately disclosed from other machinery based on size; and
- furniture and office equipment should be disclosed as two separate categories based on the size of the carrying amounts of each category relative to the materiality limit.

Solution to example 6: items that are material in size, but not in nature or function*Machine A and the other machinery:*

Despite the fact that machine A is material in *size*, machine A should not be separately disclosed since, with reference to most user's needs, this is not material in *function or nature* (a separate description of machine A would be information more of a technical than a financial nature and would thus mean very little to *most* general users).

Furniture and office equipment:

Similarly, despite the materiality of the individual *sizes* of the carrying amounts involved, office furniture and office equipment could be aggregated due to their common *function or nature*: office use.

Although office furniture and machinery represent two dissimilar classes on the basis that their functions are so diverse, furniture and machinery should be aggregated on the face of the statement of financial position because, at this overall level of presentation, the class of asset becomes immaterial. What is more important on the face of the statement of financial position is that different categories of assets, such as property, plant and equipment versus inventory are separated. The detail of the material classes within the categories of property, plant and equipment and inventory are included in the notes. It should be noted, that where functions are materially different but amounts are immaterial, it may still be necessary to disclose separately in the notes, being a matter of judgement, once again.

6.5.3 What to do with immaterial items (IAS 1.30-31)

Immaterial items are aggregated with other items. For instance, each and every item of furniture would not be listed separately in the statement of financial position, but would be *aggregated* with all other items of furniture since they are similar in nature and it is not *material* to the user to know the value of each individual chair, table and lamp at year-end. Instead, it would be more useful to the user to simply know the total spent on furniture.

6.6 Offsetting (IAS 1.32-35)

There should be no offsetting of:

- income and expenses; or
- assets and liabilities

unless it:

- reflects the substance of the transaction; and
- is either allowed or required in terms of the related standard or interpretation.

An example of the *allowed* off-setting of income and expenses would be in the calculation of the profit or loss on sale of a non-current asset. The proceeds of the sale (income) may be set off against the carrying amount of the asset (now expensed) together with any selling expenses, with the result that the substance of the transaction is reflected.

An example of the setting off of income and expenses that is *not allowed* is revenue from a sale and the related cost of the sale since revenue is required, in terms of the relevant standard (IAS 18: Revenue), to be disclosed separately.

An example of when offsetting is *required* is *IAS 16: Property, Plant and Equipment*, where the cost of acquiring an asset must be reduced by the proceeds earned through the incidental sale of any item that may have been produced while bringing the asset to a useful location and condition (e.g. the sale of samples made when testing the asset before bringing it into use).

Example 7: sale of a machine (set-off is allowed)

During 20X2, a machine (a non-current asset) with a carrying amount of C20 000 is sold for C30 000.

Required:

Disclose the above transaction in the statement of comprehensive income.

Solution to example 7: sale of a machine (set-off is allowed)

Company name

Statement of comprehensive income

For the year ended (extracts)

	<i>Calculations</i>	20X2 C
Other income		
- Profit on sale of machine	<i>30 000 – 20 000</i>	10 000

Explanation: Since the sale of the machine is considered to be incidental to the main revenue generation of the business, the income may be disclosed *net* of the expense.

Example 8: sale of a machine (set-off is not allowed)

A company, whose business is to buy and sell machines, sold a machine for C30 000 (original cost of the machine was C20 000) during 20X2.

Required:

Disclose the above transaction in the statement of comprehensive income.

Solution to example 8: sale of a machine (set-off is not allowed)

Company name

Statement of comprehensive income

For the year ended (extracts)

	20X2 C
Revenue	30 000
Cost of sales	20 000

Explanation: since the sale of the machine is considered to be part of the main revenue generation of the business, the disclosure of the income is governed by *IAS 18: Revenue* and must therefore be shown gross (i.e. not shown net of the expense).

Example 9: cost of a machine (set-off is required)

An entity bought a machine on 31 December 20X2 that it intended to keep for 10 years. It cost C30 000. Before the machine could be brought into use, it had to be tested: this cost C5 000. During the testing process, 1 000 widgets were produced, which were all sold immediately at C1 each. *IAS 16* (paragraph 17) requires that the cost of the asset be calculated after deducting net proceeds from selling any items produced when testing.

Required:

Disclose the machine in the statement of financial position as at 31 December 20X2. This is the only item of property, plant and equipment owned by the entity.

Solution to example 9: cost of a machine (set-off is required)**Company name****Statement of financial position****As at 31 December 20X2 (extracts)**

	<i>Calculations</i>	20X2
		C
Property, plant and equipment	$30\,000 + 5\,000 - 1\,000 \times C1$	34 000

6.7 Frequency of reporting (IAS 1.36-37)

Entities are required to produce financial statements at least annually. Some entities prefer, for practical reasons, to report on a 52-week period rather than a 365-day period. This is fine!

Sometimes, however, an entity may change its year-end, with the result that the reporting period is either longer or shorter than a year. The entity must then disclose:

- The reason for the longer or shorter period; and
- The fact that the current year figures are not entirely comparable with prior periods.

It is interesting to note that amounts in the current year's statement of position would still be entirely comparable with the prior year's statement because a statement of position is merely a listing of values on a specific day rather than over a period of time. On the other hand, the amounts in the current year's statement of comprehensive income would not be comparable with the prior year's statement since the amounts in each year reflect different periods.

6.8 Comparative information (IAS 1.38-44)**6.8.1 When there has been no change in presentation (IAS 1.38-39; 41-42)**

For all statements making up the complete set of financial statements, a minimum of one year of comparative figures is required (i.e. this means that there would be two statements of financial position: one for the current year and one for the prior year). This requirement for comparative information applies equally to both numerical and narrative information.

With regard to narrative information, however, prior year narrative information need not be given if it will not enhance the understanding of the current period's financial statements. An example: information as to how a court case was resolved in the *prior* year would no longer be relevant to the *current* year financial statements.

Conversely, narrative information that *was* provided in the prior year may *need* to be followed up with narrative information in the current year, if it will enhance the usefulness of the financial statements. An example: when the *prior* year financial statements included information regarding an *unresolved* court case, details regarding how this court case was resolved during the *current* year or the status of the dispute at the end of the current year (if the case is still not yet resolved) would enhance the usefulness of the financial statements and should therefore be disclosed.

6.8.2 When there has been a change in presentation (IAS 1.41-44 and IAS 1.39)

A change in presentation occurs if there is a retrospective change in accounting policy, restatement of prior year figures when correcting an error or a reclassification of items. In order to ensure comparability from one year to the next, when the current year presentation differs from that in the prior year, the comparative information must be reclassified.

If there has been such a change in presentation in the current year,

- the prior period information should be adjusted accordingly;
- the following additional disclosures are required:
 - the nature of the reclassification
 - the amount of the items affected;
 - the reason for reclassification; and
- an additional statement of financial position is required showing the balances at the beginning of the earliest comparative period (i.e. it now needs *two* sets of comparatives).

If the recalculation of the prior period's figures based on the new approach is impracticable,

- the following must be disclosed instead:
 - the reason for not reclassifying; and
 - the nature of the changes that would have been made had the figures been reclassified.

Example 10: reclassification of assets

An entity's nature of business changed in 20X3 such that *vehicles* that were previously held for use became stock-in-trade (i.e. inventory). The unadjusted property, plant and equipment balances are as follows:

- 20X2: C100 000 (C60 000 being machinery and C40 000 being vehicles)
- 20X3: C150 000 (C80 000 being machinery and C70 000 being vehicles).

Required:

Disclose the assets in the statement of financial position and notes as at 31 December 20X3.

Solution to example 10: reclassification of assets

Entity name

Statement of financial position

As at 31 December 20X3 (EXTRACTS)

	Notes	20X3 C	20X2 C Restated
Property, plant and equipment	8	80 000	60 000
Inventory	8	70 000	40 000

Entity name

Notes to the financial statements

For the year ended 31 December 20X3 (EXTRACTS)

8. Reclassification of assets

Previously inventory was classified as part of property, plant and equipment whereas it is now classified separately. The reason for the change in the classification is that the nature of the business changed such that vehicles previously held for use are now held for trade. *IAS 2: Inventories* requires inventories to be classified separately on the face of the statement of financial position. The amount of the item that has been reclassified is as follows:

	20X3 C	20X2 C
• Inventory	70 000	40 000

6.9 Consistency of presentation (IAS 1.45-46)

The presentation and classification of items should be the same from one period to the next unless:

- there is a significant change in the nature of the operations; or
- the current financial statement presentation is simply not the most appropriate; or
- a change in presentation is required as a result of an IFRS;

and

- the revised presentation and classification is likely to continue; and
- the revised presentation and classification is reliable and more relevant to users.

If the presentation in the current year changes, then the comparative information must be adjusted with relevant disclosures (see comparative information above).

7 IAS 1: Presentation of financial statements: structure and content

7.1 The financial report (IAS 1.49-50)

A financial report is published at least annually. Included in this annual report are

- the financial statements (including five main statements); and
- a variety of other statements and reports, which may or may not be required.

The purpose of financial statements is to provide information regarding financial position, financial performance and cash flows that are useful in the economic decision-making of a wide range of users. They are also intended to be an account of management's stewardship of the resources entrusted to it (a report on how management looked after the entity's net assets).

Since the IFRSs only apply to the financial statements, it is important that any other statements and reports are separately identified and not confused with the financial statements.

7.1.1 *The financial statements*

There are five main statements in a set of financial statements, all governed by IFRS:

- statement of financial position;
- statement of comprehensive income;
- statement of changes in equity;
- statement of cash flows; and the
- notes to the financial statements.

7.1.2 *Other statements and reports*

Other statements and reports are often included in the financial report. These could be included voluntarily, as a result of other legislative requirements or included as a response to community concerns (e.g. environmental reports might be included to satisfy current public concerns regarding global warming). Other examples include:

- an index (no financial statements come without this!);
- directors' report;
- audit report
- environmental report (not compulsory but yet is encouraged);
- value-added statement (not compulsory but yet is encouraged); and a
- variety of other reports that may be compulsory or advisable for fair presentation.

7.2 Identification issues (IAS 1.51-53)

The financial statements, being governed by the IFRS, must be clearly identified from the rest of the annual report, since the rest of the report is not governed by the IFRS.

For obvious reasons, each statement (e.g. statement of comprehensive income) in the financial statements needs to be clearly identified.

Other items may need to be prominently displayed and repeated where necessary (e.g. on the top of each page) where it affords a better understanding of the financial information. Examples of these other items include:

- the name of the entity (and full disclosure of any change from a previous name);
- the fact that the financial statements apply to an individual entity or a group of entities;
- relevant dates: date of the end of the reporting period for the statement of financial position or the period covered for other statements (e.g. statement of cash flows);
- presentation currency (e.g. pounds, dollars, rands); and the
- level of rounding used (i.e. figures in a column that are rounded to the nearest thousand, such as C100 000 shown as C100, should be headed up 'C'000').

7.3 The statement of financial position

7.3.1 Overview

The statement of financial position gives information regarding the entity's financial position. There were no prizes for guessing that one!

The Framework explains that the position of the entity is represented by:

- economic resources controlled by the entity;
- financial structure;
- liquidity; and
- solvency.

The statement of financial position summarises the trial balance into the three main elements:

- assets;
- liabilities; and
- equity.

These three elements are then categorised under two headings:

- assets; and
- equity and liabilities.

The assets and liabilities are then generally separated into two further categories:

- current; and
- non-current.

7.3.2 Current versus non-current (IAS 1.60-65)

Assets and liabilities must be separated into the basic categories of current and non-current, unless simply listing them in order of liquidity gives reliable and more relevant information.

No matter whether your statement of financial position separates the assets and liabilities into the categories of current and non-current or simply lists them in order of liquidity, if the item includes both a portion that:

- is current (i.e. will be realised (settled) *within* 12 months after the reporting date); and that
- is non-current (i.e. will be realised (or settled) *later than* 12 months after reporting date), the non-current portion must be separately disclosed *somewhere* in the financial statements. This may be done in the notes rather than in the statement of financial position.

Where the assets and liabilities are *monetary* assets or liabilities (i.e. financial assets or liabilities) disclosure must be made of their maturity dates. An example of a monetary asset is an investment in a fixed deposit. An example of a monetary liability is a lease liability.

Where the assets and liabilities are *non-monetary* assets or liabilities, disclosure of the maturity dates is not required but is encouraged since these dates would still be useful in assessing liquidity and solvency. For instance, inventory (a non-monetary asset) that is not expected to be sold within a year should be separately identified in the notes with an indication as to when it might be sold. Land is another example of a non-monetary asset. A provision is an example of a non-monetary liability.

7.3.3 Assets (IAS 1.66-68 and IAS 1.70)

7.3.3.1 Current assets versus non-current assets

Current assets are assets:

- that are expected to be realised within 12 months after the reporting period;
- that are expected to be sold, used or realised (converted into cash) as part of the normal operating cycle (where the 'operating cycle' is the period between purchasing assets and converting them into cash or a cash equivalent);
- that are held mainly for the purpose of being traded; or
- that are cash and cash equivalents - so long as they are not restricted in their use within the 12 month period after the reporting period. For example, a cash amount received by way of donation, a condition to which is that it must not be spent until 31 December 20X5 may not be classified as a current asset until 31 December 20X4 (12 months before).

Non-current assets are simply defined as those assets that:

- are not current assets.

It is interesting to note that assets that are part of the normal operating cycle (for example: inventories and trade receivables) would always be considered to be current and do not need to be realised, sold or used within 12 months after the reporting period.

Marketable securities (e.g. an investment in shares) are not considered to be part of the operating cycle (since they are not integral to the fundamental operations of the business) and therefore need to be realised within 12 months from reporting date to be considered current.

7.3.4 Liabilities (IAS 1.69-76)

7.3.4.1 Current liabilities versus non-current liabilities (IAS 1.69-71)

Current liabilities are liabilities:

- that are expected to be settled within 12 months after the reporting period;
- the settlement of which are expected within the normal operating cycle (operating cycle: the period between purchasing materials and converting them into cash/ cash equivalent);
- that are held mainly for trading purposes; or
- the settlement of which the entity does not have an unconditional right to defer for at least 12 months after the reporting period.

Non-current liabilities are simply defined as those liabilities that:

- are not current liabilities.

It is interesting to note that liabilities that are considered to be part of the normal operating cycle (e.g. trade payables and the accrual of wages) would always be treated as current liabilities since they are integral to the main business operations – even if payment is expected to be made more than 12 months after the reporting period.

Examples of liabilities that are not part of the normal operating cycle include dividends payable, income taxes, bank overdrafts and other interest bearing liabilities. For these

liabilities to be classified as current liabilities, settlement thereof must be expected within 12 months after the reporting period.

Example 11: classification of liabilities

An entity has two liabilities at 31 December 20X3:

- a bank loan of C500 000, payable in annual instalments of C100 000 (the first instalment is payable on or before 31 December 20X4); and
- the electricity account of C40 000, payable immediately.

Required:

Disclose the liabilities in the statement of financial position and notes at 31 December 20X3 assuming that the entity discloses its assets and liabilities:

A In order of liquidity

B Under the headings of current and non-current.

Ignore comparatives.

Solution to example 11A: liabilities in order of liquidity

Entity name

Statement of financial position

As at 31 December 20X3 (EXTRACTS)

	Notes	20X3 C
Bank loan	8	500 000
Accounts payable		40 000

Entity name

Notes to the financial statements

For the year ended 31 December 20X3 (extracts)

	20X3 C
8. Bank loan	
Total loan	500 000
Portion repayable within 12 months	100 000
Portion repayable after 12 months	400 000

The bank loan is expected to be settled in 5 annual instalment of C100 000, the first of which is due to be paid on or before 31 December 20X4. Interest is charged at xx%.

Solution to example 11B: liabilities using current and non-current

Entity name

Statement of financial position

As at 31 December 20X3 (extracts)

	Notes	20X3 C
<i>Non-current liabilities</i>		
Bank loan	8	400 000
<i>Current liabilities</i>		
Current portion of bank loan	8	100 000
Accounts payable		40 000

Entity name**Notes to the financial statements****For the year ended 31 December 20X3 (extracts)**

	20X3
	C
8. Bank loan	
Total loan	500 000
Portion repayable within 12 months	100 000
Portion repayable after 12 months	400 000
The bank loan is expected to be settled in 5 annual instalment of C100 000, the first of which is due to be paid on or before 31 December 20X4. Interest is charged at xx%.	

7.3.4.2 Refinancing of financial liabilities (IAS 1.71-73 and IAS 1.76)

Refinancing a financial liability means to postpone the due date for repayment. When a liability that was once *non-current* (e.g. a 5-year bank loan) falls due for repayment *within* 12 months after reporting period, it needs to be reclassified as *current*. If it was possible to refinance this liability resulting in the repayment being delayed *beyond* 12 months after the end of the reporting period, then the liability could remain classified as *non-current*.

There are, however, only two instances where the possibility of refinancing may be used to avoid having to classify a financial liability as a current liability:

- where an agreement is obtained that allows repayment of the loan to be delayed beyond the 12-month period after the reporting period;
 - where the original term of the loan was for a period of more than 12 months (i.e. the liability started its life as a non-current liability), and
 - the agreement is signed *before the reporting date*; (where this agreement is only signed *after the reporting date* but *before approval* of the financial statements, this would be a 'non-adjusting post-reporting period event' and could not be used as a reason to continue classifying the liability as non-current); and
- where the *existing* loan agreement includes an option to refinance or roll-over the obligation (i.e. to delay repayment of) where:
 - the option enables a delay until at least 12 months after the reporting period, and
 - the option is at the discretion of the entity (as opposed to the bank, for example), and
 - the entity intends to refinance or roll over the obligation.

Example 12: liabilities and refinancing of due payments

A loan of C100 000 is raised in 20X1. This loan is to be repaid in 2 instalments as follows:

- C40 000 in 20X5; and
- C60 000 in 20X6.

An agreement is reached, whereby the payment of the C40 000 need only be made in 20X6.

Required:

Show the statement of financial position at 31 December 20X4 (year-end) assuming that:

- A the agreement is signed on 5 January 20X5;
- B the agreement is signed on 27 December 20X4.

Solution to example 12A: loan liability not refinanced in time**Entity name****Statement of financial position****As at 31 December 20X4**

	20X4	20X3
	C	C
LIABILITIES AND EQUITY		
Non-current liabilities	60 000	100 000
Current liabilities	40 000	-

Note: although the liability has to be separated into a current and non-current portion, note disclosure should be included to explain that the current liability of C40 000, is now a non-current liability due to the signing of a refinancing agreement during the post-reporting period.

Solution to example 12B: loan liability is refinanced in time**Entity name****Statement of financial position****As at 31 December 20X4**

	20X4	20X3
	C	C
LIABILITIES AND EQUITY		
Non-current liabilities	100 000	100 000

Example 13: refinancing of a loan

Needy Limited has a loan of C600 000, payable in 3 equal annual instalments. The first instalment is due to be repaid on 30 June 20X4.

Required:

Disclose the loan in the statement of financial position of Needy Limited as at 31 December 20X3 (year-end) assuming that the existing loan agreement:

- A provides the entity with the option to refinance the first instalment for a further 7 months and the entity plans to utilise this facility;
- B provides the entity with the option to refinance the first instalment for a further 4 months and the entity plans to utilise this facility
- C provides the entity with the option to refinance the first instalment for a further 7 months but the entity does not plan to postpone the first instalment
- D provides the bank with the option to allow the first instalment to be delayed for 7 months.

Solution to example 13: refinancing of a loan**Entity name****Statement of financial position****As at 31 December 20X4**

	(A)	(B)	(C)	(D)
	20X3	20X3	20X3	20X3
	C	C	C	C
LIABILITIES AND EQUITY				
Non-current liabilities	600 000	400 000	400 000	400 000
Current liabilities	0	200 000	200 000	200 000

Note: under scenario B, the extra 4 months only extends the repayment to 31 October 20X4 and not beyond 31 December 20X4.

7.3.4.3 Breach of covenants and the effect on liabilities (IAS 1.74-76)

Covenants (other terms you could use: provisions/ undertakings / promises made by the borrower to the lender) are sometimes included in the loan agreement. If a covenant is breached (broken), the lender may be entitled to demand repayment of a portion of the loan – or even the entire amount thereof.

Therefore, if there has been a breach of such a covenant (e.g. the borrower promises to keep the current ratio above 2:1 but then allows the current ratio to drop below 2:1), that portion of

the liability that can be recalled (i.e. the portion that the lender may demand repayment of) should automatically be disclosed as current unless:

- the lender agrees *prior to the end of the reporting period* to grant a period of grace to allow the entity to rectify the breach;
- the period of grace lasts for at least 12 months after the reporting period; and
- the lender may not demand immediate repayment during this period.

If such an agreement is signed after the end of the reporting period but before the financial statements are authorised for issue, this information would be disclosed in the notes but the liability would have to remain classified as current.

Example 14: breach of covenants

Whiny Limited has a loan of C500 000, repayable in 20X9. The loan agreement includes the following condition: if widget units sold by 31 December of any one year drops below 12 000, then 40% of loan becomes payable immediately. At 31 December 20X3 unit sales were 9 200.

The company reached an agreement with the bank such that they were granted a grace period.

Required:

Disclose the loan in the statement of financial position as at 31/12/20X3 assuming that the agreement was signed on:

- A 31 December 20X3, giving the entity a 14-month period of grace during which the bank agreed not to demand repayment;
- B 31 December 20X3, giving the entity a 14-month period of grace (although the bank reserved the right to revoke this grace period at any time during this period and demand repayment);
- C 31 December 20X3, giving the entity a period of grace to 31 January 20X4 during which the bank agreed not to demand repayment. At 31 January 20X4, the breach had been rectified;
- D 2 January 20X4, giving the entity a 14-month period of grace during which the bank agreed not to demand repayment.

Solution to example 14: breach of covenants

Entity name	(A)	(B)	(C)	(D)
Statement of financial position				
As at 31 December 20X3				
	20X3 C	20X3 C	20X3 C	20X3 C
LIABILITIES AND EQUITY				
Non-current liabilities	500 000	300 000	300 000	300 000
Current liabilities	0	200 000	200 000	200 000

Note: in scenario C, a note should be included to say that a period of grace was given and that the breach was rectified after the end of the reporting period.

In scenario D, a note should be included to say that a period of grace had been granted after the end of the reporting period that provided a grace period of more than 12 months from reporting date.

7.3.5 Disclosure: in the statement of financial position (IAS 1.54-55)

According to IAS 1, the following items must be disclosed in the statement of financial position in order to meet the minimum disclosure requirements:

- property, plant and equipment;
- investment property;
- intangible assets;
- financial assets;

- investments accounted for using the equity method (this is a financial asset but one that requires separate disclosure);
- biological assets (e.g. sheep);
- inventories;
- trade and other receivables (a financial asset but one that requires separate disclosure);
- cash and cash equivalents (a financial asset but one that requires disclosure separate to the other financial assets);
- financial liabilities;
- trade and other payables (a financial liability but one that requires separate disclosure);
- provisions (a financial liability but one that requires separate disclosure);
- tax liabilities (or assets) for current tax;
- deferred tax liabilities (or assets);
- assets (including assets held within disposal groups held for sale) that are held for sale in terms of *IFRS 5 Non-current Assets Held for Sale*;
- liabilities that are included in disposal groups classified as held for sale in terms of *IFRS 5 Non-current Assets Held for Sale*;
- minority interests (presented within equity);
- issued capital and reserves attributable to equity holders of the parent; and
- any additional line-items, headings and sub-totals considered to be relevant to the understanding of the entity's position.

Whether or not to disclose additional *line items* on the face of the statement of financial position requires an assessment of the following:

- Assets: the liquidity, nature and function of assets; examples include:
 - cash in bank is separated from a 6-month fixed deposit since the liquidity differs;
 - property, plant and equipment is shown separately from intangible assets since their nature differs (tangible versus intangible);
 - inventory is shown separately from intangible assets since their functions differ (buy to sell versus buy to use).
- Liabilities: the amounts, timing and nature of liabilities; examples include:
 - C100 000 of a C500 000 long-term loan is repayable within 12 months of reporting date, thus requiring C100 000 to be disclosed separately as a current liability and C400 000 as non-current (based on the timing of the liability);
 - provisions are shown separately from tax payable since their natures differ.

7.3.6 Disclosure: either in the statement of financial position or notes (IAS 1.77-80)

7.3.6.1 Sub-classifications (IAS 1.77-78)

The line items in the statement of financial position may be broken down further into sub-classifications.

These sub-classifications may be shown either as:

- a line item in the statement of financial position; or
- in the notes.

The *sub-classifications* to be provided depend on:

- the disclosure requirements of the IFRSs:
 - Example: *IAS 16 Property, Plant and Equipment* requires that the total be broken down into the different classes of land, buildings, plant, machinery, vehicles etc;
- the materiality of the amounts, liquidity, nature and function of assets:
 - Example: inventory that is slow-moving should be separately shown from inventory that is expected to sell within a normal period of time since their liquidity is different;
 - Example: trade and other accounts receivable should be broken-down into trade accounts receivable, expenses prepaid and other amounts receivable since their natures are different;
 - Example: office equipment should be separately shown from factory equipment because their functions differ (administrative versus manufacturing);

- the materiality of the amounts, timing and nature of liabilities:
 - Example: trade and other accounts payable should be broken-down into trade accounts payable and other accounts payable since their natures are different;
 - Example: a bank overdraft that is payable on demand should be shown separately from a short-term loan that is payable within 2 months since the timing of the payments differ.

7.3.6.2 Extra detail (IAS 1.79-80)

IAS 1 requires extra detail to be disclosed regarding two items that are included in the statement of financial position:

- share capital; and
- reserves.

Disclosure of the required extra detail may be provided:

- in the statement of financial position; or
- in the statement of changes in equity; or
- in the notes.

It is generally, however, a good idea to keep the face of the statement as simple and uncluttered as possible, disclosing as much as possible in the notes.

For each class of share capital, the extra detail that must be disclosed includes:

- the number of shares authorised;
- the number of shares issued and fully paid for;
- the number of shares issued but not yet fully paid for;
- the par value per share or that they have no par value;
- a reconciliation of the number of outstanding shares at the beginning and end of the year;
- rights, preferences and restrictions attaching to that class;
- shares in the entity held by the entity itself, or its subsidiaries or its associates; and
- shares reserved for issue under options and sales contracts, including terms and amounts.

In a situation where an entity has no share capital, (e.g. a partnership), disclosure that is equal to the above should be made regarding each category of equity interest instead.

For each reserve within equity, the extra detail that must be disclosed includes:

- its nature; and
- its purpose.

7.3.7 A typical statement of financial position

7.3.7.1 Overview

The following are examples of what a statement of financial position might look like. The line items needed for your entity might be fewer or more than those shown in these examples: it depends entirely on what line-items are relevant to your entity (e.g. if an entity does not have goodwill, then this line-item will not appear on its statement).

Remember that if the 'liquidity format' provides more meaningful disclosure for your entity than the 'current : non-current' classification, then the statement of financial position will look just the same but without the headings 'current' and 'non-current'.

The total equity on the statement of financial position is equal to the total equity on the statement of changes in equity. If you are required to present both a statement of financial position and a statement of changes in equity, then *good exam technique* would be to start with the statement of changes in equity and then, when preparing your statement of financial position, put the total equity per your statement of changes in equity in as 'issued shares and reserves'. There is nothing stopping you from listing the types of equity on the statement of financial position, except that it is not necessary and wastes valuable exam time!

7.3.7.2 Sample statement of financial position of a simplified, single entity

This is an example of a statement of financial position that might apply to a single entity. The statement of financial position of this single entity has been further simplified to show a very basic situation where, for example, the entity does not have investments of any kind and does not have non-current assets held for disposal.

ABC Ltd

Statement of financial position

As at 31 December 20X2

	20X2 C'000's	20X1 C'000's
ASSETS	X	X
Non-current assets	X	X
Property, plant and equipment	X	X
Goodwill	X	X
Other intangible assets	X	X
Current assets	X	X
Inventories	X	X
Trade and other receivables	X	X
Cash and cash equivalents	X	X
EQUITY AND LIABILITIES	X	X
Issued share capital and reserves	X	X
Non-current liabilities	X	X
Long-term borrowings	X	X
Deferred tax	X	X
Provisions	X	X
Current liabilities	X	X
Trade and other payables	X	X
Current portion of long-term borrowings	X	X
Short-term borrowings	X	X
Current tax payable	X	X

7.3.7.3 Sample statement of financial position of a group of entities

This is an example of a statement of financial position that might apply to a group of entities. You will notice that where a statement of financial position shows a group of entities, the total equity has to be broken down into the portion that belongs to the minority interest group and the portion that belongs to the owners of the parent company. This example includes more line-items than the previous simplified example: it now includes a variety of investments as well as non-current assets held for sale.

ABC Ltd
Consolidated statement of financial position
As at 31 December 20X2

	20X2 C'000's X	20X1 C'000's X
ASSETS		
Non-current assets	X	X
Property, plant and equipment	X	X
Goodwill	X	X
Other intangible assets	X	X
Investment properties	X	X
Investments in associates	X	X
Available-for-sale investments	X	X
Non-current assets held for disposal	X	X
Current assets	X	X
Inventories	X	X
Trade and other receivables	X	X
Cash and cash equivalents	X	X
EQUITY AND LIABILITIES	X	X
Total equity (issue capital and reserves)	X	X
- belonging to shareholders of the parent company	X	X
- belonging to the minority shareholders	X	X
Non-current liabilities	X	X
Long-term borrowings	X	X
Deferred tax	X	X
Provisions	X	X
Current liabilities	X	X
Trade and other payables	X	X
Current portion of long-term borrowings	X	X
Short-term borrowings	X	X
Current tax payable	X	X
Current provisions	X	X

7.4 The statement of comprehensive income (IAS 1.81-105)

7.4.1 Overview (IAS 1.81; 1.84; i.88; 1.99 and 1.104)

The statement of comprehensive income gives information regarding the financial performance of the entity.

Comprehensive income basically includes two parts:

- profit or loss (income and expenses); and
- other comprehensive income (income and expenses that are not required or not permitted to be recognised in profit or loss).

7.4.2 Profit or loss (IAS 1.88 and 1.91)

Profit or loss includes items that are recognised as income and expense. The net of the income and expenses results in either a profit or loss.

This profit or loss is then included in total comprehensive income.

7.4.3 *Other comprehensive income (IAS 1.88 and 1.90-91)*

Other comprehensive income includes items of income and expense that were either not required or were not permitted to be included in profit or loss. There are five components to other comprehensive income (as defined):

- changes in a revaluation surplus;
- actuarial gains and losses on defined benefit plans;
- gains and losses arising from translating the financial statements of a foreign operation;
- gains and losses on re-measuring available-for-sale financial assets;
- the effective portion of gains and losses on hedging instruments in a cash flow hedge.

The total of these five components is then included in total comprehensive income.

These components may be shown in the statement of comprehensive income either:

- net of tax; or
- before tax, followed by one aggregate amount for the tax effect of all five components.

The amount of tax for each of the five components must be disclosed. This can be given either in the statement of comprehensive income or in the notes.

7.4.4 *Expenses (IAS 1.99)*

7.4.4.1 *Overview*

An analysis of the expenses must be provided based on either the

- nature of the expenses (nature method); or
- function of the expenses (function method).

Choosing between the 'nature' and 'function' methods depends on which method provides reliable and more relevant information. Exactly the same profits (or losses) will result no matter which method is used.

This analysis could be included in the statement of comprehensive income or in the notes.

The nature method is intended for a smaller, less sophisticated entity. The function method is designed for larger businesses that have the ability to allocate expenses to their functions on a reasonable basis. The function method actually requires that expenses be shown in both ways since:

- the classification by function is given in the statement of comprehensive income; and
- the classification by nature is given in the notes.

7.4.4.2 *Function method (i.e. use or purpose) (IAS 1.103)*

Generally, the four main functions (tasks) of a business include the sales, distribution, administration and other operations. If one uses the function method, one has to allocate the expenses incurred to these different functions. The function method is therefore more comprehensive than the nature method. It provides information that is more relevant, but there is a risk that arbitrary allocations may lead to less reliable information.

The 'function method' gives more relevant information to the user than the 'nature method': for instance it is possible to calculate the gross profit percentage using the function method, yet it isn't possible if the nature method is used.

Information relating to the nature of expenses is crucial information to those users attempting to predict future cash flows, therefore, if the function method is used, information regarding the nature of the expense (e.g. depreciation and staff costs) is also given, but this additional classification would have to be provided by way of a note.

An example showing the statement of comprehensive income using the *function method* follows. The highlighted section is the part of the statement of comprehensive income that changes depending on whether the ‘function’ or ‘nature’ method is used.

ABC Ltd**Statement of comprehensive income****For the year ended 31 December 20X2** (function method)

	20X2
	C
Revenue	X
Other income	X
Cost of sales	(X)
Distribution costs	(X)
Administration costs	(X)
Other costs	(X)
Finance costs	(X)
Profit before tax	X
Tax expense	(X)
Profit for the period	X
Other comprehensive income	X
Total comprehensive income	X

7.4.4.3 Nature method (IAS 1.102)

Using this method, expenses are disclosed according to their nature and are *not reallocated* amongst the various functions within the entity, for example depreciation, purchases of raw materials, transport costs, wages and salaries are all shown separately and are not allocated to cost of sales, distribution, administration and other operations. This method suits small businesses because of its simplicity.

An example of the layout using the *nature method* appears next. The highlighted portion shows the part of the statement of comprehensive income that changes depending on whether the ‘function’ or ‘nature’ method is used.

ABC Ltd**Statement of comprehensive income****For the year ended 31 December 20X2** (nature method)

	20X2
	C
Revenue	X
Other income	X
Add/ (Less) Changes in inventories of finished goods and work-in-progress	(X)
Raw materials and consumables used	(X)
Employee benefit costs	(X)
Depreciation	(X)
Other expenses	(X)
Total expenses	(X)
Finance costs	(X)
Profit before tax	X
Tax expense	(X)
Profit for the period	X
Other comprehensive income	X
Total comprehensive income	X

7.4.5 One statement or two statements (IAS 1.81 and 1.88)

There are two alternative layouts for a statement of comprehensive income:

- one statement:
 - a statement of comprehensive income (this is the old income statement followed on immediately by components of other comprehensive income); or
- two statements:
 - a statement of profit and loss (this can be called an income statement if you prefer); and
 - a statement of comprehensive income (this would start with the total profit or loss and then include items of income and expenses that were either not required or not permitted to be recognised in profit or loss).

Example 15: statement of comprehensive income: two layouts compared

The following is an extract of the trial balance of Apple Limited at year-end.

Trial Balance at 31 December 20X1	Debit	Credit
Revenue		1 000 000
Cost of sales	450 000	
Cost of distribution	120 000	
Cost of administration	80 000	
Interest expense	100 000	
Tax expense	70 000	

Other comprehensive income included one item:

- C170 000 on the revaluation of a machine (net of tax).

Required:

Prepare the statement of comprehensive income for the year ended 31 December 20X1 assuming:

- A Apple Limited uses the single-statement layout;
- B Apple Limited uses the two-statement layout.

Solution to example 15A: statement of comprehensive income: single statement

Apple Limited

Statement of comprehensive income

For the year ended 31 December 20X1

	20X1	20X0
	C	C
Revenue	1 000 000	X
Cost of sales	(450 000)	(X)
Distribution costs	(120 000)	(X)
Administration costs	(80 000)	(X)
Finance costs	(100 000)	(X)
Profit before tax	250 000	X
Tax expense	(70 000)	(X)
Profit for the year	180 000	X
Other comprehensive income, net of tax:		
Revaluation surplus increase	170 000	(X)
Total comprehensive income	350 000	X

Solution to example 15B: statement of comprehensive income: two statements**Apple Limited****Income statement****For the year ended 31 December 20X1**

	20X1	20X0
	C	C
Revenue	1 000 000	X
Cost of sales	(450 000)	(X)
Distribution costs	(120 000)	(X)
Administration costs	(80 000)	(X)
Finance costs	(100 000)	(X)
Profit before tax	250 000	X
Tax expense	(70 000)	(X)
<i>Profit for the year</i>	180 000	X

Apple Limited**Statement of comprehensive income****For the year ended 31 December 20X1**

	20X1	20X0
	C	C
<i>Profit for the year</i>	180 000	X
<i>Other comprehensive income, net of tax:</i>		
Revaluation surplus increase	170 000	(X)
<i>Total comprehensive income</i>	350 000	X

7.4.6 Reclassification adjustments (1.92-96)

It may be necessary to recognise a gain or loss in *profit or loss* where this gain or loss was previously included in *other comprehensive income*.

This can occur with the following three components of other comprehensive income:

- gains and losses arising from translating the financial statements of a foreign operation;
- gains and losses on re-measuring available-for-sale financial assets;
- the effective portion of gains and losses on hedging instruments in a cash flow hedge.

These adjustments do not apply to the other two components of other comprehensive income:

- changes in a revaluation surplus;
- actuarial gains and losses on defined benefit plans.

Changes in revaluation surplus and actuarial gains and losses are recognised directly in retained earnings and never through profit and loss.

It is important that any reclassification adjustment is:

- included with the related component of other comprehensive income
- in the same period that it is reclassified as part of profit or loss.

This must happen in the same period to avoid double-counting the gain (or loss) in income.

The adjustment may either be reflected in:

- the statement of comprehensive income; or
- the notes.

Example 16: statement of comprehensive income: reclassification adjustments

Banana Limited has financial assets that it has classified as available-for-sale. Available-for-sale financial assets are measured at fair value at the end of each year, with changes in fair value taken to equity (gain on available-for-sale assets account). When the assets are sold, any gain or loss is then realised and recognised as income. All the assets were:

- purchased on 1 June 20X1: for C100 000

- measured at 31 December 20X1 (the year-end): at their fair value of C120 000
- sold on 31 December 20X1: for C130 000.

The following was extracted before any journals related to these assets had been processed:

Trial balance (extracts)	Debit	Credit
Revenue		1 000 000
Cost of sales	450 000	
Cost of distribution	120 000	
Cost of administration	80 000	
Interest expense	100 000	
Tax expense	70 000	

Required:

- A Show all the journal entries relating to the financial assets (ignore tax);
B Present the statement of comprehensive income (as a single statement), with reclassification adjustments provided in this statement (not in the notes). Ignore tax.

Solution to example 16A: journals

	Debit	Credit
1 June 20X1		
Financial assets	100 000	
Bank		100 000
<i>Purchase of financial assets</i>		
31 December 20X1		
Financial assets	20 000	
Gain on available-for-sale assets (equity)		20 000
<i>Measurement of financial asset – gain recognised as other comprehensive income (equity)</i>		
Bank	130 000	
Financial assets		120 000
Profit on sale of financial assets (income)		10 000
<i>Profit on sale of financial assets</i>		
Gain on available-for-sale assets (equity)	20 000	
Profit on sale of financial assets (income)		20 000
<i>Recognition of previous gain on financial asset (equity) as income</i>		

Solution to example 16B: statement of comprehensive income

Banana Limited

Statement of comprehensive income

For the year ended 31 December 20X1

	20X1	20X0
	C	C
Revenue	1 000 000	X
Cost of sales	(450 000)	(X)
Gross profit	550 000	X
Other income: profit on sale of financial assets	30 000	X
Distribution costs	(120 000)	(X)
Administration costs	(80 000)	(X)
Finance costs	(100 000)	(X)
Profit before tax	280 000	X
Tax expense	(70 000)	(X)
<i>Profit for the year</i>	210 000	X
<i>Other comprehensive income:</i>		
Gain on available-for-sale financial asset	0	X
Gains arising during the year	20 000	
Less reclassification adjustment: gain now included in profit and loss	(20 000)	
<i>Total comprehensive income</i>	210 000	X

7.4.7 Changes to profit or loss (IAS 1.89)

IAS 8 states that there are two instances where changes to profit or loss should not be recognised in the profit or loss for the current period but should be made retrospectively.

These two instances include:

- a change in accounting policy; and a
- a correction of a material prior period error.

Any changes due to these changes will be reflected in the statement of changes in equity and should not appear in the statement of comprehensive income.

7.4.8 Disclosure: in the statement of comprehensive income (IAS 1.82-87)

7.4.8.1 Disclosure: total comprehensive income

Certain items (where applicable to the entity) in the calculation of total comprehensive income must be disclosed as line items in the statement of comprehensive income:

- revenue *;
- finance costs *;
- share of profits and losses of equity-accounted associates and joint ventures *;
- tax expense *;
- in respect of discontinued operations, a total of the after-tax *:
 - profits or losses on the discontinued operation/s; and
 - gains or losses on the discontinued operation's assets caused by:
 - the measurement to fair value less costs to sell; or
 - the disposal of these assets or groups of assets ;
- profit or loss *;
- each component of other comprehensive income (classified by nature);
- share of other comprehensive income of equity-accounted associates and joint ventures;
- total comprehensive income.

Each item above that has been marked with the asterisk (*) would be included in the statement of profit or loss if the 'two-statement approach' was used.

Further disclosure is required of any additional line item that is considered to be relevant to the understanding of the entity's financial performance.

No item may be classified as extraordinary.

7.4.8.2 Disclosure: allocations of total comprehensive income

If an entity is part of a group where it is wholly owned by another company (the parent company), then 100% of the total comprehensive income would belong to this parent company. If, however, this parent company does not own 100% of the entity, but only a part thereof, then only that portion of the total comprehensive income would belong to the parent and the balance would belong to 'the other owners' (minority interests).

Where the comprehensive income is shared between a parent company and other minority owners, then the allocation between these two categories of owners must be disclosed in the statement of comprehensive income:

- the portion of the profit or loss that is attributable to the *:
 - owners of the parent;
 - minority interest; and
- the portion of total comprehensive income that is attributable to the:
 - owners of the parent;
 - minority interest.

*: the allocation of profit or loss can be given in the statement of profit or loss where this has been provided as a separate statement (i.e. if a two-statement approach had been used).

7.4.9 Disclosure: either in the statement of comprehensive income or the notes

In addition to disclosing the aggregate 'profit or loss' as a separate line item on the face of the statement of comprehensive income, certain of the income and expenses making up this amount may be material enough to require separate disclosure (either as separate line items in the statement of comprehensive income or in the notes), in which case their nature and amount must be disclosed. Examples of some material items (given in IAS 1) include:

- write-downs of assets and reversals thereof;
- restructuring costs and the reversal of provisions for costs of restructuring;
- disposals of property, plant and equipment and investments;
- discontinued operations;
- income and expenses relating to litigation settlements; and
- reversals of any other provisions

7.4.10 A typical statement of comprehensive income

7.4.10.1 Sample statement of comprehensive income for a simplified, single entity

This is an example of a statement of comprehensive income that might apply to a *single* entity. It has also been simplified to show a very basic statement where there are no associates or discontinued operations.

Please remember that the line items in your statement of comprehensive income might be fewer or more than those shown below. It depends entirely on what line-items are relevant to the entity (e.g. if the entity does not have available-for-sale assets, then one of the components of other comprehensive income would fall away).

ABC Ltd

Statement of comprehensive income

For the year ended 31 December 20X2 (function method)

	20X2	20X1
	C	C
Revenue	X	X
Other income	X	X
Cost of sales	(X)	(X)
Distribution costs	(X)	(X)
Administration costs	(X)	(X)
Other costs	(X)	(X)
Finance costs	(X)	(X)
Profit (or loss) before tax	X	X
Taxation	(X)	(X)
<i>Profit (or loss) for the year</i>	X	X
<i>Other comprehensive income</i>	X	X
• Gain on available-for-sale financial assets	X	X
• Increase in revaluation surplus	X	X
<i>Total comprehensive income</i>	X	X

7.4.10.2 Sample statement of comprehensive income for a group of entities

This example relates to a *group* of entities. When there is a group of entities, there needs to be a section that allocates profit and total comprehensive income between the:

- owners of the parent; and
- minority interests.

This example also includes more line-items than the first simplified example of a statement of comprehensive income: it now includes an associate and a discontinued operation.

ABC Ltd		
Consolidated statement of comprehensive income		
For the year ended 31 December 20X2 (function)		
	20X2	20X1
	C	C
Revenue	X	X
Other income	X	X
Cost of sales	(X)	(X)
Distribution costs	(X)	(X)
Administration costs	(X)	(X)
Other costs	(X)	(X)
Finance costs	(X)	(X)
Profit (or loss) before tax	X	X
Taxation	(X)	(X)
<i>Profit (or loss) for the year</i>	X	X
<i>Other comprehensive income</i>	X	X
• Gain on available-for-sale financial assets	X	X
• Increase in revaluation surplus	X	X
<i>Total comprehensive income</i>	X	X
Profit for the year attributable to:	X	X
- owners of the parent	X	X
- minority interest	X	X
Total comprehensive income for the year attributable to:	X	X
- owners of the parent	X	X
- minority interest	X	X

7.5 The statement of changes in equity

7.5.1 Overview

A change in equity is simply the increase or decrease in the net assets of the entity (or referred to as a change in position). Such a change is represented by one or more of the following:

- transactions with owners; and
- total comprehensive income.

Components of equity include:

- each class of contributed equity (e.g. ordinary shares and preference shares);
- retained earnings;
- five possible classes of comprehensive income:
 - (1) revaluation surplus; (2) gains and losses on available-for-sale financial assets; (3) actuarial gains and losses on defined benefit plans; (4) gains and losses on effective cash flow hedges; and (5) gains and losses on translation of foreign operations.

7.5.2 Disclosure: in the statement of changes in equity (IAS 1.106-110)

The following must be disclosed in the statement of changes in equity:

- for each component of equity:
 - the effect of any change in accounting policy;
 - the effect of any correction of error; and
 - a detailed reconciliation between opening and closing balances for the period;
- total comprehensive income for the period;
- the transactions with owners in their capacity as owners, showing separately:
 - contributions by owners; and
 - distributions to owners.

If there has been a change in accounting policy or a correction of error, the effect of the adjustment or restatement on the balances must be disclosed:

- for each prior period; and
- the beginning of the current period.

If the financial statements are being prepared for a *group* of companies (as opposed to a single company), then disclosure must also include the allocation of total comprehensive income to:

- owners of the parent; and
- minority interests.

7.5.3 Disclosure: either in the statement of changes in equity or notes (IAS 1.107; 1.137)

Dividends recognised during the year need to be disclosed

- in total; and
- per share.

A dividend distribution normally follows the following life-cycle:

- proposal; then
- declaration; then
- payment

Dividends are first *proposed* in a meeting. If the proposal is accepted, the entity will *declare* the dividend. According to IAS 10 (paragraph 13), a declared dividend is a dividend that is appropriately authorised and no longer at the discretion of the entity. Declaring a dividend means publicly announcing that the dividend will be paid on a specific date in the future. It is only when the declaration is made, that the entity effectively creates an obligation to pay the dividend. It is therefore only on the date of declaration that a journal is passed to recognise the liability to pay dividends (no journal is processed when the dividend is proposed):

	Debit	Credit
Dividends declared (distribution of equity)	Xxx	
Dividends payable (liability)		Xxx
<i>Dividend declared</i>		

Remember that a dividend declared is not recognised as an *expense* but rather as a *distribution of equity* because it does not meet the definition of an expense (read this definition again).

Some dividends are *not recognised* as distributions to equity holders since there is no obligation to pay them at the end of the reporting period. These include dividends that are:

- proposed before or after the reporting date but are not yet declared or paid; and
- declared after reporting date but before the financial statements are authorised for issue.

The total of the above dividends that have *not* been recognised must be *disclosed* in the notes:

- in total; and
- per share.

The amount of any cumulative preference dividends that, for some reason, have not been recognised must also be disclosed in the notes.

7.5.4 A typical statement of changes in equity

7.5.4.1 Sample statement of changes in equity for a simplified, single entity

This example shows a statement of changes that might apply to a *single* entity. This statement of changes in equity has been further simplified to show a very basic spread of equity types (i.e. it does not have reserves other than retained earnings and has only one type of share capital: ordinary shares).

ABC Ltd

Statement of changes in equity

For the year ended 31 December 20X2

	Share capital	Share premium	Retained earnings	Total equity
	C	C	C	C
Balance: 1 January 20X1 - restated	X	X	X	X
Balance: 1 January 20X1: as previously reported			X	
Change in accounting policy			X	
Correction of error			X	
Total comprehensive income			X	
Less dividends declared			(X)	
Add issue of shares	X	X		
Balance: 31 December 20X1 - restated	X	X	X	X
Balance: 31 December 20X2: as previously reported			X	
Change in accounting policy			X	
Correction of error			X	
Total comprehensive income			X	
Less dividends declared			(X)	
Add issue of shares	X	X		
Balance: 31 December 20X2	X	X	X	X

7.5.4.2 Sample statement of changes in equity for a group of entities

This example of a statement of changes in equity shows one for a *group* of entities. If the statement of comprehensive income shows a group of entities, there needs to be extra columns to show the allocation of total equity between the:

- owners of the parent; and
- minority interests.

This example also includes more columns that the first simplified example of a statement of comprehensive income: it now includes a translation reserve, available for sale reserve and a revaluation surplus.

The columns in the statement of changes in equity for your entity might be fewer or more than those shown in the examples. It depends on:

- what columns are relevant to the entity (e.g. if the entity does not have foreign operations, then a translation reserve would not be necessary); and
- the materiality of the reserves.

Some other equity accounts that you may find that would require separate columns include:

- capital accounts: stated capital and preference share capital;
- statutory reserve: capital redemption reserve fund;
- non-distributable reserve: revaluation reserve (surplus) or asset replacement reserve; and
- cash flow hedge reserves (of effective portion of gains and losses)
- general reserves.

ABC Ltd
Consolidated statement of changes in equity
For the year ended 31 December 20X2

	Attributable to owners of the parent						Minority interest	Total equity
	Share capital	Available for sale assets	Translation reserve	Revaluation surplus	Retained earnings	Total equity		
	C	C	C	C	C	C	C	C
Balance: 1 Jan 20X1 - restated	X	X	X	(X)	X	X	X	X
Balance: 1 Jan 20X1 - as previously reported	X							
Change in acc. policy	(X)							
Total comprehensive income		X	X	X	X	X	X	X
Less dividends					(X)	(X)	(X)	(X)
Add share issue	X	X				X		X
Balance: 31 Dec 20X1 - restated	X	X	X	(X)	X	X	X	X
Balance: 31 Dec 20X1 - as previously reported	X							
Change in accounting policy	(X)							
Total comprehensive income		(X)	X	(X)	X	X	X	X
Transfer to retained earnings				(X)	X			
Less dividends					(X)	(X)	(X)	(X)
Add share issue	X	X				X		X
Balance: 31 Dec 20X2	X	X	X	(X)	X	X	X	X

7.5.4.3 Exam technique

The total comprehensive income in the statement of comprehensive income is equal to the total comprehensive income shown on the face of the statement of changes in equity. If you are required to present both a statement of comprehensive income and a statement of changes in equity, then good exam technique would be to start with the statement of comprehensive income and then, when preparing your statement of changes in equity, put the total comprehensive income per your statement of comprehensive income into your statement of changes in equity.

7.6 The statement of cash flows (IAS 1.111)

7.6.1 Overview

The statement of cash flows gives information regarding the entity's cash flow broken down into the three main areas of activity, namely:

- operating activities;
- investing activities; and
- financing activities.

This statement is useful in assessing the ability of the entity to generate cash and cash equivalents and the company's related need for cash.

A separate standard (IAS 7) covers this component in detail and therefore the 'statement of cash flows' is covered in its very own chapter.

7.7 The notes to the financial statements (IAS 1.112-124)

7.7.1 Overview

Notes give additional information about:

- items that are included in the other four statements; and
- items that are not included in the other four statements yet which, for one reason or another, do require separate disclosure;
- whether the financial statements comply with all IFRSs;
- basis of preparation and the significant accounting policies;
- measurement bases;
- sources of estimation uncertainty;
- how the entity manages its capital (i.e. what are its objectives, policies and processes in this regard).

7.7.2 Structure of the notes (IAS 1.112-117 and IAS 1.122)

The notes must be presented in a systematic and logical manner. The other four statements making up the financial statements must be cross-referenced to the notes. Notes supporting items in the other four components should be listed in the same order that each line item and each financial statement is presented (on occasion, a note may refer to more than one line item, in which case one must simply try to be as systematic as possible).

The following order or structure is normally followed:

- statement of compliance with International Financial Reporting Standards;
- a summary of significant accounting policies used including:
 - a statement of the measurement basis (or bases) used in preparing the financial statements (e.g. historical cost, fair value etcetera); and
 - the accounting policies used that would help to understand the financial statements;
 - the judgements that management made in applying its accounting policies that had the most significant effect on amounts recognised in the financial statements;
 - this summary can be presented as a separate statement in the financial statements, with the result that there would be *six* statements making up the financial statements;
- supporting information for items included in the other four components that:
 - must be separately disclosed according to IFRS and/or the statutory requirements (e.g. the different classes of inventory making up the balance in the statement of financial position);
 - must be separately disclosed in order to improve understanding; and
- information regarding other items that are not included in the other four components that:
 - must be separately disclosed according to IFRS and/or the statutory requirements (e.g. contingent liabilities; commitments and details of events that happened after the reporting date but before the financial statements were authorised for issue);
 - non-financial disclosures (e.g. the entities objectives and policies regarding its financial risk management); and
 - judgements that management has made that have had the most significant effect on the amounts in the financial statements (these can be presented as part of the accounting policy note instead of as a separate note on significant judgements).

7.7.3 Disclosure of accounting policies (IAS 1.117 – 124 and 125)

7.7.3.1 Overview

The summary of significant accounting policies would include:

- The measurement basis or bases used in preparing the financial statements, for example:
 - Historical cost
 - Current cost
 - Net realisable value
 - Fair values
 - Recoverable amounts; and

- Other accounting policies that would help users understand the financial statements; and
- Judgements that management has had to make in applying accounting policies, example:
 - whether the entity's financial assets should be classified as available-for-sale or held-to-maturity etc (each classification would be measured differently);
 - whether certain sales are actually disguised financing arrangements, which would then not result in revenue; and
- Judgements that management make regarding the future and estimation of amounts: source of estimation uncertainty.

7.7.3.2 *Significant and relevant*

Only the accounting policies that are *significant* to an entity need to be disclosed. Accounting policies may be considered *significant* even if the amounts related thereto are *immaterial*. When deciding whether or not to disclose an accounting policy, one should consider whether or not it would assist the user in understanding the performance and position of the entity.

Here are a few examples of accounting policies that may be relevant to an entity:

- whether property, plant and equipment is measured at fair value less subsequent depreciation or historical cost less depreciation and what rates of depreciation are used;
- the fact that deferred tax is recognised and measured using the comprehensive basis and whether deferred tax assets are recognised;
- when revenue is recognised and how it is measured; and
- any accounting policy devised by management in the absence of an IFRS requirement.

Whether an accounting policy is relevant to an entity depends largely on the nature of its operations. For example, if an entity is not taxed, then including accounting policies relating to tax and deferred tax would be a silly idea!

7.7.3.3 *Judgements made by management*

The standard refers to two types of judgements made by management:

- Judgements made by management in deciding which accounting policies to apply;
- Judgements made by management in making estimates: sources of estimation uncertainty.

Judgements made by management in the application of accounting policies (i.e. other than those involving actual estimations) that have had a significant effect on the amounts recognised in the financial statements should be disclosed. An example of such a judgement would be when management decides that one of the buildings owned is 'held for sale' (i.e. not 'held for use') with the result that *IAS 40: Investment property* is used to account for that building instead of *IAS 16: Property, plant and equipment*. These judgements may be disclosed either with the list of significant accounting policies or as a separate note.

Judgements made by management in making actual estimates are referred to as *sources of estimation uncertainty*. Making estimates requires a subjective assessment of many things, including the future – a difficult task indeed! For this reason, information about these judgements is typically included as a separate note (i.e. not in the summary of significant accounting policies). Sources of estimation uncertainty are discussed below in more depth.

7.7.4 *Sources of estimation uncertainty (IAS 1.125 – 133)*

Drawing up financial statements involves many estimates. These estimates involve professional judgements, from the decision regarding depreciation rates to the assessment of the entity to continue as a going concern. These estimates involve both an assessment of sources of uncertainty at reporting date and in the future. Where an assumption has been made regarding uncertainties (e.g. the life of an asset, future selling prices, future costs, future interest rates), that involve a high degree of subjective and complex 'guesswork', there is, of course, a *risk* of being 'wrong.'

Disclosure is required when this possibility of being wrong amounts to:

- a *significant* risk
- that a *material* adjustment to the carrying amount of an asset or liability
- may need to be made *within the next financial year*.

The disclosure would need to include:

- the nature and carrying amount of the assets and liabilities affected;
- nature of the assumption or estimation uncertainty;
- sensitivity of the carrying amounts to the methods, assumptions and estimates used in their calculation;
- reasons for the sensitivity;
- range of reasonably possible carrying amounts within the next financial year; and
- changes made (if any) to past assumptions if the uncertainty still exists.

If an asset or liability is measured at fair value based on market prices, and there is a significant risk of its carrying amount changing materially within the next year, no disclosure is required since the change in its carrying amount is caused by the market price changing and is not caused by incorrect assumptions made by management.

Example 17: sources of estimation uncertainty

Weezy Limited is a petrochemical company that has a bad reputation for environmental pollution. It has recently been presented with numerous legal claims from residents in the surrounding neighbourhood.

Required:

Explain the issues that Weezy Limited must consider when complying with IAS 1 requirement's regarding 'sources of estimation uncertainty'.

Solution to example 17: sources of estimation uncertainty

There are two areas of concern for Weezy Limited where assumptions made by management involve a high degree of risk that a material adjustment to an asset or liability may be required in the next year.

In this regard, management must decide:

- Recognition and measurement: whether it must make provisions for restoration of the environment due to the impact of pollution possibly caused by it. This will require assumptions regarding the amounts and timings of the likely cash flows.
- Disclosure: what to disclose regarding the likely outcome, amounts of damage probable and the timing of such payments pursuant to the recent legal claims received.

7.7.5 Capital management (IAS 1.134-135)

An entity must disclose its objectives, policies and processes for managing its capital. In so doing, the disclosure must include:

- qualitative information regarding the objectives, policies and processes for managing its capital, including at least the following information:
 - a description of what it considers to be capital;
 - the nature of any externally imposed capital requirements
 - how externally imposed capital requirements (if any) have been incorporated into the entity's management of capital
 - how it is meeting its objectives for managing capital;
- quantitative information regarding what it considers to be capital (since the term *capital* is not defined):
 - some entities *include* some financial liabilities when talking about their capital (e.g. the entity may manage its subordinated debt as part of its capital); while
 - some entities *exclude* certain equity accounts from their idea of capital (e.g. the entity may not consider its cash flow hedge reserves to be part of capital);
- changes to the information provided above from the prior year;

- whether it complied with the externally imposed capital requirements (if applicable) during the period; and
- the consequences of non-compliance with externally imposed capital requirements (if applicable).

7.7.6 Other disclosure required in the notes (IAS 1.137-138)

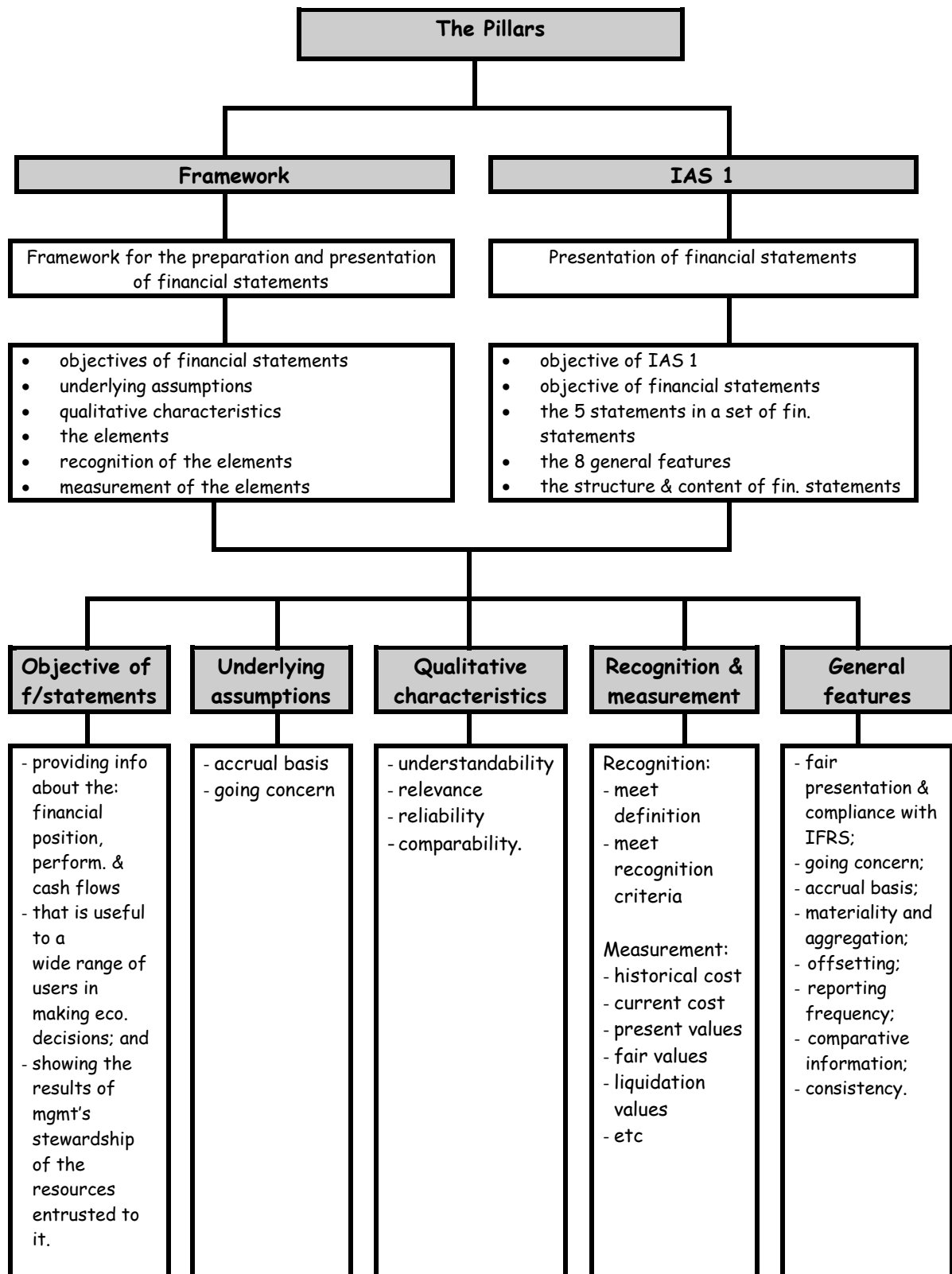
Other information requiring disclosure includes:

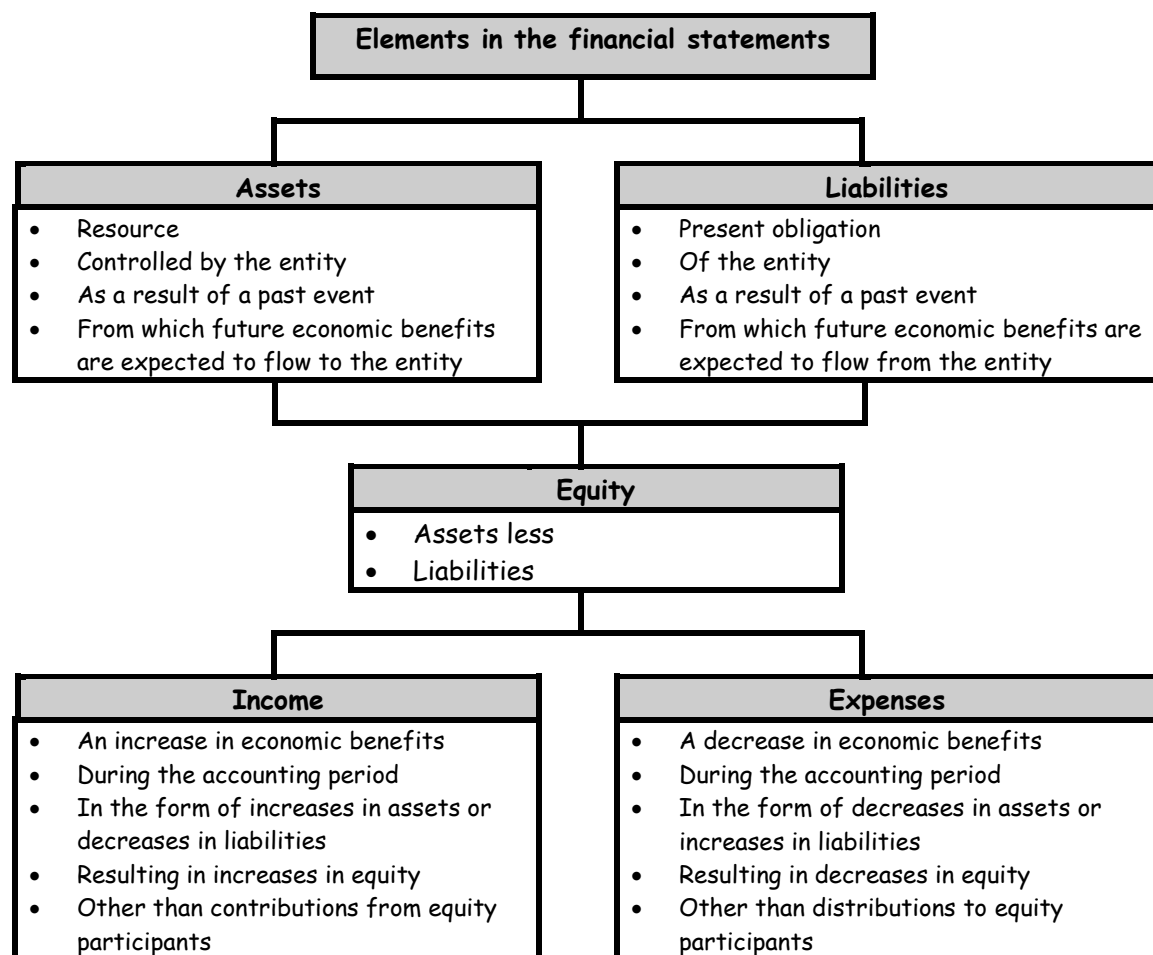
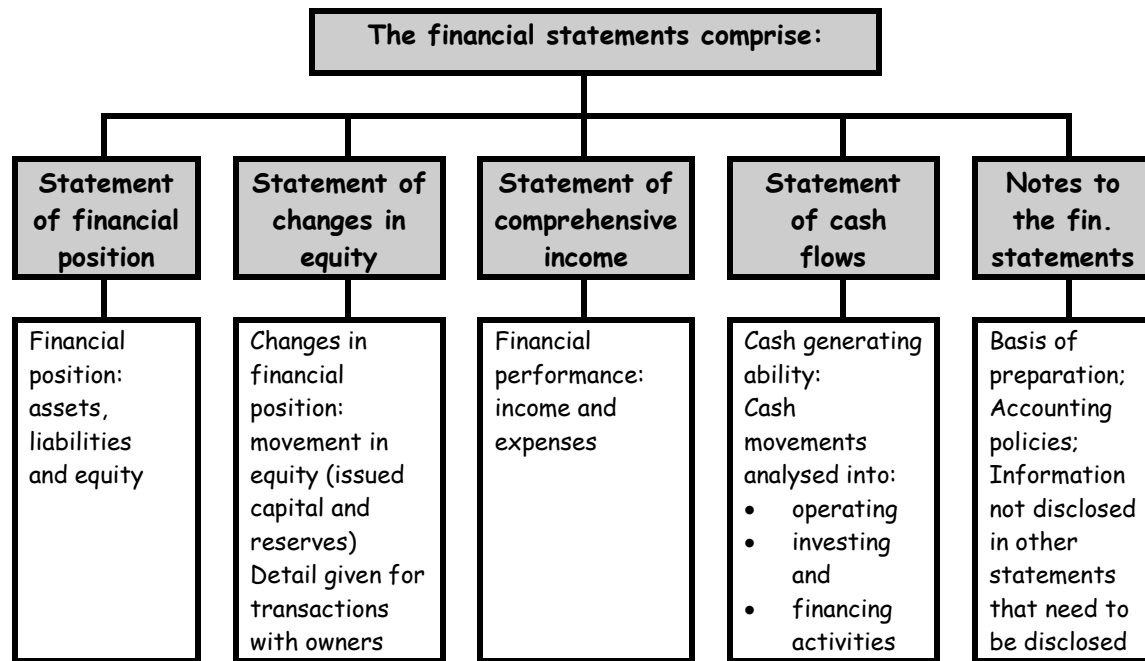
- the domicile and legal form of the entity;
- which country it was incorporated in;
- the address of its registered office or principal place of business;
- a description of the nature of the entity's operations and principal activities; and
- the name of the parent entity and the ultimate parent of the group (where applicable).

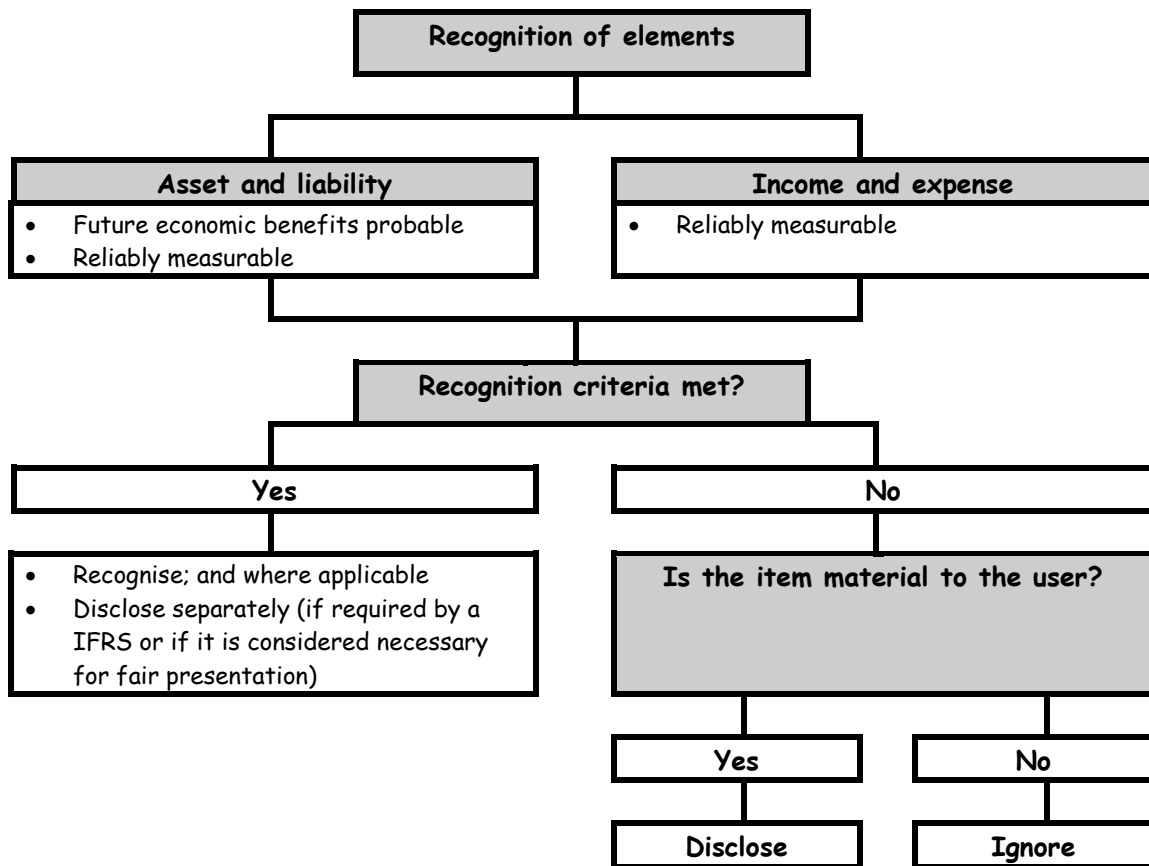
The notes must also include the following information relating to unrecognised dividends:

- the amount of any dividend proposed before the financial statements were authorised for issue and the dividend per share;
- the amount of any dividend declared before the financial statements were authorised for issue and the dividend per share; and
- the amount of any cumulative preferences dividends not recognised.

8. Summary







Chapter 2

Taxation

Reference: IAS 12

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1. Definitions

The following definitions are some of the definitions provided in IAS 12:

- **Accounting profit:** is profit or loss for a period before deducting tax expense.
- **Taxable profit (tax loss):** is the profit (loss) for a period, determined in accordance with the rules established by the taxation authorities, upon which income taxes are payable (recoverable).
- **Current tax:** is the amount of income taxes payable (recoverable) in respect of the taxable profit (tax loss) for a period.

The following terms are not defined in IAS 12 but are used in this chapter:

- **Tax loss:** is the amount of loss, determined in accordance with tax legislation, that is available for deduction in determining taxable income for any future period.
- **Permanent differences:** are the differences between taxable profit and accounting profit for a period that originate in the current period and will never reverse in subsequent periods, (for example, some of the income according to the accountant might not be treated as income by the tax authority because he doesn't tax that type of income, or alternatively, the tax authority might tax an item that the accountant will never treat as income. The same type of differences may arise when dealing with expenses).
- **Applicable tax rate:** is the rate of tax, as determined from time to time by tax legislation, at which entity's pay tax on taxable profits.
- **Effective tax rate:** is the taxation expense in the statement of comprehensive income expressed as a percentage of accounting profit.

2. Different types of taxation

There are many different taxes levied around the world. The following are a list of some of the common taxes:

- **VAT (value-added taxation):**
This is a tax on goods bought: the purchaser of the goods will pay the VAT and the seller, being the one to receive the payment, pays the tax over to the tax authority.
- **Employees' tax:**
This is a tax on salaries earned by employees: the company deducts the tax from the employee's salary and pays this tax to the tax authority; the employee is paid his salary net of tax.
- **Normal tax on companies:**
This is a tax on a company's taxable profits. Normal tax is paid to the tax authority using a provisional tax payment system.
- **Dividends tax**
This tax is levied on dividends received by shareholders and will be in the form of a withholding tax (i.e. the company paying the dividends will withhold the dividend tax and pay it over to the tax authorities on behalf of the shareholder).
- Countries often have many other hidden taxes, such as postage stamps, petrol, property rates, unemployment insurance funds, regional levies and many more.

We will concentrate on some of the main taxes affecting a business entity: VAT, employees' taxes, normal tax on profits on net dividends declared. For consistency, the following rates of tax will be assumed throughout this text unless indicated otherwise:

- VAT at 14%;
- Normal tax at 30% of taxable profit;

Remember in an exam situation to use the rates of tax given in the question. If none are given, it is generally advisable to use the latest known rates.

3. Transaction tax

3.1 Overview

Some countries levy a tax on certain transactions, a common transaction tax being value added tax (VAT). VAT is levied on certain goods or services sold. Goods and services supplied are generally categorised into three types:

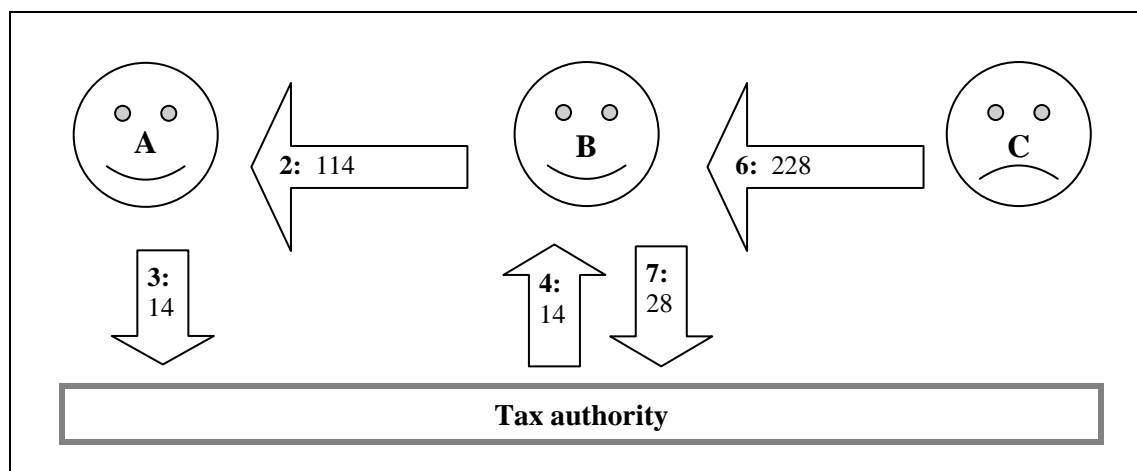
- taxable supplies;
- zero-rated supplies; and
- exempt supplies.

Zero-rated and exempt supplies are similar in that there is effectively no VAT paid on these items. There is a practical difference, however, in that zero-rated goods technically have VAT levied, but at 0%, whereas exempt supplies do not have VAT levied on them at all. The reason for this is beyond the scope of this chapter.

Every purchaser in the supply chain pays the VAT and may then claim it back, assuming that the purchaser is registered as a 'VAT vendor' in terms of the relevant tax legislation. If the purchaser is not registered as a 'VAT vendor', then he will not be allowed to claim the VAT back and is therefore considered to be the 'final customer' for tax purposes. The following may help you understand the VAT process:

1. A (manufacturer and VAT vendor) sells goods to B (retailer) for 114 (including 14% VAT).
2. B pays 114 to A.
3. A pays the 14 VAT to the tax authority.
4. B is a VAT vendor so he claims and receives the 14 VAT back from the tax authorities.
5. B (the retailer) sells the goods to C (the man in the street) for 228 (including 28 VAT)
6. C pays B 228.
7. B pays the 28 VAT to the tax authorities
8. C is not classified as a vendor for VAT purposes and may therefore not claim the 28 back.
9. The tax authority gets to keep the final 28.

A picture showing the flow of cash is given in the hope that it helps to clarify the above:



Please note that it is Mr C (the one who is not smiling!) that is the only one in the chain of transactions who is actually paying the VAT. Mr. C is normally the man in the street and not a business. You will notice that this system is quite an onerous system in terms of the paperwork that has to be sent to the tax authorities supporting amounts owing and claimed.

3.2 The sale of goods

Businesses that are registered as VAT vendors in terms of the tax legislation must charge VAT on the sale of all the goods and services supplied (assuming that the supplies are classified as 'taxable supplies'). The law requires that the goods and services that are taxable should be marked at a price that includes the VAT. Where the goods and services are either zero-rated or exempt, no additional VAT will be included in the price.

Example 1: VAT on sale of goods

Let us assume that the seller is a VAT vendor and the goods to be sold are taxable. The selling price ex-VAT is C100 and therefore the marked price will have to be C114 (including 14% VAT on the C100). When the goods are sold, the seller will receive C114. However, the seller is acting as an agent for the tax authorities in that he is required to collect the C14 VAT from the customer and pay it over to the tax authorities. Therefore, C14 of the C114 is money received on behalf of the tax authorities and does not belong to the seller.

Required:

Record all related transactions in the books of the seller.

Solution to example 1: VAT on sale of goods

Assuming that the original sale is a cash sale, the journal entries will be posted as follows:

Bank		Sales (I)	
Sales & CTP: VAT	114	Bank	100
Current tax payable: VAT (L)			
	Bank		14

The seller would then have to pay the tax authorities the C14 in VAT, thus settling the liability owing to the tax authorities. The net effect is that the seller's bank increases by only C100 (C114 – C14) which was why only C100 was recognised as income.

Bank		Sales (I)	
Sales & VAT	114	CTP: VAT	14
		Bank	100
Current tax payable: VAT (L)			
Bank	14	Bank	14

It is clear from the above example that before you can record a sale, you need to know whether you are a VAT vendor or not. If you are a VAT vendor, so long as the goods are not exempt or zero-rated, you must charge the customer VAT (i.e. the marked price will include 14% VAT).

Example 2: VAT on sale of goods

Mr. A sells goods to Mr. B for C114 (the marked price). Assume VAT is levied at 14%.

Required:

- a) Show the relevant t-accounts in Mr. A's ledger assuming:
 - i) Mr. A is not a VAT vendor
 - ii) Mr. A is a VAT vendor
- b) How would your answer change if:
 - i) Mr. B is not a VAT vendor
 - ii) Mr. B is a VAT vendor.

Solution to example 2: VAT on sale of goods

a)

i. **Mr. A is not a VAT vendor:**

Mr. A has therefore not included VAT in the marked price of C114. In this case:

Selling price = Marked price

Bank/ Debtors	Sales (I)
114	114

Since the price charged for the goods does not include VAT, the full invoice value belongs to Mr. A.

ii. **Mr. A is a VAT vendor:**

Mr. A has therefore charged VAT. The marked price therefore includes VAT. The following equations are useful:

selling price + VAT = marked price;

If VAT is levied at 14% on the selling price ($SP + 14\% \times SP = MP$) then:

- *selling price = marked price / 114 x 100*
- *VAT = marked price / 114 x 14*

Apply to this example:

- Selling price:
 $SP + 0.14 \times SP = C114;$
 $1,14 SP = C114$
 $SP = C114 / 1,14 = C100$ (or: $C114 / 114 \times 100$)
- VAT:
 $C100 + VAT = C114;$
therefore $VAT = C114 - C100 = C14$ (or: $C114 / 114 \times 14$)

Bank/ Debtors	Sales (I)
114	100
	Current tax payable: VAT (L)
	14

A total of C114 is received; of which only C100 ($100/114 \times C114$) belongs to Mr. A and the balance of C14 constituting VAT ($14/114 \times C114$) must be handed over to the tax authorities.

b)

There would be no difference in the way the journals are recorded in Mr. A's books, since it is of no consequence to Mr. A whether or not Mr. B is able to claim back the VAT that Mr. B pays.

3.3 The purchase of goods

In the event that the purchaser is a vendor for VAT purposes, VAT may (in most cases) be claimed back from the tax authorities.

Example 3: VAT on purchase of goods

Let us continue using the same example 2 above, where the seller was a vendor. Assume that Mr. A originally purchased these goods (mentioned in example 2) from a VAT vendor for C57. Bearing in mind that the marked price would have included 14% VAT, means that he paid C7 in VAT ($14/114 \times 57$) and only C50 for the goods themselves.

Required:

Record the related journal entries in Mr. A's ledger.

Solution to example 3: VAT on purchase of goods

Inventories (A)		Bank	
Bank	50		Inventories/VAT57
Current tax receivable: VAT (A)			
Bank	7		

The tax authorities will now have to refund the purchaser, Mr. A, the C7 VAT. Note that the inventory is valued at C50 and not C57 since although Mr. A had to pay C57 for the purchase, he will receive the C7 back from the tax authorities, the net cost to Mr. A being C50 (C57 – C7). The journal entries will be posted as follows:

Inventories (A)		Bank	
Bank	50	CTP:VAT	7
			Inventories/VAT 57
Current tax receivable: VAT (A)			
Bank	7	Bank	7

Note that the tax authorities effectively receive 14% of the profits (sales: C100 – cost of sales: C50 = profits: C50; and Current tax payable (VAT): C14 – C7 = C7 = C50 x 14%)

Example 4: VAT on purchase of goods

Before you can record a purchase, you need to know:

- if the seller is a VAT vendor – in which case the purchaser would have been charged VAT; and
- if the purchaser is a VAT vendor – in which case the purchaser may claim the VAT paid back from the tax authorities.

Mr. B buys goods from Mr. A for C114 (the marked price).

Required:

Show the journals posted in Mr. B's ledger assuming:

- Mr. B (purchaser) is a VAT vendor and Mr. A (seller) is not a VAT vendor
- Mr. B (purchaser) is a VAT vendor and Mr. A (seller) is a VAT vendor
- Mr. B (purchaser) is not a VAT vendor and Mr. A (seller) is not a VAT vendor
- Mr. B (purchaser) is not a VAT vendor and Mr. A (seller) is a VAT vendor

Solution to example 4: VAT on purchase of goods**i. Mr. B is a VAT vendor and Mr. A is not a VAT vendor**

Bank		Inventories (A)	
	114	114	

Mr. B is a VAT vendor and would therefore be able to claim back any VAT that he paid – however, Mr. A is not a VAT vendor and therefore has not charged Mr. B any VAT.

ii. Mr. B is a VAT vendor and Mr. A is a VAT vendor

Bank	Inventories (A)
114	100
	Current tax receivable: VAT (A)
	14

Mr. A is a VAT vendor and will therefore have included VAT in the marked price of C114. Mr. B is a VAT vendor and is therefore able to claim this VAT back from the tax authorities. The inventory therefore costs $C114 - C14 = C100$ (excluding the VAT that will be claimed back from the tax authorities).

iii. Mr. B is not a VAT vendor and Mr. A is not a VAT vendor

Bank	Inventories (A)
114	114

Mr. B is not a VAT vendor which means that he is not able to claim back any VAT that he pays. This is a mute point, however, since Mr. A is not a VAT vendor, and has therefore not charged Mr. B VAT.

iv. Mr. B is not a VAT vendor and Mr. A is a VAT vendor

Bank	Inventories (A)
114	114

Mr. A is a VAT vendor, which means that he will have charged Mr. B VAT. However, Mr. B is not a VAT vendor, which means that he is not able to claim back any VAT that he pays. Since Mr. B may not claim back any VAT paid, the inventories purchased cost him the full amount of C114.

Note: It can be seen from the above that the only time it would be possible for a purchaser of goods to claim VAT back from the tax authorities is when both the purchaser and the seller are 'VAT vendors'.

4. Employees' taxation

This is a tax that the employee effectively incurs. The company, however, generally has the responsibility of calculating the tax, deducting it from the salary of the employee and paying it over to the tax authorities within a specified period of time. The company is, therefore, acting as an agent for the tax authorities and does not incur this tax expense itself: it is a tax expense incurred by the employee. For this reason, the tax expense on the face of the statement of comprehensive income will not include employees' tax. Salaries and wages will include the employees' tax paid.

Example 5: employees' tax

Assume that Mr. X has one employee who earns a gross monthly salary of C8 000. The employee's tax on his salary has been calculated to be C2 340 per month. This employee is employed as a secretary.

Required:

Post all related journal entries in Mr. X's business ledger.

Solution to example 5: employees' tax

Salaries (E)		Bank	
Bank & CTP ⁽¹⁾ 8 000		Salaries ⁽¹⁾	5 660
Current tax payable: employees tax (L)			
	Salaries ⁽¹⁾ 2 340		

- (1) payment to the employee of C5 660 (his salary net of employees' tax) and the balance of C2 340, being employees' tax deducted from the employee's salary, recorded as owing to the tax authorities. Notice how the salaries account shows the gross amount of the salary: the net amount actually paid to the employee plus the employee's tax paid on his behalf.

If the financial statements were to be drawn up at this point (i.e. before payment to the tax authorities of the employees' tax) they would appear as follows:

Company name	
Statement of comprehensive income (extracts)	
For the period ended ...	
	20XX
Administration expenses	C
- Salaries and Wages	8 000

Company name	
Statement of financial position (extracts)	
As at ...	
	20XX
<i>Current Liabilities</i>	C
- Current tax payable: employees' tax	2 340

Note that the salaries are shown at the gross figure of C8 000 in the statement of comprehensive income and NOT the net amount received by the employee. The reason for this is twofold:

- the taxes paid may not be claimed back by the company (as in the case of VAT) so the cost to the company is truly C8 000 (see the bank account after payment is made to the tax authorities) and
- employees' tax is a tax incurred by the employee and is not incurred by the company – therefore the portion deducted and paid over to the tax authorities should not be shown separately as a tax expense since the company does not incur a tax expense, but incurs a salary expense instead.

The employee's tax must now be paid over to the tax authorities and the journal entries will appear as follows:

Salary (E)		Bank	
Bank & CTP ⁽¹⁾ 8 000		Salaries ⁽¹⁾	5 660
		CTP: ET ⁽²⁾	<u>2 340</u>
			8 000
Current tax payable: employees tax (L)			
Bank ⁽²⁾	<u>2 340</u>	Salaries ⁽¹⁾	<u>2 340</u>

- (2) Payment to the tax authorities of the employees' tax withheld from the employee.

It is clear from the bank account that a total of C8 000 is actually spent in order to pay the employee his net salary of C5 660 and for this reason, the salaries expense should appear in the statement of comprehensive income at C8 000.

5. Taxation expense

- The tax expense on the face of the statement of comprehensive income is the total of the taxes incurred by the company on its profits. Company's are often subjected to a variety of taxes on their profits

Normal tax is a direct tax on the company profits and is journalised as follows:

	Debit	Credit
Tax expense: normal tax	Xxx	
Current tax payable: normal tax		xxx
<i>Current normal tax charge for the current year</i>		

It is worth noting that neither employees' tax nor valued added tax is disclosed as part of the company's tax expense. This is because:

- employees' tax is incurred by the employee and not by the company; and
- VAT will either be claimed back (assuming that the company is a VAT vendor), with the result that the VAT is an asset and not an expense; or VAT will form part of the cost of the goods or supplies acquired whether these goods or supplies are treated as assets or expenses (where the company is not a VAT vendor).

There could be another tax line item on the face of the statement of comprehensive income called 'Income tax on other comprehensive income'. This line item will appear if the components of other comprehensive income are presented before tax. If the components are presented net of tax, then this item will not appear in the statement of other comprehensive income. A note to show the tax effects of each component of other comprehensive income is required (it is required irrespective of whether or not the components are shown before or after tax in the statement of comprehensive income).

6. Normal tax: estimation of current normal tax

6.1 Overview

Current normal tax is the tax charged on the taxable profits of the current period. Taxable profits are calculated in accordance with the relevant tax legislation. We will assume that normal tax is levied at a rate of 30%, unless otherwise indicated.

The current normal tax charge has to be estimated by the accountant since the official tax assessment by the tax authorities, indicating the exact amount of normal tax owing for the current year, will only be received well after the end of the current year.

The accountant therefore needs to convert his accounting profit to the taxable profit. To be able to do this will require a sound knowledge of the tax legislation and how it differs from the International Financial Reporting Standards. For the purposes of this section, only a few examples of permanent differences and temporary differences will be covered.

6.2 Taxable profits versus accounting profits

Taxable profits are determined in accordance with the tax legislation whereas accounting profits are determined in accordance with the standards.

Taxable profits may be calculated from the accounting profits figure as follows:

	C
Accounting profit (profit before tax)	xxx
Add/(less) permanent differences	xxx
Profit considered to be taxable per the accountant	xxx
Add/(less) movement in temporary differences	xxx
Taxable profit (considered to be taxable by the tax authorities)	xxx

6.3 Permanent differences

Some of the income included in the statement of comprehensive income may be exempt from tax per the tax legislation (meaning that it will never be taxed by the tax authorities). Conversely, there may be an expense in the statement of comprehensive income that is not deductible per the tax legislation (meaning that the tax authorities will never allow it as a deduction against taxable profits). The total accounting profit and total taxable profit in such cases will *never* equal each other, thus these differences are termed permanent differences.

For the purposes of this text, we will assume the following permanent differences:

- exempt income (income that will never be taxed):
 - dividend income; and
 - a portion of the capital profits (that won't be taxed);
- non-deductible expenses (expenses that will never be allowed as a deduction):
 - fines; and
 - certain donations.

These differences results in the effective tax rate and applicable tax rate not being equal to one another. This then requires you to include a rate reconciliation in the tax expense note.

6.4 Temporary differences

Certain items of income and expense may be included in *taxable* profits in periods that are different to those in which they are included in the *accounting* profits. These differences arise mainly due to the following two areas:

- the accountant uses the accrual system of accounting whereas the tax authority uses a mixture between an accrual and a cash system (this difference between this hybrid system and the system of accrual is discussed below); and
- the rate of depreciation/ amortisation calculated by the accountant differs from the rate of depreciation calculated by the tax authority (the difference between the rate of depreciation in the accounting records and the rate of depreciation in the tax records is discussed below).

There are, of course, many areas in the tax legislation that may lead to temporary differences. For the purposes of this text, however, we will limit our examples to those that involve the following causes of temporary differences (these would need to be adjusted for when converting accounting profits into taxable profits):

- income received in advance;
- income receivable;
- expenses prepaid;
- expenses payable;
- provisions; and
- depreciation/ amortisation.

6.4.1 System of accrual

The tax authority, governed by the tax legislation of the country, generally recognises income and expenses on a basis that is effectively a hybrid between the accrual basis and the cash basis. In most cases, income is recorded on the earlier of the date of receipt or earning (accrual), whereas expenses are recorded on the date that they are incurred unless the expense has been prepaid, in which case, the prepaid expense may or may not be allowed even though

it has not yet been incurred. The criteria to determine when a prepaid expense may be allowed as a deduction is outside the scope of this chapter.

A summary of the situation described above is given below:

Accountant recognises:

Income:

When earned (accrual basis)

Expenses:

When incurred (accrual basis)

tax authority recognises:

Income:

When received (cash basis) or earned (accrual basis), whichever happens first

Expenses:

When incurred (accrual basis) unless the expense has been prepaid in which case, it might be allowed.

Example 6: income received in advance

B Ltd received C10 000 in rent income on 31st December 20X1 (the year-end) from a tenant for rent of a building in January 20X2. There are no permanent differences or temporary differences other than those evident from the information provided. No dividends were declared in either year. Profit before tax (correctly calculated) was C100 000 in both 20X1 and 20X2.

Required:

- Show the journal entries in 20X1 and 20X2 relevant to the rent income.
- Calculate the taxable profits and current tax per the tax legislation for 20X1 and 20X2.

Solution to example 6: income received in advance

A. Journals

Journal in 20X1

	Debit	Credit
Bank	10 000	
Income received in advance (L)		10 000
Deferral of income received in advance at year-end		

Journal in 20X2

	Debit	Credit
Income received in advance (L)	10 000	
Rent income		10 000
Reversal of income received in advance opening balance		

Calculation of taxable profits and current normal tax

	Total C	20X2 C	20X1 C
Profit before tax	200 000	100 000	100 000
Add/(less) permanent differences	0	0	0
Profit considered to be taxable per the accountant in the current year	200 000	100 000	100 000
Add/(less) movement in temporary differences			
Add income received in advance (closing balance): taxed in the current year	10 000	0	10 000
Less income received in advance (opening balance): taxed in a previous year	(10 000)	(10 000)	0
Taxable profits	200 000	90 000	110 000
Current tax at 30% <i>Dr: Tax expense: NT; Cr: CT payable: NT</i>	60 000	27 000	33 000

Once again, it can be seen from the above that over a period of time, both the accountant and tax authorities agree that accounting profit and taxable profit equals C200 000, thus the difference between accounting and taxable profits are as a result of *temporary* differences.

Example 7: income receivable

A Ltd sold inventory for C100 000 during 20X1 on credit and received payment of C100 000 in 20X2. The tax authorities tax income when earned or received, whichever happens first. There is no other income in either 20X1 or 20X2.

Required:

- Show the journal entries in 20X1 and 20X2 relevant to the income and receipt above.
- Calculate the current normal tax expense in each year and briefly explain your answer.

Solution to example 7: income receivable

A. Journals

Journal in 20X1

	Debit	Credit
Debtors (A)	100 000	
Sales (I)		100 000
<i>Sale on credit</i>		

Journal in 20X2

Bank	100 000	
Debtors (A)		100 000
<i>Receipt of balance owed by debtor</i>		

B. Calculation and explanation

Since both the tax authorities and the accountant recognise the income in 20X1 (when earned), there is no temporary difference. The calculation of current normal tax in 20X1 and 20X2 will be as follows:

	Total C	20X2 C	20X1 C
Profit before tax	100 000	0	100 000
Add/(less) permanent differences	0	0	0
Subtotal	100 000	0	100 000
Add/(less) movement in temporary differences	0	0	0
Taxable profits	100 000	0	100 000
Current tax at 30% <i>Dr: Tax expense: NT; Cr: CT payable: NT</i>	30 000	0	30 000

Example 8: expenses prepaid

A Ltd paid rent of C12 000 in December 20X1 for the rental of its factory for the entire year of 20X2. Profit before tax and *before* taking into account any journal entries relating to the above is C100 000 in 20X1 and C100 000 in 20X2. The tax authorities allowed the prepayment of rent to be deducted in 20X1.

Required:

- A. Show the journal entries in 20X1 and 20X2 relevant to the expense and payment above.
- B. Calculate the taxable profits and current tax per the tax legislation for 20X1 and 20X2.

Solution to example 8: expenses prepaid**A. Journals**

Journal in 20X1	Debit	Credit
Rent prepaid (A)	12 000	
Bank		12 000
<i>Payment of rent expense for 20X2</i>		
Journal in 20X2		
Rent expense (E)	12 000	
Rental prepaid (A)		12 000
<i>Recognition of the prepaid expense as an expense</i>		

B. Calculation and explanation: taxable profits and current normal tax

Since the accountant recognises the rent as an expense in 20X2 and the tax authority recognises it as a deduction in 20X1, the accounting profit and taxable profit in each of these years will differ.

	Total C	20X2 C	20X1 C
Profit before tax <i>20X2: 100 000 – 12 000</i>	188 000	88 000	100 000
Add/(less) permanent differences	0	0	0
Profit considered to be taxable per the accountant in the current year	188 000	88 000	100 000
Add/(less) movement in temporary differences			
Less expense prepaid (closing balance): deductible in the current year	(12 000)	0	(12 000)
Add expense prepaid (opening balance): deducted in the previous year	12 000	12 000	0
Taxable profits	188 000	100 000	88 000
Current tax at 30% [<i>Dr: TE (NT); Cr: CTP (NT)</i>]	56 400	30 000	26 400

Example 9: expenses payable

A Ltd incurred rent of C10 000 in December 20X1 but only paid this rent in January 20X2. Profit before tax and *before* taking into account any journal entries relating to the above is C100 000 in 20X1 and C100 000 in 20X2. The tax authority allowed the rent payable to be deducted in 20X1.

Required:

- A. Show the journal entries in 20X1 and 20X2 relevant to the expense and payment above.
- B. Calculate the current normal tax for each year and briefly explain your answer.

Solution to example 9: expenses payable**A. Journals**

Journal in 20X1	Debit	Credit
Rent (E)	10 000	
Rent payable (L)		10 000
<i>Rent payable as at 31 December 20X1</i>		
Journal in 20X2		
Rent payable (L)	10 000	
Bank		10 000
<i>Payment of the rent for 20X1</i>		

B. Calculation and explanation: taxable profits and current normal tax

Since the accountant recognises the rent as an expense in 20X1 and the tax authority recognises it as a deduction in 20X1, the accounting profit and taxable profit in 20X1 and 20X2 will be the same. There will therefore be no temporary difference.

	Total C	20X2 C	20X1 C
Profit before tax <i>20X1: 100 000 – 10 000</i>	190 000	100 000	90 000
Add/(less) permanent differences	0	0	0
Profit considered to be taxable per the accountant in the current year	190 000	100 000	90 000
Add/(less) movement in temporary differences	0	0	0
Taxable profits	190 000	100 000	90 000
Current tax at 30% [<i>Dr: TE (NT); Cr: CTP (NT)</i>]	57 000	30 000	27 000

Example 10: provision for leave pay

A Ltd estimated that the value of the leave pay owing to its staff at 31 December 20X1 is C100 000. This leave pay was paid to its staff in 20X2. Profit before tax and *before* taking into account any journal entries relating to the above is C400 000 in 20X1 and C400 000 in 20X2. The tax authorities allow provisions to be deducted only when paid.

Required:

- Show the journal entries in 20X1 and 20X2 relevant to the expense and payment above.
- Calculate the current normal tax for each year and briefly explain your answer.

Solution to example 10: provision for leave pay**A. Journals**

Journal in 20X1	Debit	Credit
Leave pay (E)	100 000	
Provision for leave pay (L)		100 000
<i>Provision for leave pay as at 31 December 20X1</i>		
Journal in 20X2		
Provision for leave pay (L)	100 000	
Bank		100 000
<i>Payment of the leave pay for 20X1</i>		

B. Calculation and explanation: taxable profits and current normal tax

Since the accountant recognises the leave pay as an expense in 20X1 and the tax authority recognises it as a deduction in 20X2, the accounting profit and taxable profit in 20X1 and 20X2 will differ.

	Total C	20X2 C	20X1 C
Profit before tax 20X1: 400 000 – 100 000	700 000	400 000	300 000
Add/(less) permanent differences	0	0	0
Profit considered to be taxable per the accountant in the current year	700 000	400 000	300 000
Add/(less) movement in temporary differences			
Add provision (closing balance): not deductible in 20X1	100 000	0	100 000
Less provision (opening balance): deducted in 20X2	(100 000)	(100 000)	0
Taxable profits	700 000	300 000	400 000
Current tax at 30% [Dr: TE (NT); Cr: CTP (NT)]	210 000	90 000	120 000

6.4.2 Depreciation

The standard governing property, plant and equipment requires the accountant to depreciate assets at a rate based on the expected useful life to the entity. Tax legislation, however, requires assets to be depreciated based on the standard rates of depreciation set out in the legislation, irrespective of the actual expected rate of usage by the entity. The depreciation calculated by the tax authorities is often referred to as a capital allowance, wear and tear or depreciation for tax purposes. The depreciation in the accounting records and capital allowances in the tax records would, however, still equal each other over a period of time, assuming that the accountant and tax authorities agreed upon the original cost and residual value of the item of property, plant and equipment.

Since the amount of depreciation according to the standard governing property, plant and equipment generally differs from the amount of depreciation according to the tax legislation, the carrying amounts (term in the standard) and tax bases (term generally used by the tax legislation) of the assets will also generally differ. This in turn may result in the profit or loss on sale in the statement of comprehensive income differing from that calculated in accordance with the tax legislation.

Explanatory Notes:

- (1) Income that is received in advance is not treated as income by the accountant (on the grounds that it has not yet been earned), but is treated as a liability instead (debit asset: bank and credit liability: income received in advance). This amount is therefore not included in the profit of C100 000. Since the tax authority taxes income on the earlier date of receipt or earning, the receipt will be taxed in 20X1 when received and must therefore be added to the accountant's profit figure.
- (2) The accountant treats income receivable as income (debit asset: accounts receivable and credit income) on the grounds that it has been earned. This amount is therefore already included in the C100 000 profit. The tax authority taxes income on the earlier date of receipt or earning. In this case the earning occurred before receipt and the interest income will therefore be taxed in 20X1. Since both the tax authority and the accountant agree that this amount is income in 20X1 (the interest income is already included in the profit of C100 000), no adjustment is made.
- (3) The accountant treats expenses payable as expenses (debit: expense and credit: liability: expense payable) on the grounds that the expense has been incurred. The tax authority will allow the deduction of the electricity expense since it has been incurred. Since both the tax authority and the accountant agree that this amount is an expense in 20X1 (the

electricity expense has already been deducted in the calculation of the profit of C100 000), no adjustment is made.

- (4) The accountant does not treat a prepaid expense as an expense (debit asset: prepayment and credit asset: bank) on the grounds that it has not yet been incurred. The tax authority, on the other hand, sometimes allows the payment to be deducted before it has been incurred. Since the tax authority is allowing this payment to be deducted in 20X1 and yet it is not deducted in calculating the accounting profit, it must be adjusted for when calculating the taxable profit.
- (5) The depreciation has already been deducted in order to calculate the accounting profit of C100 000. Since the tax authority calculates his own form of depreciation called a capital allowance (or wear and tear), the accountant's depreciation must first be added back (reversed) and then the tax authority's version thereof must be deducted. Both the accountant and the tax authority agree that the full cost of C70 000 will be deducted – the issue is simply how much will be deducted each year. The accountant will deduct the C70 000 at C10 000 per year for 7 years whereas the tax authority will deduct the C70 000 at C7 000 per year for 10 years.

6.5 Assessed losses

When taxable profits are negative, no current tax is payable for that year of assessment. This assessed loss is carried forward to the following year of assessment and set-off against taxable profits, thereby reducing the taxable profit and current tax charge for that year.

Example 11: assessed losses

Cost of vehicle purchased on 1 January 20X1	C120 000
Depreciation on vehicles to nil residual value	2 years straight-line
Wear and tear on vehicle (allowed by the tax authority)	3 years straight-line
Normal income tax rate	30%
Profit/ (loss) before tax (<i>after</i> deducting any depreciation on the vehicle) for the year ended	
• 31 December 20X1:	C (100 000)
• 31 December 20X2:	C30 000
• 31 December 20X3:	C100 000

There are no permanent differences and no temporary differences other than those evident from the information provided.

Required:

Calculate the taxable profits and current normal tax per the tax legislation for 20X1; 20X2 and 20X3.

Solution to example 11: assessed losses

Calculation of taxable profits and current normal tax

	20X3	20X2	20X1
	C	C	C
Profit before tax	100 000	30 000	(100 000)
Add back depreciation (120 000 / 2 years)	0	60 000	60 000
Less wear and tear (120 000 / 3 years)	(40 000)	(40 000)	(40 000)
Assessed loss brought forward	(30 000)	(80 000)	0
Taxable profit	30 000	(30 000)	(80 000)
Current tax at 30% [<i>Dr: TE (NT); Cr: CTP (NT)</i>]	9 000	0	0

7. Normal tax: payment of current normal tax

7.1 Overview

The payment of normal tax will be discussed in this chapter since the system of normal tax payments generally results in an estimation of normal tax being made in the current year that may require adjustment in a subsequent year.

7.2 Normal tax: provisional payments and estimates

Since the current normal tax charge is generally very large and the calculation of the actual taxable profits is only finalised after the end of the financial year, tax authorities normally require companies to make two to four provisional payments during the year. This requirement is intended to reduce the cash flow shortages of the government during the year and to ease the company's burden of paying an otherwise very large single sum at the end of the year. These provisional payments are usually made as follows or otherwise according to the local tax legislations of the country:

- half of the estimated amount owing within the *first* 6 months of the financial year; and
- the balance of the estimated amount owing before the end of the *last* 6 months of the financial year.

These payments are based on estimates made during the year of the expected profits for the year. Since the tax authority generally only finalises the tax charge for the year many months after the financial statements have been finalised and published, the accountant must estimate the amount of tax that will be charged. This is done by applying the tax legislation to the profits in the same manner as would be applied by the tax authority. The final accurate amount owing in respect of current tax will only be known once the tax authority has assessed the estimate made by the company. Since this accurate figure will only be known well after the financial year has ended and the financial statements have been published, the current normal tax expense in the statement of comprehensive income may be over or under-estimated. An adjustment to correct any over-provision or under-provision will be made in the subsequent period in which the relevant assessment is received.

7.3 The first provisional payment

The first payment must be made within six months after the beginning of the financial year. Therefore, if a company has a 28th February year-end, the first provisional payment will fall due on 31st August (and the second will fall due on the 28th February).

The first provisional tax payment is calculated at half the amount of tax that the company estimates it will owe for the full year (the balance will be paid when paying the second provisional payment):

$$1^{\text{st}} \text{ provisional payment} = (\text{total estimated taxable profits for the year} \times \text{tax rate}) / 2$$

The journal for the first provisional payment is as follows:

	Debit	Credit
Current tax payable: normal tax	xxx	
Bank		xxx
<i>Payment of first provisional payment</i>		

7.4 The second provisional payment

Suppose the second payment must be made on a date not later than the last day of the financial year. Therefore, if a company has a 28th February year-end, the second provisional payment must be made not later than 28th February.

The second provisional payment is calculated as the estimated balance owing based on the total estimated amount of tax owing for the full year less the amount already paid by way of the first provisional payment.

$$2^{\text{nd}} \text{ provisional payment} = \text{total estimated normal tax} - 1^{\text{st}} \text{ provisional payment}$$

The journal for the second provisional payment is the same as the first:

	Debit	Credit
Current tax payable: normal tax	xxx	
Bank		xxx
<i>Payment of second provisional payment</i>		

Note: the second provisional payment is still based on *estimated* profits for the year (although this estimate will generally differ from the estimated profits when making the first provisional payment) because, due to the complexities involved in finalising financial statements for the year, the *actual* profit is only known with accuracy *a few weeks* after the financial year-end (due date for the second provisional payment).

7.5 The final estimate of current taxation

The accountant makes the final estimate of current taxation for the current year while preparing the annual financial statements for publication.

The journal for the final estimated current tax for the year is:

	Debit	Credit
Tax expense: normal tax	xxx	
Current tax payable: normal tax		xxx
<i>Recording estimated current tax in the current year</i>		

This estimate is shown as the current portion of the normal taxation in the taxation note.

The final estimate of how much tax will be charged by the tax authority for the year is seldom equal to the sum of the first and second provisional payments. This simply results in either a balance owing to or by the tax authority. This is shown in the statement of financial position as a current tax asset or a current tax liability.

Example 12: the provisional payments and tax estimate

A company pays C30 000 as the first provisional payment on 30 June 20X1, and C20 000 as the second provisional payment on 31 December 20X1.

When finalising the 20X1 financial statements, the accountant estimated taxable profits for 20X1 to be C200 000.

No amount of tax was owing to or receivable from the tax authority at the beginning of 20X1.

Required:

- Calculate the total current normal tax expense for 20X1 and balance owing or receivable in 20X1.
- Show the relevant ledger accounts.
- Show the normal tax expense and the current normal tax payable in the financial statements for the year ended 31 December 20X1. Ignore deferred tax.

Solution to example 12: the provisional payments and tax estimate

A. Calculations

		C
Total current normal tax for 20X1	$200\,000 \times 30\%$	60 000
Total payments made in respect of 20X1 tax	$30\,000 + 20\,000$	(50 000)
Balance owing of 20X1 tax		<u>10 000</u>

B. Ledger accounts

Tax expense: normal tax		Current tax payable: normal tax	
CTP: NT	60 000	Bank	30 000
		Bank	20 000
		Balance c/f	10 000
			<u>60 000</u>
			<u>60 000</u>
		Opening bal	0
		TE: NT	60 000
			<u>60 000</u>
		Balance b/f	<u>10 000</u>
		Bank	
		CTP: NT	30 000
		CTP: NT	20 000

C. Disclosure

Company name
Statement of comprehensive income (extracts)
For the year ended 31 December 20X1

	20X1
	C
Profit before taxation	xxx
Taxation expense	<u>60 000</u>
Profit for the year	<u>xxx</u>

Company name
Statement of financial position (extracts)
As at 31 December 20X1

	20X1
	C
LIABILITIES	
<i>Current liabilities</i>	
Current tax payable: normal tax	10 000

In certain instances, a company may need to make a third provisional payment if it is feared that the first and second provisional payments will be significantly lower than the final tax charge expected from the tax authority's assessment. Heavy penalties and interest may be charged by the tax authority if the provisional payments are significantly less than the final tax owing per the official tax assessment.

7.6 The formal tax assessment and resulting over/ under provision of current tax

Once the company has finalised its estimate of its current tax charge for the year, this estimate is submitted to the tax authorities. The tax authorities will assess the estimate made by the company and send a copy of this assessment back to the company. This official assessment will therefore arrive well after the financial statements have been finalised. The receipt of the assessment is very similar to being invoiced although the essential difference is that the company will have had to have made pre-payments to the tax authority before they receive the 'invoice'!

The assessment will show the tax charge for the whole year according to the tax authority, minus the provisional payments made by the company leaving either a balance owing to, or by, the tax authority.

Generally, the current tax that is estimated by the company should equal the actual current tax per the assessment. In some cases, however, the tax authority may, for example, not allow the deduction of certain of the expenses claimed. In an instance like this, it will mean that the current income tax charged per the assessment will be greater than the estimate of the current income tax that was recognised in the company's financial statements.

Since the assessment is received by the company after the financial statements have been finalised, the adjustment relating to the tax expense of the previous year will have to be processed in the current financial year. The adjustment will appear as an under-provision or over-provision of tax in the statement of comprehensive income. This adjustment is calculated as follows:

Tax charge per the assessment for year 1 (received in year 2)	xxx
Less current tax estimated for 20X1 and processed in 20X1 statement of comprehensive income	(xxx)
Under/ (over) provision in 20X1, journalised in 20X2 statement of comprehensive income	xxx

The journal adjusting for an *under-provision* is as follows:

	Debit	Credit
Tax: normal tax (expense)	xxx	
Current tax payable: normal tax (liability)		xxx
<i>The under-provision of tax in yr 1 is adjusted in yr 2</i>		

The journal adjusting for an *over-provision* is as follows:

	Debit	Credit
Current tax payable: normal tax (liability)	xxx	
Tax: normal tax (income)		xxx
<i>The over-provision of tax in yr1 is adjusted in yr 2</i>		

7.7 The formal tax assessment and resulting over/ under payment of current tax

When receiving the tax assessment, it will also become apparent whether or not our provisional payments were sufficient. In some cases, we may have over-paid in which case the assessment will indicate that a refund will be paid to us, or we will have under-paid, in which case we will have to make a further payment. This is referred to as a top-up payment.

Example 13: under/ over-payments and under/ over-provisions of tax in a year

A company pays C30 000 as the first provisional payment on 30 June 20X1, and C20 000 as the second provisional payment on 31 December 20X1. When finalising the 20X1 financial statements, the accountant estimated the normal tax to be C60 000. No amount of tax was owing to or receivable from the tax authority at the beginning of 20X1. The tax assessment arrives in May 20X2 and states that the taxable profit was C210 000.

Required:

- Calculate the under or over provision in 20X1.
- Show the journal entry relating to the under/ over provision processed in the ledger accounts.
- Calculate the under or over payment relating to 20X1.
- Show this under or over payment in the current tax payable account.
- Show the relevant journal entries processed in the ledger accounts assuming that the refund is received or the top-up payment is made.

Solution to example 13: under/ over-payments and under/ over-provisions of tax

A: Under/ over provision in 20X1

Tax expense in 20X1 (estimate)	Given	60 000
Assessed tax for 20X1 (actual)	$210\,000 \times 30\%$	63 000
Over/ (under) provision of 20X1 tax expense		(3 000)

B: Ledger accounts processing the under or over provision

Tax expense: normal tax		Current tax payable: normal tax	
20X2 CTP	3 000	Balance	10 000
		20X2 TE	3 000

C: Under/ over payment in 20X1

Provisional payments made in respect of 20X1	30 000 + 20 000	50 000
Assessed tax for 20X1 (actual)	210 000 x 30%	63 000
(Top-up)/ refund in respect of 20X1 tax assessment		<u>(13 000)</u>

This example requires a top-up payment since we have effectively underpaid.

D: Under-payment as reflected in the current tax payable account

Tax expense: normal tax		Current tax payable: normal tax	
20X2 CTP	3 000	Balance	10 000
		20X2 Tax	3 000
		Balance	13 000

Notice how the under-payment is reflected in the tax payable account immediately after the adjustment to the provision is processed (i.e. after the under-provision is processed, calculated in Part A). No further adjustment is required.

E: Top-up payment made

Bank		Current tax payable: normal tax	
	20X2 CTP 13 000	Bank 13 000	Balance 10 000
			20X2 Tax 3 000
		<u>13 000</u>	<u>13 000</u>

Example 14A: calculation of first provisional payment of normal tax in 20X1

A Ltd has a 31st December year-end. In 20X1 financial year, its first provisional payment will fall due on 30th June 20X1 and its second will fall due on 31st December 20X1. The provisional payments are payments based on estimated taxable profits for 20X1.

On 30th June 20X1 the financial director estimated that the taxable profits for the whole of the 20X1 year will be 25% up on 20X0 taxable profits of C80 000. The estimated taxable profit for the 20X1 year is therefore C100 000 (C80 000 x 1,25).

Required:

Calculate the first provisional payment due and post the entries in t-account format assuming it was paid on due date.

Solution to example 14A: calculation of first provisional payment of normal tax in 20X1

The first provisional tax payment (paid on 30th June 20X1): (C100 000 x 30%) / 2 = C15 000

Bank		Current tax payable: normal tax (A)	
	CTP: NT ⁽¹⁾ 15 000	Bank ⁽¹⁾ 15 000	

(1) payment of the first provisional tax payment

Notice that the payment is posted to the Current tax payable account with no entry being made at this stage to the tax expense account. Assuming that there was no opening balance owing to the tax authority, this account will temporarily have a debit balance until the tax expense and related credit is journalised, (this journal will be posted when finalising the financial statements).

Example 14B: calculation of second provisional payment of tax in 20X1

Example continued from example 26A: On 31 December 20X1 (6 months later) the financial director estimated that the taxable profits for the entire 20X1 year will amount to C112 000.

Required:

Calculate the second provisional payment due and post the entries in t-account format assuming it was paid on due date.

Solution to example 14B: calculation of second provisional payment in 20X1

The second provisional tax payment: $(C112\,000 \times 30\%) - C15\,000 = C18\,600$

Bank		Current tax payable: Normal Tax (L)	
	CTP: NT ⁽¹⁾ 15 000	Bank ⁽¹⁾	15 000
	CTP: NT ⁽²⁾ 18 600	Bank ⁽²⁾	18 600

(2) *payment of the second provisional tax payment*

Example 14C: calculation of current tax expense estimate for 20X1

Example continued from example 26B: The accountant made his final estimate of the taxable profit for the year (when finalising the financial statements ended 31 December 20X1 on 18th March 20X2) to be C130 000. Assume that taxable profits equalled the profit before tax (i.e. there were no permanent differences or temporary differences).

Required:

Calculate the current normal tax and show the related t-accounts for the 20X1 year.

Solution to example 14C: calculation of current tax expense estimate in 20X1

The current tax expense estimated and provided for by the accountant:

$C130\,000 \times 30\% = C39\,000$

This amount will be included in the tax expense line item in the statement of comprehensive income.

Bank		Current tax payable: Normal Tax	
	20X1 year	20X1 year	20X1 year
	CTP: NT ⁽¹⁾ 15 000	Bank ⁽¹⁾	15 000
	CTP: NT ⁽²⁾ 18 600	Bank ⁽²⁾	18 600
		Balance c/d	5 400
		<u>39 000</u>	<u>39 000</u>
			Balance b/d 5 400

Taxation: normal tax (E)	
20X1 year	
CTP: NT ⁽³⁾ 39 000	

(3) *journalising the final estimate of current tax made by the accountant.*

Example 14D: under/ over provisions of 20X1 current normal tax

Example continued from example 26C: According to the assessment received from the tax authority on 31 May 20X2, the taxable profits for 20X1 came to C150 000. The total tax liability has therefore been assessed as C45 000 ($C150\,000 \times 30\%$).

Required:

Calculate the amount of the under/ over provision of current normal tax in 20X1 and make the necessary journal entries in the t-accounts.

Solution to example 14D: under/ over provisions of 20X1 current normal tax

The tax expense in the statement of comprehensive income for 20X1 was underprovided by:
 45 000 – 39 000 = C6 000

Bank		Current tax payable: Normal Tax (L)	
	20X1 year	20X1 year	20X1 year
	CTP: NT ⁽¹⁾ 15 000	Bank ⁽¹⁾ 15 000	Taxation ⁽³⁾ 39 000
	CTP: NT ⁽²⁾ 18 600	Bank ⁽²⁾ 18 600	
		Balance c/d <u>5 400</u>	
		<u>39 000</u>	<u>39 000</u>
			20X2 year
			Balance b/d 5 400
			U/prov tax ⁽⁴⁾ 6 000

Taxation: normal tax (E)	
20X1 year	20X1 year
CTP: NT ⁽³⁾ <u>39 000</u>	P & L <u>39 000</u>
20X2 year	
CTP: NT ⁽⁴⁾ 6 000	

(4) adjustment made in 20X2 relating to the under-provision of tax expense in 20X1. This is classified as a 'change in estimate', which is covered in more detail in IAS 8. This could be debited directly to tax expense instead, if preferred.

Example 14E: current normal tax transactions in 20X2

Example continued from example 14D: The first provisional tax payment of C30 000 was paid during 20X2. The company failed to pay the second provisional payment. The accountant's final estimate of tax for 20X2 was C50 000. There are no permanent or temporary differences, (i.e. accounting profits equalled the taxable profits).

Required:

Post all related entries in the ledger accounts.

Solution to example 14E: current normal tax transactions in 20X2

Bank		Current tax payable: normal tax (L)	
	20X1 year	20X1 year	20X1 year
	CTP: NT ⁽¹⁾ 15 000	Bank ⁽¹⁾ 15 000	Taxation ⁽³⁾ 39 000
	CTP: NT ⁽²⁾ 18 600	Bank ⁽²⁾ 18 600	
		Balance c/d <u>5 400</u>	
	20X2 year	<u>39 000</u>	<u>39 000</u>
	CTP: CT ⁽⁵⁾ 30 000	20X2 year	20X2 year
		Bank ⁽⁵⁾ 30 000	Balance b/d 5 400
		Balance c/d <u>31 400</u>	U/prov tax ⁽⁴⁾ 6 000
		<u>61 400</u>	Taxation ⁽⁶⁾ 50 000
			<u>61 400</u>
			Balance b/d 31 400

Taxation: normal tax (E)	
20X1 year	20X1 year
CTP: NT ⁽³⁾ <u>39 000</u>	P & L <u>39 000</u>
20X2 year	20X1 year
CTP: NT ⁽⁴⁾ 6 000	
CTP: NT ⁽⁶⁾ 50 000	P & L <u>56 000</u>

(5) payment of the first (and only) provisional payment made in 20X2

(6) recording (providing for) the final estimate of current tax made by the accountant

8. Brief introduction to the disclosure of taxes

IAS 1 and IAS 12 require certain tax disclosure in the statement of comprehensive income, statement of financial position and related notes to the financial statements. On occasion, tax may also be disclosed in the statement of changes in equity. The disclosure of tax in the statement of changes in equity will be covered in the chapters dealing with items that are charged directly to equity.

8.1 Statement of financial position disclosure

IAS 1 requires that the amount of current taxes owing or receivable be shown on the face of the statement of financial position as current assets or current liabilities.

The amount owing to (or from) the tax authority may relate to a variety of taxes, for instance, there may be amounts owing in respect of:

- VAT;
- Employees' tax;
- Normal tax; and
- Dividends tax

Each of these balances (asset or liability) must be disclosed separately, unless your entity:

- is legally allowed to settle these taxes on a net basis and
- either intends to settle the asset or liability on a net basis or intends to settle the liability and realise the asset at the same time.

Example 15: disclosure of current tax assets and liabilities

Assume the tax authority owes a company an amount of C20 000 VAT and the company owes the tax authority an amount of C80 000 in normal tax.

Required:

Show the disclosure of the current tax asset and liabilities in the statement of financial position assuming that:

- A. the tax authority does not allow the VAT and normal tax to be settled on a net basis;
- B. the tax authority allows the VAT and normal tax to be settled on a net basis and the company intends to settle on a net basis.

Solution to example 15: disclosure of current tax assets and liabilities

A. No legal right of set-off

Company name

Statement of financial position (extracts)

As at ...

	Year C
ASSETS	
<i>Current assets</i>	
Current tax receivable: VAT	20 000
LIABILITIES	
<i>Current liabilities</i>	
Current tax payable: normal tax	80 000

B. Legal right of set-off and intention to settle on a net-basis**Company name****Statement of financial position (extracts)****As at ...**

		Year C
<i>Current liabilities</i>	<i>Calculations:</i>	
Current tax payable: normal tax	80 000 liability – 20 000 asset	60 000

8.2 Statement of comprehensive income disclosure

IAS 1 (chapter 1) requires that the tax levied on the company's profits should be disclosed as a tax expense on the face of the statement of comprehensive income in the year in which it is incurred.

This line item in the profit or loss section of the statement of comprehensive income should be referenced to a supporting note. The supporting note should provide details of the major components of the tax expense (current and deferred). The note should also provide a reconciliation explaining why the effective rate of tax differs from the standard or applicable rate of tax (normal tax rate being 30%).

A suggested basic layout for this note is provided below:

Company name**Notes to the financial statements (extracts)****For the year ended ...**

	Year C
12. Taxation expense	xxx
• Normal tax	xxx
– current	xxx
– current year provision	xxx
– prior year under/ (over) provision	xxx
– deferred (covered in the next chapter)	xxx
Total tax expense per the statement of comprehensive income	xxx

Company name**Notes to the financial statements (extracts)****For the year ended ...**

		Year C
12. Taxation expense continued ...		
<i>Rate reconciliation:</i>		
Applicable tax rate (ATR)	<i>Standard/ normal rate: 30%</i>	x%
Tax effects of:		
Profit before tax	<i>Profit before tax x ATR</i>	xxx
Less exempt income	<i>Exempt income x ATR</i>	(xxx)
Add non-deductible expenses	<i>Non-deductible expenses x ATR</i>	xxx
Under/ (over) provision of current tax	<i>Per above</i>	xxx
Total taxation expense per the statement of comprehensive income	<i>SOCI (P/L)</i>	xxx
Effective tax rate (ETR)	<i>Taxation expense/ profit before tax</i>	x%

The applicable tax rate differs from that of the prior year because a change to the corporate normal tax rate was substantively enacted on ... (date).

Example 16 (following on from example 14): disclosure involving an under-provision**Required:**

Disclose the information provided in example 14 in the company's:

- statement of financial position;
- statement of comprehensive income (there are no components of other comprehensive income); and
- tax expense note

for the year ended 31 December 20X2 assuming that the profit before tax is C166 667 in 20X2 (fully taxable in 20X2) and C130 000 in 20X1 (fully taxable in 20X1).

Ignore deferred tax.

Solution to example 16 (following on from example 14): disclosure of an under-provision**A Limited****Statement of financial position**

As at 31 December 20X2

	Note	20X2 C	20X1 C
<i>Current Liabilities</i>			
- Current tax payable: normal tax		31 400	5 400

A Limited**Statement of comprehensive income**

For the year ended 31 December 20X2

	Note	20X2 C	20X1 C
Profit before tax	(given)	166 667	130 000
Taxation expense	(50 000 + 6 000)	56 000	39 000
Profit for the year		110 667	91 000
<i>Other comprehensive income</i>		0	0
Total comprehensive income		110 667	91 000

A Limited**Notes to the financial statements**

For the year ended 31 Dec 20X2

4. Taxation expense

	20X2 C	20X1 C
Normal taxation: current	56 000	39 000
Current	50 000	39 000
Under provision – previous year	6 000	0
Total tax expense per the statement of comprehensive income	56 000	39 000

Reconciliation:

Applicable tax rate	30%	30%
Tax effects of profits before 20X2: 166 667 x 30%; tax 20X1: 130 000 x 30%	50 000	39 000
Under-provision of current tax in a prior year <i>Per above</i>	6 000	0
Total tax expense per the statement of comprehensive income	56 000	39 000
Effective tax rate	20X2: 56 000/166 667; 20X1: 39 000/130 000	33.6% 30%

Example 17: disclosure involving other comprehensive income

	C
Profit before tax	100 000
Normal tax expense	30 000

The normal tax rate is 30%. There is no capital gains tax on companies.

There are no temporary differences or permanent differences except those relating to the components of other comprehensive income below.

The components of other comprehensive income are:

	Before tax C	After tax C
Revaluation of machinery	30 000	25 000
Increase in fair value of available-for-sale financial asset	50 000	40 000

Required:

Disclose the above information in the statement of comprehensive income and related notes showing:

- A. Components of other comprehensive income net of tax in the statement of comprehensive income.
- B. Components of other comprehensive income before tax in the statement of comprehensive income.

Solution to example 17A: disclosure involving other comprehensive income

Company name
Statement of comprehensive income
For the year ended ...

	Notes	Year C
Profit before taxation		100 000
Taxation expense	5	(30 000)
Profit for the period		70 000
<i>Other comprehensive income(net of tax)</i>	6	65 000
Revaluation surplus		25 000
Increase in fair value of available for sale financial asset		40 000
Total comprehensive income		135 000

Company name
Notes to the financial statements
For the year ended ...

		Year C
5. Taxation expense		
Normal taxation expense: current		30 000
Total tax expense per statement of comprehensive income		30 000
6. Tax effects of components of other comprehensive income	Gross C	Tax C
Revaluation surplus	30 000	(5 000)
Increase in fair value of available-for-sale financial asset	50 000	(10 000)
	80 000	(15 000)
		65 000

Solution to example 17B: disclosure involving other comprehensive income
Company name
Statement of comprehensive income
For the year ended ...

	Notes	Year C
Profit before taxation		100 000
Taxation expense	5	(30 000)
Profit for the period		70 000
<i>Other comprehensive income(before tax)</i>		65 000
Revaluation surplus		30 000
Increase in fair value of available for sale financial asset		50 000
Taxation effect of components of other comprehensive income	6	(15 000)
Total comprehensive income		135 000

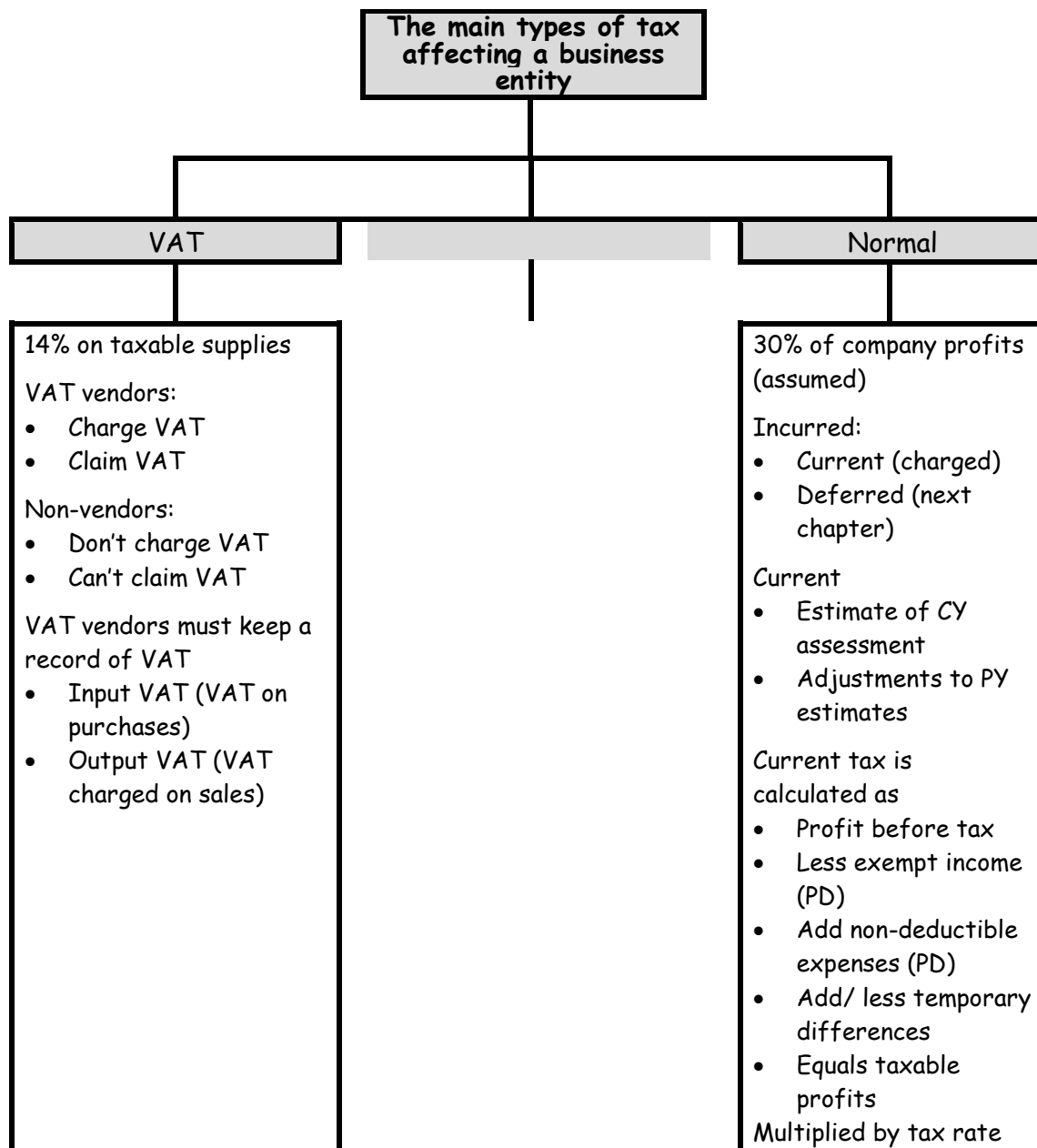
Company name
Notes to the financial statements
For the year ended ...

		Year C
5. Taxation expense		
Normal taxation expense: current		30 000
Total tax expense per the statement of comprehensive income		30 000
6. Tax effects of other comprehensive income	Gross C	Tax C
Revaluation surplus	30 000	(5 000)
Increase in fair value of available-for-sale financial asset	50 000	(10 000)
	80 000	65 000
		(15 000)

Note the following:

- The total amount of other comprehensive income is the same for both parts.
- The notes are also the same, since the note relating to the tax effects of components of other comprehensive income must be disclosed regardless of which presentation method is used.
- The tax rate reconciliation is not needed since there were no permanent differences or other factors which could have caused the effective tax rate to be any different to the normal tax rate.

10. Summary



Chapter 3

Deferred Taxation

Reference: IAS 12 and SIC 21

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1. Definitions

The following definitions are provided in IAS 12 (some of these definitions have already been discussed under chapter 2):

- **Accounting profit:** is profit or loss for a period before deducting (the) tax expense.
- **Taxable profit (tax loss):** is the profit (or loss) for a period, determined in accordance with the rules established by the taxation authorities, upon which income taxes are payable (recoverable).
- **Tax expense (tax income):** is the aggregate amount included in the determination of profit or loss for the period in respect of current tax and deferred tax.
- **Current tax:** is the amount of income tax payable (recoverable) in respect of the taxable profit (tax loss) for a period.
- **Deferred tax liabilities:** are the amounts of income taxes payable in future periods in respect of taxable temporary differences.
- **Deferred tax assets:** are the amounts of income taxes recoverable in future periods in respect of:
 - deductible temporary differences;
 - the carry forward of unused tax losses; and
 - the carry forward of unused tax credits.
- **Temporary differences:** are differences between the carrying amount of an asset or liability in the statement of financial position and its tax base:
 - *taxable temporary differences*, which are temporary differences that will result in taxable amounts in determining taxable profit (tax loss) of future periods when the carrying amount of the asset or liability is recovered or settled; or
 - *deductible temporary differences*, which are temporary differences that will result in amounts that are deductible in determining taxable profit (tax loss) of future periods when the carrying amount of the asset or liability is recovered or settled.
- **Tax base:** the tax base of an asset or liability is the amount attributed to that asset or liability for tax purposes.
- **Tax base of an asset:** is the amount that will be deductible for tax purposes against any taxable economic benefits that will flow to an entity when it recovers the carrying amount of the asset. If those economic benefits will not be taxable, the tax base of the asset is equal to its carrying amount.
- **Tax base of a liability:** is its carrying amount, less any amount that will be deductible for tax purposes in respect of that liability in future periods. In the case of revenue that is received in advance, the tax base of the resulting liability is its carrying amount, less any amount of the revenue that will not be taxable in future periods.

Other definitions that are not provided in IAS 12 but which you may find useful include:

- **Carrying amount:** the amount at which an asset or liability is presented in the accounting records.
- **Permanent differences:** are the differences between taxable profit and accounting profit for a period that originate in the current period and will never reverse in subsequent periods, (for example, some of the income according to the accountant might not be treated as income by the tax authority because he doesn't tax that type of income, or alternatively, the tax authority might tax an item that the accountant will never treat as income. The same type of differences may arise when dealing with expenses).

- **Comprehensive basis:** is the term used to describe the method whereby the tax effects of all temporary differences are recognised.
- **Applicable or standard tax rate:** is the rate of tax, as determined from time to time by tax legislation, at which entities pay tax on taxable profits, (a rate of 30% is assumed in this text).
- **Effective tax rate:** is the taxation expense charge in the statement of comprehensive income expressed as a percentage of accounting profits .

2. Normal tax and deferred tax

2.1 Current tax versus deferred tax

As mentioned in the previous chapter, the total normal tax for disclosure purposes is broken down into two main components:

- current tax; and
- deferred tax.

Current normal tax is the tax *charged* by the tax authority in the current period on the current period's taxable profits. The taxable profits are calculated based on tax legislation (discussed in the previous chapter). Since this tax legislation is not based strictly on the accrual concept, differences may arise such as income being included in taxable profits before it is earned!

The total normal tax expense recognised in the statement of comprehensive income is the tax *incurred* on the accounting profits. Accounting profits are calculated in accordance with the international financial reporting standards, which are based on the concept of accrual.

The difference between current normal tax (which *is not* based on the accrual concept), and the total normal tax in the statement of comprehensive income (which *is* based on the accrual concept), is an adjustment called deferred tax. The deferred tax adjustment is therefore simply an accrual of tax.

In other words: current normal tax (i.e. the amount charged by the tax authority) is adjusted upwards or downwards so that the total normal tax in the statement of comprehensive income is shown at the amount of tax incurred. This results in the creation of a deferred tax asset or liability.

2.1.1 A deferred tax asset (a debit balance)

A debit balance on the deferred tax account reflects the accountant's belief that tax has been charged but which has not yet been incurred. This premature tax charge must be deferred (postponed). In some ways, this treatment is similar to that of a prepaid expense.

	Debit	Credit
Deferred tax asset	xxx	
Taxation expense		xxx
<i>Creating a deferred tax asset</i>		

2.1.2 A deferred tax liability (a credit balance)

A credit balance reflects the accountant's belief that tax has been incurred, but which has not yet been charged by the tax authority. It therefore shows the amount that will be charged by the tax authority in the future. This is similar to the treatment of an expense payable.

	Debit	Credit
Taxation expense	xxx	
Deferred tax liability		xxx
<i>Creating a deferred tax liability</i>		

2.1.3 Deferred tax balance versus the current tax payable balance

The balance on the deferred tax account differs from the balance on the current tax payable account in the following ways:

- the *current tax payable* account reflects the amount currently owing to or by the tax authorities based tax legislation. This account is therefore treated as a *current* liability or asset; whereas
- the *deferred tax* account reflects the amount that the accountant believes to still be owing to or by the tax authorities in the long-term based on the concept of accrual. Since this amount is not yet payable according to tax legislation, this account is treated as a *non-current* liability or asset.

2.1.4 Basic examples

Consider the following examples:

Example 1A: creating a deferred tax asset (debit balance)

The current tax *charged* by the tax authority (using the tax legislation) in 20X1 is expected to be C10 000.

The accountant calculates that the tax *incurred* for 20X1 to be C8 000.

The C2 000 excess will be deferred to future years.

There are no components of other comprehensive income.

Required:

Show the ledger accounts and disclose the tax expense and deferred tax for 20X1.

Solution to example 1A: creating a deferred tax asset (debit balance)

The tax expense that is shown in the statement of comprehensive income must always reflect the tax that is believed to have been incurred for the year, thus C8 000 must be shown as the expense.

Ledger accounts: 20X1

Tax: normal tax (E)		Current tax payable: normal tax (L)	
CTP: NT ⁽¹⁾	10 000	DT ⁽²⁾	2 000
		Total c/f	<u>8 000</u>
	<u>10 000</u>		<u>10 000</u>
Total b/f	8 000		

Deferred tax (A)	
Tax ⁽²⁾	2 000

(1) recording the current tax (the estimated amount that will be *charged/ assessed* by the tax authority).

(2) deferring a portion of the current tax expense to future years so that the balance in the tax expense account is the amount considered to have been *incurred* (i.e. C8 000). Notice that the deferred tax account has a debit balance of C2 000, meaning that the C2 000 deferred tax is an asset. This tax has been *charged* but will only be *incurred* in the future and so it is similar to a prepaid expense.

Disclosure for 20X1:

The disclosure will be as follows (the deferred tax asset note will be ignored at this stage):

Entity name Statement of comprehensive income For the year ended ...20X1		
	Note	20X1 C
Profit before tax		xxx
Taxation expense (current tax: 10 000 – deferred tax: 2 000)	3.	8 000
Profit for the period		xxx
Other comprehensive income		0
Total comprehensive income		xxx

Entity name Statement of financial position As at ...20X1	
	20X1 C
ASSETS	
Non-current Assets	
- Deferred tax: normal tax	2 000

Entity name Notes to the financial statements For the year ended ...20X1	
	20X1 C
3. Taxation expense	8 000
Normal taxation expense	10 000
- Current	(2 000)
- Deferred	

Example 1B: reversing a deferred tax asset

Use the same information as that given in 1A and the following additional information:
The current tax charged by the tax authorities (based on tax legislation) in 20X2 is expected to be C14 000. The accountant calculates the tax incurred for 20X2 to be C16 000 (the 'excess tax' charged in 20X1 is now incurred).

There are no components of other comprehensive income.

Required:

Show the ledger accounts and disclose the tax expense and deferred tax in 20X2.

Solution to example 1B: reversing a deferred tax asset**Ledger accounts: 20X2**

Tax: normal tax (E)		Current tax payable: normal tax	
CTP: NT ⁽¹⁾	14 000	Tax ⁽¹⁾	14 000
DT ⁽²⁾	2 000		
	<u>16 000</u>		
Deferred tax (A)			
Balance b/d	<u>2 000</u>	Taxation ⁽²⁾	<u>2 000</u>

- (1) recording the current tax (estimated amount that will be charged by the tax authorities)
- (2) recording the reversal of the deferred tax asset in the second year. The total tax expense in 20X2 will be the current tax charged for 20X2 plus deferred tax (the portion of the current tax that was *not* recognised in 20X1, is incurred in 20X2).

Disclosure for 20X2:

Entity name Statement of comprehensive income For the year ended ...20X2			
	Note	20X2 C	20X1 C
Profit before tax		xxx	xxx
Taxation expense (20X2: current tax: 14 000 + deferred tax: 2 000)	3.	16 000	8 000
Profit after tax		xxx	xxx
Other comprehensive income		0	0
Total comprehensive income		xxx	xxx

Entity name Statement of financial position As at ... 20X2			
	Note	20X2 C	20X1 C
ASSETS			
Non-current Assets			
- Deferred tax: normal tax		0	2 000

Entity name Notes to the financial statements For the year ended20X2		
	20X2 C	20X1 C
3. Taxation expense		
Normal taxation expense	16 000	8 000
- Current	14 000	10 000
- Deferred	2 000	(2 000)

It can be seen that over the period of 2 years, the total current tax of C24 000 (10 000 + 14 000) charged by the tax authorities, is recognised as a tax expense in the accounting records:

- *the tax expense in the first year is C8 000; and*
- *the tax expense in the second year C16 000.*

Example 2A: creating a deferred tax liability (credit balance)

The current tax expected to be *charged* by the tax authorities (based on tax legislation) is C10 000 in 20X1. The accountant calculates that the tax *incurred* for 20X1 to be C12 000.

There are no components of other comprehensive income.

Required:

Show the ledger accounts and disclose the tax expense and deferred tax in 20X1.

Solution to example 2A: creating a deferred tax liability (credit balance)

The tax shown in the statement of comprehensive income must always be the amount incurred for the year rather than the amount charged, thus C12 000 must be shown as the tax expense.

Ledger accounts: 20X1

Tax: normal tax (E)		Current tax payable: normal tax	
CTP: NT ⁽¹⁾	10 000	Tax ⁽¹⁾	10 000
DT ⁽²⁾	<u>2 000</u>		
	<u>12 000</u>		
Deferred tax (L)			
	Tax ⁽²⁾		2 000

- (1) Recording the current tax (the estimated amount that will be charged by the tax authorities).
- (2) Providing for extra tax that has been incurred but which will only be charged/assessed by the tax authorities in future years (tax owing to the tax authorities in the long term): we have only been charged C10 000 in the current year, but have incurred C12 000, thus there is an amount of C2 000 that will have to be paid sometime in the future. Notice that the deferred tax account has a credit balance of C2 000, (a deferred tax liability).

Disclosure for 20X1:**Entity name****Statement of comprehensive income****For the year ended ...20X1**

	20X1
	C
Profit before tax	xxx
Taxation expense (<i>current tax: 10 000 + deferred tax: 2 000</i>)	3. <u>12 000</u>
Profit for the year	xxx
Other comprehensive income	<u>0</u>
Total comprehensive income	<u>xxx</u>

Entity name**Statement of financial position****As at20X1**

	20X1
	C
LIABILITIES	
Non-current Liabilities	
- Deferred tax:	2 000

Entity name**Notes to the financial statements****For the year ended20X1**

	20X1
	C
3. Taxation expense	
Normal taxation expense	12 000
- Current	10 000
- Deferred	2 000

Example 2B: reversing a deferred tax liability

Use the same information as that given in example 2A as well as the following information:

- The tax authority is expected to charge C14 000 for 20X2 but the tax incurred is calculated to be C12 000.
- There are no components of other comprehensive income.

Required:

Show the ledger accounts and disclose the tax expense and deferred tax in 20X2.

Solution to example 2B: reversing a deferred tax liability

The deferred tax liability (a non-current liability) will have to be reversed out in 20X2 since the amount will now form part of the current tax payable liability instead (a current liability).

Ledger accounts: 20X2

Tax: normal tax (E)		Current tax payable: normal tax	
CTP: NT ⁽¹⁾	<u>14 000</u>	DT ⁽²⁾	<u>2 000</u>
Total	12 000		

Deferred tax (L)	
Tax ⁽²⁾	<u>2 000</u>
Balance b/f	<u>2 000</u>

(1) recording the current tax (charged by the tax authority)

(2) recording the reversal of the deferred tax in the second year.

Disclosure for 20X2:

Entity name

Statement of comprehensive income

For the year ended20X2

	20X2	20X1
	C	C
Profit before tax	xxx	xxx
Taxation expense (current tax and deferred tax) 3.	<u>12 000</u>	<u>12 000</u>
Profit for the year	xxx	xxx
<i>Other comprehensive income</i>	<u>0</u>	<u>0</u>
Total comprehensive income	<u>xxx</u>	<u>xxx</u>

Entity name

Statement of financial position

As at20X2

	20X2	20X1
	C	C
LIABILITIES		
<i>Non-current Liabilities</i>		
- Deferred Tax	0	2 000

Entity name

Notes to the financial statements

For the year ended ...20X2

	20X2	20X1
	C	C
3. Taxation expense		
Normal taxation expense	12 000	12 000
- current	14 000	10 000
- deferred	(2 000)	2 000

It can be seen that over the period of 2 years, the total current tax of C24 000 (10 000 + 14 000) charged by the tax authority is recognised as a tax expense in the accounting records:

- the tax expense in the first year is C12 000 and
- the tax expense in the second year is C12 000.

2.2 Calculation of Deferred tax – the two methods

Although IAS 12 refers to only one method of calculating deferred tax, (the balance sheet method), there are in fact two methods:

- Balance sheet method: a comparison between the carrying amount and the tax base of each of the entity's assets and liabilities; and the
- Income statement method: a comparison between accounting profits and taxable profits.

The method used will not alter the journals or disclosure. You will generally be required to calculate the Deferred tax using the balance sheet method. The income statement method is still useful though since it serves as a tool to check your balance sheet calculations and is useful in that it is easier to explain the concept of deferred tax. If there was deferred tax on a gain or loss that is recognised directly in equity (i.e. not in profit or loss), then the income statement method will need to bear this into account, since the income statement method looks only at the deferred tax caused by items of income and expense recognised in profit or loss.

IAS 12 expressly prohibits the discounting (present valuing) of deferred tax balances.

2.2.1 The income statement approach

The 'accountant' and the 'tax authorities' calculate profits in different ways:

International Financial Reporting Standards govern the manner in which the accountant calculates *accounting profit*:

- profit or loss for a period before deducting (the) tax expense.

Tax legislation governs the manner in which the tax authorities calculate *taxable profit*:

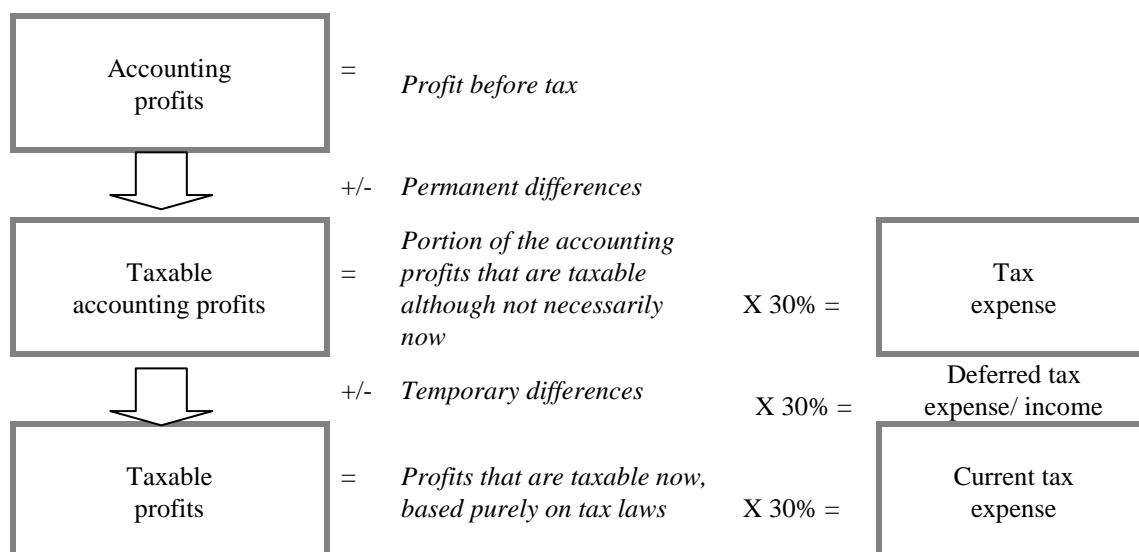
- the profit (or loss) for the period, determined in accordance with the rules established by the taxation authorities, upon which income taxes are payable or recoverable.

In order for the accountant to calculate the estimated current tax for the year, he converts his accounting profits into taxable profits. This is done as follows:

Conversion of accounting profits into taxable profits:	C
Profit before tax (accounting profits)	xxx
Adjusted for permanent differences:	xxx
- less exempt income (e.g. certain capital profits and dividend income)	(xxx)
- add non-deductible expenses (e.g. certain donations and fines)	xxx
Accounting profits that are taxable (A x 30% = tax expense incurred)	A
Adjusted for movements in temporary differences:	xxx
- add depreciation	xxx
- less depreciation for tax purposes (e.g. wear and tear)	(xxx)
- add income received in advance (closing balance): if taxed when received	xxx
- less income received in advance (opening balance): if taxed when received	(xxx)
- less expenses prepaid (closing balance): if deductible when paid	xxx
- add expenses prepaid (opening balance): if deductible when paid	(xxx)
- add provisions (closing balance): if deductible when paid	
- less provisions (opening balance): if deductible when paid	
Taxable profits (B x 30% = current tax charge)	B

As can be seen from the calculation above, the difference between accounting profits and taxable profits may be classified into two main types:

- temporary differences; and
- permanent differences.



The difference between total accounting profits and the taxable accounting profits are permanent differences. These differences include, for instance, items of income that will never be taxed as income and yet are recognised as income in the accounting records.

The difference between taxable accounting profits (A above) and taxable profits (B above) are caused by the movement in temporary differences. These differences relate to the issue of timing: for instance, when the income is *taxed* versus when it is *recognised* as income in the accounting records.

A deferred tax adjustment is made for the movement relating to temporary differences only.

Example 3A: income received in advance (income statement approach)

A company receives rent income of C10 000 in 20X1 that relates to rent earned in 20X2 and then receives C110 000 in rent income in 20X2 (all of which was earned in 20X2). The company has no other income. The tax authority taxes income on the earlier of receipt or earning.

Required:

Calculate, for 20X1 and 20X2, the current tax expense, the deferred tax adjustment and the final tax expense to appear in the statement of comprehensive income and show the related ledger accounts.

Solution to example 3A: income received in advance (income statement approach)

Current tax calculation: 20X1

	Profits	Tax at 30%
Profit before tax (accounting profits) (10 000 – 10 000) ⁽¹⁾	0	
Adjusted for permanent differences:	0	
Taxable accounting profits and tax expense ⁽³⁾	0	0
Adjusted for movement in temporary differences: ⁽⁵⁾	10 000	3 000
add income received in advance (closing balance): taxed in the current year ⁽²⁾	10 000	
less income received in advance (opening balance): previously taxed	(0)	

Taxable profits and current normal tax ⁽⁴⁾

10 000	3 000
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Since the income is not recognised in the statement of comprehensive income in 20X1, it does not make sense to recognise the related tax in 20X1, (it makes more sense to recognise the tax on income when the income is recognised). Thus the recognition of this current tax is deferred to this future year (20X2).

Current tax calculation: 20X2

	Profits	Tax at 30%
Profit before tax (accounting profits) (110 000 + 10 000) ⁽⁶⁾	120 000	
Adjusted for permanent differences:	0	
Taxable accounting profits and tax expense ⁽⁸⁾	120 000	36 000
Adjusted for movement in temporary differences: ⁽⁹⁾	(10 000)	(3 000)
add income received in advance (closing balance): taxed in the current year	0	
less income received in advance (opening balance): previously taxed ⁽⁷⁾	(10 000)	

Taxable profits and current normal tax ⁽⁷⁾

110 000	33 000
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- (1) The receipt in 20X1 is not yet earned and is therefore not recognised as income but as a liability.
- (2) The income is taxed by the tax authority on the earlier date of receipt or earning: the amount is received in 20X1 and earned in 20X2 and is therefore taxed in 20X1 (the earlier date).
- (3) The tax that appears on the face of the statement of comprehensive income should be zero since it should reflect the tax owing on the income earned. Since no income has been earned, no tax should be reflected.
- (4) The difference between the current tax charged (3 000) and the tax expense (0) is the deferred tax adjustment, deferring the current tax to another period.
- (5) Notice that the deferred tax account has a debit balance at the end of 20X1 and is therefore classified as an asset: tax has been charged in 20X1 for taxes that will only be incurred in 20X2.
- (6) The income in 20X2 includes the C10 000 received in 20X1 since it is earned in 20X2. The income received in advance liability is reversed out.
- (7) Notice that the tax authority charges current tax in 20X2 on just the C110 000 received since the balance of C10 000 was received and taxed in an earlier year.
- (8) The accountant believes that the C36 000 tax should be expensed in 20X2 (together with the related income of C120 000).
- (9) This requires that the C33 000 current tax recorded in the books in 20X2 be adjusted to include the tax of C3 000 that was charged in 20X1 but not recognised in 20X1. This results in a reversal of the deferred tax balance of C3 000 brought forward from 20X1.

Ledger accounts: 20X1

Bank		Rent received in advance (L)	
RRIA ⁽¹⁾	10 000	Bank ⁽¹⁾	10 000
Tax: normal tax (E)		Current tax payable: normal tax (L)	
CTP: NT ⁽²⁾	3 000	DT ⁽⁴⁾	3 000
Total b/f ⁽³⁾	0	Tax ⁽²⁾	3 000
Deferred tax (A)			
Tax ^(4 & 5)	3 000		

Ledger accounts: 20X2

Bank		Rent received in advance (L)	
Rent	110 000	Rent ⁽⁶⁾	10 000
		Balance b/f	10 000
Tax: normal tax (E)		Current tax payable: normal tax (L)	
CTP:NT ⁽⁷⁾	33 000	Balance b/f	3 000
DT ⁽⁹⁾	3 000	Tax ⁽⁷⁾	33 000
Total ⁽⁸⁾	36 000		
Deferred tax		Rent (I)	
Balance b/f	3 000	RRIA ⁽⁶⁾	10 000
Tax ⁽⁹⁾	3 000	Bank	110 000
			120 000

2.2.2 The balance sheet approach

When calculating deferred tax using the balance sheet approach, the carrying amount of the assets and liabilities are compared with the tax bases of these assets and liabilities. Any difference between the carrying amount and the tax base of an asset or liability is termed a 'temporary difference':

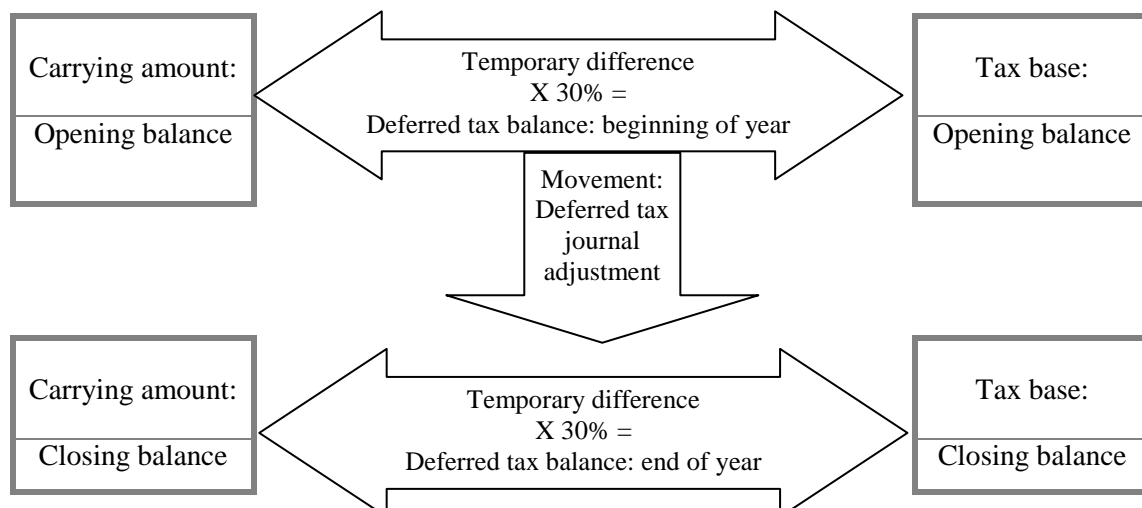
- The carrying amounts are the balances of the assets and liabilities as recognised in the statement of financial position based on International Financial Reporting Standards.
- The tax bases are the balances of the assets and liabilities, as they would appear in a statement of financial position drawn up based on tax law (please read these definitions again – you will find them at the beginning of this chapter).

The total temporary differences multiplied by the tax rate will give:

- the deferred tax balance in the statement of financial position.

The difference between the opening and closing deferred tax balance in the statement of financial position will give you:

- the deferred tax journal adjustment.



A useful format for calculating deferred tax using the balance sheet approach is as follows:

	Carrying amount (SOFP) (a)	Tax base (per IAS 12) (b)	Temporary difference (b) – (a) (c)	Deferred tax (c) x 30% (d)	Deferred tax balance/ adjustment
Opening balance: <i>in the SOFP</i>					Asset/ liability
Movement: deferred tax charge in the SOCI					dr FP; cr CI or cr FP; dr CI
Closing balance <i>in the SOFP</i>					Asset/ liability

Example 3B: income received in advance (balance sheet approach)

Use the information given in example 3A.

Required:

Calculate the Deferred tax adjustment using the balance sheet approach for both years.

Solution to example 3B: income received in advance (balance sheet approach)

Rule for liability: revenue received in advance (per IAS 12):

The tax base of revenue received in advance is the carrying amount of the liability less the portion representing income that will not be taxable in future periods.

Applying the rule for revenue received in advance (L) to the calculation of the tax base:

20X1 tax base:

	C
Carrying amount	10 000
Less that which won't be taxed in the future (because taxed in the current year)	(10 000)
This means that there will be no related current tax charge in the future.	0

20X2 tax base:

	C
Carrying amount	0
Less that which won't be taxed in the future	0
	0

The carrying amount is zero since the income was earned in 20X2 so the balance on the liability account was reversed out to income (see journal 6 in the 20X2 t-accounts above).

Calculation of Deferred tax (balance sheet approach):

Income received in advance	Carrying amount (SOFP) (a)	Tax base (IAS 12) (b)	Temporary difference (b) – (a) (c)	Deferred tax at 30% (c) x 30% (d)	Deferred tax balance/ adjustment
Opening balance – 20X1	0	0	0	0	
Deferred tax charge – 20X1 (balancing: movement)	(10 000)	0	10 000	⁽³⁾ 3 000	dr DT; cr TE
Closing balance – 20X1 ⁽¹⁾	(10 000)	0	10 000	3 000	Asset ⁽²⁾
Deferred tax charge – 20X2 (balancing: movement)	10 000	0	(10 000)	⁽⁵⁾ (3 000)	cr DT; dr TE
Closing balance – 20X2 ⁽⁴⁾	0	0	0	0	

Explanation of the above:

- 1) During 20X1, the C10 000 rent is received in advance. The accountant treats this as a liability whereas the tax authority treats it as income. Thus the carrying amount of the income received in advance account is C10 000 whereas the tax authority has no such liability: the tax base is therefore zero. This results in a temporary difference of C10 000 and therefore a deferred tax balance of C3 000.
- 2) The tax base of a liability that represents income, is that portion of the liability that will be taxed in the future. The difference between the carrying amount and the tax base represents the portion of the liability that won't be taxed in the future with the result that the deferred tax balance is an asset to the company: the tax that has been 'prepaid'.
- 3) The deferred tax charge in 20X1 will be a credit to the statement of comprehensive income.
- 4) During 20X2, the C10 000 rent that was received in advance in 20X1 is now recognised as income (the accountant will debit the liability and credit income) with the result that the accountant's liability reverses out to zero. As mentioned above, the tax authority had no such liability since he treated the receipt as income in 20X1. The carrying amount and the tax base are now both zero, with the result that the temporary difference is now zero and the deferred tax is zero.
- 5) The deferred tax charge in 20X2 is a debit to the statement of comprehensive income.

Example 3C: income received in advance (journals)

Use the current tax calculation done in example 3A and the deferred tax calculation done in 3B.

Required:

Show the related tax journal entries.

Solution to example 3C: income received in advance (journals)

	Debit	Credit
20X1		
Taxation expense: normal tax (SOCl)	3 000	
Current tax payable: normal tax (SOFP)		3 000
<i>Current tax payable per tax law (see calculation in 3A)</i>		
Deferred tax: normal tax (SOFP)	3 000	
Taxation expense: normal tax (SOCl)		3 000
<i>Deferred tax adjustment (see calculation in 3B)</i>		
20X2		
Taxation expense: normal tax (SOCl)	33 000	
Current tax payable: normal tax (SOFP)		33 000
<i>Current tax payable per tax law (see calculation in 3A)</i>		
Taxation expense: normal tax (SOCl)	3 000	
Deferred tax: normal tax (SOFP)		3 000
<i>Deferred tax adjustment (see calculation in 3B)</i>		

Example 3D: income received in advance (disclosure)

Use the information given in example 3A, 3B or 3C.

The current tax for 20X1 is paid in 20X2 and that the current tax for 20X2 is paid in 20X3. There are no components of other comprehensive income.

Required:

Disclose all information in the financial statements.

Solution to example 3D: income received in advance (disclosure)**Company name****Statement of financial position****As at 31 December 20X2**

ASSETS	Note	20X2 C	20X1 C
<i>Non-Current Assets</i>			
Deferred tax: normal tax	6	0	3 000
LIABILITIES			
<i>Current Liabilities</i>			
Current tax payable: normal tax		33 000	3 000
Income received in advance		0	10 000

Company name**Statement of comprehensive income (extracts)****For the year ended 31 December 20X2**

	Note	20X2 C	20X1 C
Profit before taxation		120 000	0
Taxation expense	5	36 000	0
Profit for the year		84 000	0
<i>Other comprehensive income</i>		0	0
Total comprehensive income		84 000	0

Company name**Notes to the financial statements (extracts)****For the year ended 31 December 20X2**

	20X2 C	20X1 C
5. Taxation expense		
Normal taxation	36 000	0
• Current	33 000	3 000
• Deferred	3 000	(3 000)
Total tax expense per the statement of comprehensive income	36 000	0
6. Deferred tax asset		
The closing balance is constituted by the effects of:		
• Year-end accruals	0	3 000

It can be seen that the deferred tax effect on profits is nil over the period of the two years.

2.3 Year-end accruals, provisions and deferred tax

Five statement of financial position accounts resulting directly from the use of the accrual system include:

- income received in advance;
- expenses prepaid;
- expenses payable;
- provisions; and
- income receivable.

Income received in advance has already been covered in example 3 above. The deferred tax effect of each of the remaining four examples will now be discussed. Since IAS 12 refers only to the use of the balance sheet approach, this is the only approach shown in this text.

2.3.1 Expenses prepaid

Remember that, although the tax authority normally allows a deduction of expenses when the expenses are incurred, he may, however, allow a deduction of a prepaid expense depending on criteria in the tax legislation. If this happens, deferred tax will result.

Example 4: expenses prepaid

Profit before tax is C20 000 in 20X1 and in 20X2, according to the accountant and the tax authority, *before* taking into account the following information:

- An amount of C8 000 in respect of electricity for January 20X2 is paid in December 20X1.
- The Receiver allows the payment of C8 000 as a deduction against taxable profits in 20X1.
- The company paid the current tax owing to the tax authorities for 20X1, in 20X2.
- There are no permanent differences, no other temporary differences and no taxes other than normal tax at 30%.
- There are no components of other comprehensive income.

Required:

- Calculate the Deferred tax for 20X1 and 20X2 using the balance sheet approach.
- Calculate the current normal tax for 20X1 and 20X2.
- Show the related journal entries in ledger account format.
- Disclose the tax adjustments for the 20X2 financial year.

Solution to example 4A: expenses prepaid (deferred tax)

Rule for assets: expenses prepaid (IAS 12):

The tax base of an asset (that represents an expense) is the amount that will be deducted for tax purposes against any taxable economic benefits that will flow to an entity when it recovers the carrying amount of the asset. If those economic benefits will not be taxable, the tax base of the asset is equal to its carrying amount (e.g. an investment that renders dividend income).

Applying the rule to the calculation of the tax base (expenses prepaid):

<i>20X1 tax base:</i>		C
Carrying amount		8 000
Less amount already deducted from taxable profits (deducted in current year: 20X1)		(8 000)
Deduction from taxable profits in the future		<u>0</u>

<i>20X2 tax base:</i>		
Carrying amount		0
Less that which won't be deducted for tax purposes in the future		<u>0</u>
		<u>0</u>

The carrying amount will now be zero since the expense was incurred in 20X2 with the asset balance transferred to an expense account (see journal 1 in the 20X2 t-accounts).

Calculation of Deferred tax (balance sheet approach):

Expenses prepaid	Carrying amount (per SOFP) (a)	Tax base (IAS 12) (b)	Temporary difference (b) – (a) (c)	Deferred tax at 30% (c) x 30% (d)	Deferred tax balance/ adjustment
Opening balance: 20X1	0	0	0	0	
Movement (balancing)	8 000	0	(8 000)	(2 400)	cr FP; dr CI ⁽³⁾
Closing balance: 20X1 ⁽¹⁾	8 000	0	(8 000)	(2 400)	Liability ⁽²⁾

Solution to example 4B: expenses prepaid (current tax)**Calculation of current normal tax: 20X1**

The prepayment of C8 000 is allowed as a deduction by the tax authority in 20X1 but the accountant recognises the C8 000 as a prepaid expense, (an asset), thus causing a temporary difference.

	Profits	Tax at 30%
Profit before tax (accounting profits) ⁽¹⁾	20 000	
Adjusted for permanent differences:	0	
Taxable accounting profits and tax expense ⁽¹⁾	20 000	6 000
Adjusted for movement in temporary differences: ⁽³⁾	(8 000)	(3) (2 400)
Less expense prepaid (closing balance): deductible in current year 20X1	(8 000)	
Taxable profits and current normal tax ⁽⁶⁾	12 000	3 600

Calculation of current normal tax: 20X2

The accountant recognises (deducts) the C8 000 as an expense in 20X2 since this is the period in which the expense is incurred but the tax authority, having already allowed the deduction of the expense in 20X1, will not deduct it again in 20X2. The difference in 20X2 reverses the difference in 20X1.

	Profits	Tax at 30%
Profit before tax (accounting profits) (20 000 – 8 000) ⁽⁴⁾	12 000	
Adjusted for permanent differences:	0	
Taxable accounting profits and tax expense ⁽⁴⁾	12 000	3 600
Adjusted for movement in temporary differences: ⁽⁵⁾	8 000	(5) 2 400
Add expense prepaid (opening balance): deducted in prior year 20X1	8 000	
Taxable profits and current normal tax ⁽⁷⁾	20 000	6 000

Solution to example 4C: expenses prepaid (ledger accounts)**Ledger accounts: 20X1**

Bank		Expenses prepaid (A)	
	Exp Prepaid ⁽¹⁾ 8 000	Bank ⁽¹⁾ 8 000	
Tax: normal tax (E)		Current tax payable: normal tax (L)	
CTP: NT ⁽⁶⁾	3 600		Tax ⁽⁶⁾ 3 600
DT ⁽³⁾	2 400		
Total	6 000		
Deferred tax (L)			
	Tax ⁽³⁾ 2 400		

T-accounts: 20X2

Electricity and water		Expenses prepaid (A)	
EP ⁽⁴⁾ 8 000		Balance b/f 8 000	E&W ⁽⁴⁾ 8 000
Tax: normal tax (E)		Current tax payable: normal tax (L)	
CTP: NT ⁽⁷⁾ 6 000	DT ⁽⁵⁾ 2 400	Bank ⁽⁸⁾ 3 600	Balance 3 600
	Total c/f 3 600		Tax ⁽⁷⁾ 6 000
	6 000		
Total b/f 3 600			
Deferred tax (L)		Bank	
Tax ⁽⁵⁾ 2 400	Balance b/d 2 400		CTP: NT ⁽⁸⁾ 3 600

Comments on example 4 A, B and C

- 1) The accountant treats the payment as an asset since the expense has not yet been incurred whereas the tax authority treats the payment as an expense and therefore has no asset account.
- 2) This represents a deferred tax liability since it represents a premature tax saving (received before the related expense is incurred).
- 3) In order to create a deferred tax credit balance, the deferred tax liability must be credited and the tax expense debited.
- 4) The expense is incurred in 20X2, so the expense prepaid (asset) is reversed out to electricity expense (reducing profits). Now both accountant and tax authority have zero balances on the expense prepaid (asset) account and so there is no longer a temporary difference and thus a zero deferred tax balance.
- 5) In order to adjust a deferred tax credit balance to a zero balance, the liability must be debited and the tax expense credited.
- 6) Current tax charged by the tax authority in 20X1.
- 7) Current tax charged by the tax authority in 20X2.
- 8) Payment of the balance owing to the tax authority for 20X1 (the prior year).

It can be seen that over 2 years:

- *the accountant recognises tax expense of C9 600 (6 000 + 3 600) as incurred; and this equals*
- *the actual tax charged by the tax authority over 2 years is C9 600 (3 600 + 6 000).*

The difference relates purely to when the tax is incurred versus when the tax is charged, thus the difference reverses out once the tax has both been charged and incurred.

Solution to example 4D: expenses prepaid (disclosure)**Company name****Statement of financial position****As at 31 December 20X2**

	Note	20X2 C	20X1 C
ASSETS			
<i>Current assets</i>			
Expense prepaid		0	8 000
LIABILITIES			
<i>Non-current liabilities</i>			
Deferred tax: normal tax	6	0	2 400
<i>Current liabilities</i>			
Current tax payable: normal tax		6 000	3 600

Company name**Statement of comprehensive income (extracts)****For the year ended 31 December 20X2**

	Note	20X2 C	20X1 C
Profit before taxation		12 000	20 000
Taxation expense	5	3 600	6 000
Profit for the year		8 400	14 000
<i>Other comprehensive income</i>		0	0
Total comprehensive income		8 400	14 000

Company name**Notes to the financial statements (extracts)****For the year ended 31 December 20X2**

	20X2 C	20X1 C
5. Taxation expense		
Normal taxation	3 600	6 000
• current	6 000	3 600
• deferred	(2 400)	2 400
Total tax expense per the statement of comprehensive income	3 600	6 000

6. Deferred tax asset/ (liability)

The closing balance is constituted by the effects of:

• Year-end accruals	0	(2 400)
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It can be seen that the deferred tax effect on profits is nil over the period of the two years.

2.3.2 Expenses payable

The tax authority generally allows expenses to be deducted when they have been incurred irrespective of whether or not the amount incurred has been paid. This is the accrual system and therefore there will be no deferred tax on an expense payable balance.

Example 5: expenses payable

Profit before tax is C20 000 in 20X1 and in 20X2, according to the accountant and the tax authority, *before* taking into account the following information:

- A telephone expense of C4 000, incurred in 20X1, is paid in 20X2.
- The Receiver will allow the expense of C4 000 to be deducted from the 20X1 taxable profits.
- The current tax owing to the tax authorities is paid in the year after it is charged.
- There are no permanent or other temporary differences and no taxes other than normal tax at 30%.
- There are no components of other comprehensive income

Required:

- Calculate the Deferred tax for 20X1 and 20X2 using the balance sheet approach.
- Calculate the current normal tax for 20X1 and 20X2.
- Show the related journal entries in ledger account format.
- Disclose the tax adjustments for the 20X2 financial year.

Solution to example 5A: expenses payable (deferred tax)**Rule for liabilities: expenses payable (IAS 12 adapted):**

The tax base of a liability (representing expenses) is its carrying amount less any amount that will be deductible for tax purposes in respect of that liability in future periods.

Applying the rule to the example (expenses payable):

20X1 tax base:

Carrying amount	C 4 000
Less deductible in the future (all deducted in the current year)	0
	<u>4 000</u>

20X2 tax base:

Carrying amount	0
Less deductible in the future (already deducted in 20X1)	0
	<u>0</u>

The carrying amount will now be zero since the expense was paid in 20X2 with the balance on the liability account being reversed.

Calculation of Deferred tax (balance sheet approach):

Expenses payable	Carrying amount (per SOFP) (a)	Tax base (IAS 12) (b)	Temporary difference (b) – (a) (c)	Deferred tax at 30% (c) x 30% (d)	Deferred tax balance/ adjustment
Opening balance: 20X1	0	0	0	0	N/A
Movement (balancing)	(4 000)	(4 000)	0	0	N/A
Closing balance: 20X1 ⁽³⁾	(4 000)	(4 000)	0	0	N/A
Movement (balancing)	4 000	4 000	0	0	N/A
Closing balance: 20X2 ⁽⁵⁾	0	0	0	0	N/A

Solution to example 5B: expenses payable (current tax)**Calculation of current normal tax: 20X1**

Since the telephone expense is recognised as an expense and is also deducted for tax purposes in 20X1, the effect on accounting profits and taxable profits is identical. There is, therefore, no deferred tax.

	Profits	Tax at 30%
Profit before tax (accounting profits) (20 000 – 4 000) ⁽¹⁾	16 000	
Adjusted for permanent differences:	0	
Taxable accounting profits and tax expense ⁽¹⁾	16 000	4 800
Adjusted for temporary differences: ⁽³⁾	0	0
Taxable profits and current normal tax ⁽²⁾	16 000	4 800

Calculation of current normal tax: 20X2

Since the telephone expense is recognised as an expense in the statement of comprehensive income in 20X1, it will have no impact on the statement of comprehensive income in 20X2. Similarly, since the telephone expense is deducted for tax purposes in 20X1, it will not be deducted for tax purposes in 20X2. Since the effect on accounting profits and taxable profit is the same, there is no deferred tax.

	Profits	Tax at 30%
Profit before tax (accounting profits) ⁽⁴⁾	20 000	
Adjusted for permanent differences:	0	
Taxable accounting profits and tax expense	20 000	6 000
Adjusted for movement in temporary differences: ⁽⁶⁾	0	0
Taxable profits and current normal tax ⁽⁵⁾	20 000	6 000

Solution to example 5C: expenses payable (ledger accounts)**Ledger accounts - 20X1**

Telephone		Expenses payable (L)	
EP ⁽¹⁾	4 000	Tel ⁽¹⁾	4 000
Tax: normal tax (E)		Current tax payable: normal tax (L)	
CTP: NT ⁽²⁾	4 800	Tax ⁽²⁾	4 800

Ledger accounts – 20X2

Bank		Expenses payable (L)	
	EP ⁽⁴⁾ 4 000	Bank ⁽⁴⁾ 4 000	Balance b/f 4 000
	CTP: NT ⁽⁷⁾ 4 800		
Tax: normal tax (E)		Current tax payable: normal tax (L)	
CTP: NT ⁽⁵⁾ 6 000		Bank ⁽⁷⁾ 4 800	Balance 4 800
			Tax ⁽⁵⁾ 6 000

Comments on example 5A, B and C

- (1) The telephone expense is incurred but not paid in 20X1 and is therefore recognised as an expense and expense payable in 20X1.
- (2) Current tax charged by the tax authority in 20X1.
- (3) Since the accountant and tax authority both treat the expense payable as an expense in the calculation of profits, there is no temporary difference and therefore no deferred tax adjustment.
- (4) Notice that although the telephone expense is paid in 20X2, the payment is not taken into account in the calculation of the profits for 20X2. The payment of the expense in 20X2 simply results in the reversal of the expense payable account.
- (5) Current tax charged by the tax authority in 20X2.
- (6) Since the tax authority has treated the expense in the same manner as the accountant, there is no temporary difference and therefore no deferred tax adjustment.
- (7) The balance owing to the tax authority at the end of 20X1 is paid in 20X2.

Solution to example 5D: expenses payable (disclosure)
Company name
Statement of financial position
As at 31 December 20X2

	Note	20X2 C	20X1 C
LIABILITIES			
<i>Current liabilities</i>			
Expense payable		0	4 000
Current tax payable: normal tax		6 000	4 800

Company name
Statement of comprehensive income (extracts)
For the year ended 31 December 20X2

	Note	20X2 C	20X1 C
Profit before taxation		20 000	16 000
Taxation expense	5	6 000	4 800
Profit for the year		14 000	11 200
<i>Other comprehensive income</i>		0	0
Total comprehensive income		14 000	11 200

Company name
Notes to the financial statements (extracts)
For the year ended 31 December 20X2

	20X2 C	20X1 C
5. Taxation expense		
Normal taxation	6 000	4 800
• Current	6 000	4 800
• Deferred	0	0
Total tax expense per the statement of comprehensive income	6 000	4 800

2.3.3 Provisions

Although the tax authority generally allows expenses to be deducted when they have been incurred, he often treats the deduction of provisions with more ‘suspicion’. In cases such as this, the tax authority generally allows the provision to be deducted only when it is paid.

Example 6: provisions

Profit before tax is C20 000 in 20X1 and in 20X2, according to the accountant and the tax authority, *before* taking into account the following information:

- A provision for warranty costs of C4 000 is journalised in 20X1 and paid in 20X2.
- The tax authority will allow the warranty costs to be deducted only once paid.
- The current tax owing to the tax authority is paid in the year after it is charged.
- There are no permanent differences, no other temporary differences and no taxes other than normal tax at 30%.
- There are no components of other comprehensive income.

Required:

- Calculate the Deferred tax using the balance sheet approach.
- Calculate the current normal tax for 20X1 and 20X2.
- Show the related ledger accounts.
- Disclose the above information.

Solution to example 6A provisions (deferred tax)**Rule for liabilities: provisions (IAS 12 adapted)**

The tax base of a liability (representing expenses) is its carrying amount less any amount that will be deductible for tax purposes in respect of that liability in future periods.

Applying the rule to the calculation of the tax base (provisions)

<i>20X1 tax base:</i>	C
Carrying amount	4 000
Less deductible in the future (all will be deducted in the future: 20X2)	4 000
	0
<i>20X2 tax base:</i>	
Carrying amount	0
Less deductible in the future (all deducted in 20X2 since now paid)	0
	0

The carrying amount will now be zero since the expense was paid in 20X2 with the balance on the liability account being reversed.

Calculation of Deferred tax (balance sheet approach)

Provision for warranty costs	Carrying amount (per SOFP) (a)	Tax base (IAS 12) (b)	Temporary difference (b) – (a) (c)	Deferred tax at 30% (c) x 30% (d)	Deferred tax balance/ adjustment
Opening balance – 20X1	0	0	0	0	
Movement (balancing)	(4 000)	0	4 000	1 200	dr FP; cr CI ⁽³⁾
Closing balance – 20X1 ⁽¹⁾	(4 000)	0	4 000	1 200	Asset ⁽²⁾
Movement (balancing)	4 000	0	(4 000)	(1 200)	cr FP; dr CI ⁽⁷⁾
Closing balance – 20X2 ⁽⁵⁾	0	0	0	0	

Solution to example 6B: provisions (current tax)**Calculation of current normal tax: 20X1**

Since in 20X1 the tax authority disallows the provision and the accountant recognises the provision, the accounting profits will be less than the taxable profits in 20X1.

	Profits	Tax at 30%
Profit before tax (accounting profits) (20 000 – 4 000) ⁽¹⁾	16 000	
Adjusted for permanent differences:	0	
Taxable accounting profits and tax expense	16 000	4 800
Adjusted for movement in temporary differences: ⁽³⁾	4 000	1 200
• Add back provision for an expense disallowed in 20X1	4 000	
Taxable profits and current normal tax ⁽⁴⁾	20 000	6 000

Calculation of current normal tax: 20X2

The difference that arose in 20X1 will reverse in 20X2 when the tax authority allows the deduction of the provision since the taxable profits will now be less than the accounting profits (the provision will not affect the statement of comprehensive income again in 20X2).

	Profits	Tax at 30%
Profit before tax (accounting profits)	20 000	
Adjusted for permanent differences:	0	
Taxable accounting profits and tax expense	20 000	6 000
Adjusted for movement in temporary differences: ⁽⁷⁾	(4 000)	(1 200)
- provision for warranty cost allowed in 20X2	(4 000)	
Taxable profits and current normal tax ⁽⁶⁾	16 000	4 800

Solution to example 6C: provisions (ledger accounts)**Ledger accounts: 20X1**

Warranty costs (E)		Provision for warranty costs (L)	
Provision ⁽¹⁾	4 000		WC ⁽¹⁾ 4 000
Tax: normal tax (E)		Current tax payable: normal tax (L)	
CTP: NT ⁽⁴⁾	6 000	DT ⁽³⁾	1 200
		Total c/f	4 800
	<u>6 000</u>		<u>6 000</u>
Total b/f	4 800		
		Deferred tax (A) ⁽²⁾	
		Taxation ⁽³⁾	1 200

Ledger accounts: 20X2

Bank		Provision for warranty costs (L)	
	Provision ⁽⁵⁾ 4 000	Bank ⁽⁵⁾	<u>4 000</u>
	CTP: NT ⁽⁸⁾ 6 000		Balance b/f <u>4 000</u>
Tax: normal tax (E)		Current tax payable: normal tax (L)	
CTP: NT ⁽⁶⁾	4 800	Bank ⁽⁸⁾	6 000
DT ⁽⁷⁾	1 200		Balance b/f 6 000
Total b/f	<u>6 000</u>		Tax ⁽⁶⁾ 4 800
		Deferred tax (A)	
		Balance b/f	<u>1 200</u>
			Tax ⁽⁷⁾ <u>1 200</u>

Comments on example 6A, B and C

- 1) Warranty costs of C4 000 are incurred but not paid in 20X1 and therefore an expense and expense payable are recognised in 20X1 (reducing 20X1 profits). Although the accountant believes these costs to be incurred, the tax authority does not believe this to be the case (therefore the tax authority does not recognise the expense and expense payable).
- 2) This represents a deferred tax asset since the expense (already incurred) will result in a future reduction in taxable profits (a future tax saving).
- 3) In order to create a deferred tax asset, the statement of financial position deferred tax account must be debited and the tax expense must be credited. Since the tax authority disallowed the deduction of the warranty costs in 20X1, the current tax was greater than the tax expense incurred, thus requiring a deferral of tax to future years.
- 4) Current tax charged by the tax authority in 20X1.
- 5) The payment of C4 000 reverses the provision and thus both the accountant and the tax authority now have balances of zero in the liability account. When the balances are the same, there are no temporary differences meaning that the deferred tax balance must be zero.
- 6) Current tax charged by the tax authority in 20X2.
- 7) In order to reverse a deferred tax asset, it is necessary to credit deferred tax and debit tax expense.
- 8) Payment of the current tax for 20X1 in 20X2.

Solution to example 6D: provisions (disclosure)
Company name
Statement of financial position
As at 31 December 20X2

	Note	20X2 C	20X1 C
ASSETS			
<i>Non-current assets</i>			
Deferred tax: normal tax	6	0	1 200
LIABILITIES			
<i>Current liabilities</i>			
Provision for warranty costs		0	4 000
Current tax payable: normal tax		4 800	6 000

Company name
Statement of comprehensive income (extracts)
For the year ended 31 December 20X2

	Note	20X2 C	20X1 C
Profit before taxation (20X1: 20 000 – 4 000)		20 000	16 000
Taxation expense	5	6 000	4 800
Profit for the year		14 000	11 200
<i>Other comprehensive income</i>		0	0
Total comprehensive income		14 000	11 200

Company name
Notes to the financial statements (extracts)
For the year ended 31 December 20X2

	20X2 C	20X1 C
5. Taxation expense		
Normal taxation	6 000	4 800
• Current	4 800	6 000
• Deferred	1 200	(1 200)
Total tax expense per the statement of comprehensive income	6 000	4 800
6. Deferred tax asset/ (liability)		
The closing balance is constituted by the effects of:		
• Year-end accruals	0	1 200

It can be seen that the deferred tax effect on profits is nil over the period of the two years.

2.3.4 Income receivable

The tax authority generally taxes income on the earlier of the date the income is earned or the date it is received. Therefore the taxable income will equal the accounting income if the income is received on time or is receivable (as opposed to received in advance) and therefore there will be no deferred tax on an income receivable balance.

Example 7: income receivable

Profit before tax is C20 000 in 20X1 and in 20X2, according to the accountant and the tax authority, *before* taking into account the following information:

- Interest income of C6 000 is earned in 20X1 but only received in 20X2.
- The tax authority will tax the interest income when earned.
- The current tax owing to the tax authorities is paid in the year after it is charged.
- There are no permanent or other temporary differences and no taxes other than normal tax at 30%.
- There are no components of other comprehensive income.

Required:

- Calculate the Deferred tax using the balance sheet approach.
- Calculate the current normal tax for 20X1 and 20X2.
- Show the related ledger accounts.
- Disclose the above information.

Solution to example 7A: income receivable (deferred tax)**Rule for assets: income receivable:**

The tax base of an asset (that represents an income) is the carrying amount less that portion that will be taxed in the future.

Applying the rule to the calculation of the tax base (income receivable):

<i>20X1 tax base:</i>		C
Carrying amount		6 000
Less portion that will be taxed in the future (all taxed in current year: 20X1)		0
		<u>6 000</u>
<i>20X2 tax base:</i>		
Carrying amount		0
Less portion that will be taxed in the future (all taxed in 20X1)		0
		<u>0</u>
The carrying amount will now be zero since the income receivable was received in 20X2 (see journal 1 in the 20X2 ledger accounts).		

Calculation of Deferred tax (balance sheet approach):

Income receivable	Carrying amount (per SOFP) (a)	Tax base (IAS 12) (b)	Temporary difference (b) – (a) (c)	Deferred tax at 30% (c) x 30% (d)	Deferred tax balance/ adjustment
Opening balance – 20X1	0	0	0	0	N/A
Movement (balancing)	6 000	6 000	0	0	N/A
Closing balance – 20X1 ⁽¹⁾	6 000	6 000	0	0	N/A
Movement (balancing)	(6 000)	(6 000)	0	0	N/A
Closing balance – 20X2 ⁽³⁾	0	0	0	0	N/A

Solution to example 7B: income receivable (current tax)

Since the tax authority taxes income either on the date it is received or on the date it is earned, whichever is earlier, the interest income will be taxable in 20X1. The accountant records income when it is earned and since the interest income is earned in 20X1, the accountant will record the income in 20X1. The accountant and tax authority therefore treat the interest income in the same way with the result that there are no deferred tax consequences.

Calculation of current normal tax: 20X1

	Profits	Tax at 30%
Profit before tax (accounting profits) (20 000 + 6 000) ⁽¹⁾	26 000	
Adjusted for permanent differences:	0	
Taxable accounting profits and tax expense	26 000	7 800
Adjusted for movement in temporary differences: ⁽¹⁾	0	0
Taxable profits and current normal tax ⁽²⁾	26 000	7 800

Calculation of current normal tax: 20X2

	Profits	Tax at 30%
Profit before tax (accounting profits) ⁽³⁾	20 000	
Adjusted for permanent differences:	0	
Taxable accounting profits and tax expense	20 000	6 000
Adjusted for movement in temporary differences: ⁽³⁾	0	0
Taxable profits and current normal tax ⁽⁴⁾	20 000	6 000

Solution to example 7C: income receivable (ledger accounts)**20X1**

Income receivable (A)		Interest income (I)	
Int income ⁽¹⁾	6 000		Inc receivable ⁽¹⁾ 6 000

Tax: normal tax (E)		Current tax payable: normal tax (L)	
CTP: NT ⁽²⁾	7 800		Tax ⁽²⁾ 7 800

20X2

Income receivable (A)		Bank	
Balance b/d	6 000	Int receivable ⁽³⁾ 6 000	CTP ⁽⁵⁾ 7 800
	Bank ⁽³⁾ 6 000		

Tax: normal tax (E)		Current tax payable: normal tax (L)	
CTP: NT ⁽⁴⁾	6 000	Bank ⁽⁵⁾ 7 800	Balance b/d 7 800
			Tax ⁽⁴⁾ 6 000

Comments on example 7A, B and C

- 1) Since the income is treated as income by both the accountant and the tax authority in 20X1 and yet it hasn't been received, both the accountant and the tax authority have the same income receivable account. There are therefore no temporary differences or deferred tax.
- 2) Current tax for 20X1.
- 3) Since the income is received, the receipt reverses the income receivable account to zero (in both the accountant's and tax authority's books). There are therefore still no temporary differences or deferred tax.
- 4) Current tax for 20X2.
- 5) Payment of current tax for 20X1 in 20X2.

Solution to example 7D: income receivable (disclosure)**Company name****Statement of financial position****As at 31 December 20X2**

	Note	20X2 C	20X1 C
ASSETS			
<i>Current assets</i>			
Income receivable		0	6 000
LIABILITIES			
<i>Current liabilities</i>			
Current tax payable: normal tax		6 000	7 800

Company name**Statement of comprehensive income (extracts)****For the year ended 31 December 20X2**

	Note	20X2 C	20X1 C
Profit before taxation		20 000	26 000
Taxation expense	5	6 000	7 800
Profit for the year		14 000	18 200
Other comprehensive income		0	0
Total comprehensive income		14 000	18 200

Company name**Notes to the financial statements (extracts)****For the year ended 31 December 20X2**

	20X2 C	20X1 C
5. Taxation expense		
Normal taxation	6 000	7 800
• Current	6 000	7 800
• Deferred	0	0
Total tax expense per the statement of comprehensive income	6 000	7 800

2.4 Depreciable non-current assets and deferred tax**2.4.1 Depreciation versus capital allowances**

The accountant expenses (deducts from income) the cost of non-current assets through the use of depreciation and the tax authority allows (deducts from income) the cost of non-current assets through the use of depreciation for tax purposes. Depreciation in the tax records may be referred to in many different ways, for example it may be referred to as wear and tear, capital allowances or depreciation for tax purposes. **For ease of reference, this text will generally refer to the depreciation for tax purposes as capital allowances.**

The difference between depreciation in the accounting records and capital allowances (depreciation in the tax records) is generally a result of the differences in the rate or method of depreciation. For example, the rate of depreciation in the accounting records may be 15% using the reducing balance method, whereas the rate of capital allowance may be 10% using the straight-line method. Another difference may arise when depreciation is apportioned for a period that is less than one year, if the capital allowance in the tax records is not apportioned for part of the year. Over a period of time, however, the accountant and the tax authority will generally expense the cost of the asset, meaning that any difference arising between the depreciation and capital allowance in any one year is just a temporary difference.

Example 8: depreciable assets

Profit before tax is C20 000, according to both the accountant and the tax authority, in each of the years 20X1, 20X2 and 20X3, *before* taking into account the following information:

- A plant was purchased on 1 January 20X1 for C30 000
- The plant is depreciated by the accountant at 50% p.a. straight-line.
- The tax authority allows a capital allowance thereon at 33 1/3 % straight-line.
- This company paid the tax authority the current tax owing in the year after it was charged.
- The normal income tax rate is 30%.
- There are no components of other comprehensive income.

Required:

- Calculate the Deferred tax using the balance sheet approach.
- Calculate the current normal tax for 20X1, 20X2 and 20X3.
- Show the related ledger accounts.
- Disclose the above in as much detail as is possible for all three years.

Solution to example 8A: depreciable assets (deferred tax)**Rule for assets: depreciable assets (per IAS 12):**

The tax base of an asset is the amount that will be deducted for tax purposes against any taxable economic benefits that will flow to an entity when it recovers the carrying amount of the asset. If those economic benefits will not be taxable, the tax base of the asset is equal to its carrying amount (e.g. an investment that renders dividend income).

Applying the rule to the calculation of the tax base (depreciable assets):**20X1:***Tax base:*

	C
Original cost	30 000
Less accumulated capital allowances $(30\,000 \times 33\frac{1}{3}\% \times 1\text{year})$	10 000
Deductions still to be made (decrease in taxable profits in the future)	20 000

Carrying amount:

	C
Original cost	30 000
Less accumulated depreciation $(30\,000 \times 50\%)$	15 000
Expenses still to be incurred (decrease in accounting profits in the future)	15 000

20X2:*Tax base:*

	C
Original cost	30 000
Less accumulated capital allowances $(10\,000 \times 2\text{ years})$	20 000
Deductions still to be made	10 000

Carrying amount:

	C
Original cost	30 000
Less accumulated depreciation $(15\,000 \times 2\text{ years})$	30 000
Expenses still to be incurred	0

20X3:*Tax base:*

	C
Original cost	30 000
Less accumulated capital allowances $(10\,000 \times 3\text{ years})$	30 000
Deductions still to be made	0

Carrying amount:

	C
Original cost	30 000
Less accumulated depreciation $(15\,000 \times 2\text{ yrs})$ (fully depreciated at 31/12/20X2)	30 000
Expenses still to be incurred	0

Calculation of Deferred tax (balance sheet approach):

Depreciable assets	Carrying amount (per SOFP) (a)	Tax base (IAS 12) (b)	Temporary difference (b) – (a) (c)	Deferred tax at 30% (c) x 30% (d)	Deferred tax balance/ adjustment
Opening balance: 20X1					
Purchase	30 000	30 000			
Depreciation/ capital allowances ⁽¹⁾	(15 000)	(10 000)	5 000	1 500	dr FP; cr CI
Closing balance: 20X1 ⁽²⁾	15 000	20 000	5 000	1 500	Asset ⁽²⁾
Depreciation/ capital allowances ⁽¹⁾	(15 000)	(10 000)	5 000	1 500	dr FP; cr CI
Closing balance: 20X2 ⁽²⁾	0	10 000	10 000	3 000	Asset ⁽²⁾
Depreciation/ capital allowances ⁽⁴⁾	0	(10 000)	(10 000)	(3 000)	cr FP; dr CI
Closing balance: 20X3 ⁽⁵⁾					

Solution to example 8B: depreciable assets (current tax)**Calculation of current normal tax: 20X1**

Profit before tax (accounting profits) (20 000 - 15 000) ⁽¹⁾
Adjusted for permanent differences:
Taxable accounting profits and tax expense
Adjusted for movement in temporary differences: ⁽¹⁾
- add back depreciation (30 000 x 50%)
- less capital allowances (30 000 x 33 1/3%)

Profits	Tax at 30%
5 000	
0	
5 000	1 500
5 000	1 500
15 000	
(10 000)	
10 000	3 000

Taxable profits and current normal tax ⁽³⁾

Calculation of current normal tax: 20X2

Profit before tax (accounting profits) (20 000 - 15 000) ⁽¹⁾
Adjusted for permanent differences:
Taxable accounting profits and tax expense
Adjusted for movement in temporary differences: ⁽¹⁾
- add back depreciation (30 000 x 50%)
- less capital allowances (30 000 x 33 1/3%)

Profits	Tax at 30%
5 000	
0	
5 000	1 500
5 000	1 500
15 000	
(10 000)	
10 000	3 000

Taxable profits and current normal tax ⁽³⁾

Calculation of current normal tax: 20X3

Profit before tax (accounting profits) (asset fully depreciated) ⁽⁴⁾
Adjusted for permanent differences:
Taxable accounting profits and tax expense
Adjusted for movement in temporary differences: ⁽⁴⁾
- add back depreciation (the asset is fully depreciated)
- less capital allowances (30 000 x 33 1/3%)

Profits	Tax at 30%
20 000	
0	
20 000	6 000
(10 000)	(3 000)
0	
(10 000)	
10 000	3 000

Taxable profits and current normal tax ⁽⁶⁾

Solution to example 8C: depreciable assets (ledger accounts)

Tax: normal tax (E)				Current tax payable: normal tax (L)			
<u>20X1</u>							
CTP: NT ⁽³⁾	3 000	DT ⁽²⁾	1 500	Balance c/f	3 000	20X1 Tax ⁽³⁾	3 000
Total	1 500	P & L	1 500		3 000		3 000
<u>20X2</u>							
CTP: NT ⁽³⁾	3 000	DT ⁽²⁾	1 500	20X2 Bank	3 000	Balance b/f	3 000
Total	1 500	P & L	1 500	Balance c/f	3 000	20X2 Tax ⁽³⁾	3 000
<u>20X3</u>							
CTP: NT ⁽⁶⁾	3 000			20X3 Bank	3 000	Balance b/f	3 000
DT ⁽⁵⁾	3 000					20X3 Tax ⁽⁶⁾	3 000
Total	6 000	P & L	6 000	Balance c/f	6 000		6 000
						Balance b/f	3 000

Deferred tax (A)			
20X1 Tax ⁽²⁾	1 500		
20X2 Tax ⁽²⁾	1 500	20X3 Tax ⁽⁵⁾	3 000
	3 000		3 000

Depreciation (E)			
<u>20X1</u>			
Plant: AD ⁽¹⁾	15 000	P & L	15 000
<u>20X2</u>			
Plant: AD ⁽¹⁾	15 000	P & L	15 000

Plant: cost (A)	
20X1 Bank	30 000

Plant: accumulated depreciation (A)	
20X1 Depr ⁽¹⁾	15 000
20X2 Depr ⁽¹⁾	15 000
Balance	30 000

Comments on example 8A, B and C

- (1) The tax authority allows a capital allowance at 33 1/3% of the cost per year whereas the accountant allows depreciation at 50% of the cost per year in 20X1 and 20X2.
- (2) The fact that the depreciation and capital allowance are not the same amount results in temporary differences and deferred tax. This represents a deferred tax asset since the future tax deductions (20X1: C20 000 and 20X2: C10 000) are greater than the tax effect of the future economic benefits recognised in the statement of financial position (20X1: C15 000 and 20X2: C0). This asset is therefore similar to an expense prepaid since the current tax has been greater than the tax incurred in 20X1 and 20X2.
- (3) Current tax of C3 000 is recorded in 20X1 and 20X2.
- (4) The tax authority allows a capital allowance at 33 1/3% of the cost per year whereas the accountant allows depreciation at 50% of the cost per year. Notice that the accountant did not write off depreciation in 20X3 since the asset was fully depreciated at the end of 20X2.
- (5) At the end of 20X3, both the carrying amount and tax base of the asset are zero. The deferred tax balance of C3 000 must therefore be reversed.
- (6) Current tax of C6 000 is recorded in 20X3.

Solution to example 8D: depreciable assets (disclosure)**Entity name****Statement of comprehensive income****For the year ended 20X3**

	Note	20X3 C	20X2 C	20X1 C
Profit before tax		20 000	5 000	5 000
Taxation expense	3	6 000	1 500	1 500
Profit for the period		14 000	3 500	3 500
<i>Other comprehensive income</i>		0	0	0
Total comprehensive income		14 000	3 500	3 500

Entity name**Statement of financial position****As at ...20X3**

	Note	20X3 C	20X2 C	20X1 C
ASSETS				
<i>Non-current assets</i>				
Deferred tax: normal tax	4	0	3 000	1 500
Property, plant and equipment		0	0	15 000
LIABILITIES				
<i>Current liabilities</i>				
Current tax payable: normal tax		3 000	3 000	3 000

Entity name**Notes to the financial statements****For the year ended ...20X3**

	20X3 C	20X2 C	20X1 C
3. Taxation expense			
Normal taxation expense	6 000	1 500	1 500
• Current	3 000	3 000	3 000
• Deferred	3 000	(1 500)	(1 500)

4. Deferred tax asset

The closing balance is constituted by the effects of:

• Property, plant and equipment	0	3 000	1 500
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Notice that over the three years, the capital allowances (10 000 x 3 years = 30 000) equals the depreciation (15 000 x 2 years = 30 000). Similarly, the current tax charged by the tax authority (3 000 x 3 years = 9 000) equals the tax expense (1 500 + 1 500 + 6 000 = 9 000).

2.5 Rate changes and deferred tax

A deferred tax balance is simply an estimate of the tax owing to the tax authority in the long-term or the tax savings expected from the tax authority in the long-term. The estimate is made based on the temporary differences multiplied by the applicable tax rate. If this tax rate changes, so does the estimate of the amount of tax owing by or owing to the tax authority in the future. Therefore, if a company has a deferred tax balance at the beginning of a year during which the rate of tax changes, the opening balance of the deferred tax account will need to be re-estimated. This is effectively a change in accounting estimate, the adjustment for which is processed in the current year's accounting records.

Since the tax expense account in the current year will include an adjustment to the deferred tax balance from a prior year, the effective rate of tax in the current year will not equal the applicable tax rate. The difference between the effective and the applicable rate of tax results in the need for a tax rate reconciliation in the tax note.

Example 9: rate changes – date of substantive enactment

A change in the corporate normal tax rate from 30% to 29% is announced on 20 January 20X1. No significant changes were announced to other forms of tax. The new tax rate will apply to tax assessments ending on or after 1 March 20X1.

Required:

State at what rate the current and deferred tax balances should be calculated assuming:

- A. The company's year of assessment ends on 31 December 20X0.
- B. The company's year of assessment ends on 28 February 20X1.
- C. The company's year of assessment ends on or after 31 March 20X1.

Solution to example 9: rate changes – date of substantive enactment

- The date of substantive enactment is 20 January 20X1 (no significant changes to other taxes were announced at the time).
- The effective date is 1 March 20X1

	A	B	C
	Year end:	Year end:	Year end:
	31 December	28 February	31 March
	20X0	20X1	20X1
Current tax payable/ receivable	30%	30%	29%
Deferred tax liability/ asset	30%	29%	29%
Explanations:	(1)	(2)	(3)

Explanations:

- Since the year ends before the effective date of the rate change, the current tax payable will still be based on the old rate. Since the year ends before the date of substantive enactment, the deferred tax balance must still be estimated based on the old rate although a subsequent event note should be included to explain that the deferred tax balances will be reduced in the future due to a rate change that occurred after the end of the reporting period.
- Since the year ends before the effective date of the rate change, the current tax payable will still be based on the old rate. Since the year ends after the date of substantive enactment, the deferred tax balance must be estimated using the new rate.
- Since the year ends after the effective date of the rate change, the current tax payable will be based on the new rate. For the same reason, the deferred tax balance will be based on the new rate.

Example 10: rate changes

The opening balance of deferred tax at the beginning of 20X2 is C45 000, credit and is due purely to temporary differences caused by capital allowances on the property, plant and equipment.

- The tax rate in 20X1 was 45% but changed to 35% in 20X2.
- The profit before tax in 20X2 is C200 000, all of which is taxable in 20X2.
- No balance was owing to or from the tax authority at 31 December 20X1 and no payments were made to or from the tax authority during 20X2.
- There are no other temporary differences or permanent differences.
- There are no components of other comprehensive income.

Required:

- A. Calculate the effect of the rate change.
- B. Show the Calculation of Deferred tax using the balance sheet approach.
- C. Calculate the current normal tax for 20X2.
- D. Post the related journal in the ledger accounts.
- E. Disclose the above in the financial statements for the year ended 31 December 20X2.

Solution to example 10A: rate change

The opening balance in 20X2 (closing balance in 20X1) was calculated by multiplying the total temporary differences at the end of 20X1 by 45%. Therefore, the temporary differences (TD) provided for at the end of 20X1 are as follows:

$$\begin{aligned}\text{Deferred tax balance} &= \text{Temporary difference} \times \text{applicable tax rate} \\ \text{C45 000} &= \text{Temporary difference} \times 45\% \\ \text{Temporary difference} &= \text{C45 000} / 45\% \\ \text{Temporary difference} &= \text{C100 000}\end{aligned}$$

The credit balance means that the company is expecting the tax authority to charge them tax on the temporary difference of C100 000 in the future. If the tax rate is now 35%, the estimate of the tax we expect to pay on this C100 000 needs to be changed to:

$$\begin{aligned}\text{Deferred tax balance} &= \text{Temporary difference} \times \text{applicable tax rate} \\ \text{Deferred tax balance} &= \text{C100 000} \times 35\% \\ \text{Deferred tax balance} &= \text{C35 000}\end{aligned}$$

An adjustment to the deferred tax balance must be processed:

Deferred tax balance was	45 000	<i>Balance: credit</i>
Deferred tax balance should now be	35 000	<i>Balance: credit</i>
Adjustment needed	<u>10 000</u>	<i>Adjustment: debit deferred tax, credit tax expense</i>

Solution to example 10B: rate change (deferred tax)

Depreciable assets	Carrying amount (per FP) (a)	Tax base (IAS 12) (b)	Temporary difference (b) – (a) (c)	Deferred tax at 30% (c) x % (d)	Deferred tax balance/ adjustment
Opening balance @ 45%	xxx	xxx	100 000	45 000	Liability dr FP; cr CI
Rate change (100 000 x 10%)				(10 000)	
Opening balance @ 35%			100 000	35 000	
Movement (there are no temporary differences in 20X2)	0	0	0	0	
Closing balance – 20X2	<u>xxx</u>	<u>xxx</u>	<u>100 000</u>	<u>35 000</u>	Liability

Notice that the question stated that there were no other temporary differences other than the balance of temporary differences at 31 December 20X1.

Solution to example 10C: rate change (current tax)

Taxable profits and current normal tax - 20X2	Profits	Tax at 35%
Profit before tax (accounting profits) (given)	200 000	
Adjusted for permanent differences: (given)	0	
Taxable accounting profits and tax expense	<u>200 000</u>	70 000
Adjusted for movement in temporary differences: (given)	0	0
Taxable profits and current normal tax	<u>200 000</u>	<u>70 000</u>

Notice that the question stated that there were no permanent differences and no other temporary differences other than the balance of temporary differences at 31 December 20X1.

Solution to example 10D: rate change (ledger accounts)

The credit balance of the deferred tax account must be reduced, thus requiring this account to be debited. The contra entry will go to the tax expense account, since this is where the contra entry was originally posted when the 45 000 was originally accounted for as a deferred tax liability.

Tax: normal tax (E)				Current tax payable: normal tax (L)		
CTP: NT	70 000	Deferred tax	10 000		Tax	70 000
		Total c/f	60 000			
	70 000		70 000			
Total b/f	60 000	P & L	60 000			
	60 000		60 000			
Deferred tax (L)						
Tax	10 000	Balance b/d	45 000			
Balance c/d	35 000					
	45 000		45 000			
		Balance b/d	35 000			

Solution to example 10E: rate change (disclosure)**Entity name****Statement of comprehensive income****For the year ended 31 December 20X2**

	Note	20X2 C	20X1 C
Profit before tax (given)		200 000	xxx
Taxation expense	3	60 000	xxx
Profit for the year		140 000	xxx
<i>Other comprehensive income</i>		0	0
Total comprehensive income		140 000	xxx

Entity name**Statement of financial position****As at 31 December 20X2**

	Note	20X2 C	20X1 C
LIABILITIES			
<i>Non-current liabilities</i>			
Deferred tax: normal tax	4	35 000	45 000
<i>Current liabilities</i>			
Current tax payable: normal tax		70 000	0

Entity name**Notes to the financial statements****For the year ended 31 December 20X2****3. Taxation expense**

Normal taxation

- Current (200 000 x 35%)
- Deferred
 - Current year (no temporary differences)
 - Rate change

20X2**C**

60 000

70 000

(10 000)

0

(10 000)

Tax expense per the statement of comprehensive income

60 000

Tax Rate Reconciliation

Applicable Tax Rate	35%
Tax effects of:	
Profit before tax (200 000 x 35%)	70 000
Rate change	(10 000)
Tax expense charge per statement of comprehensive income	60 000
Effective Rate of Tax (60 000/ 200 000)	30%

The applicable rate of tax differs from that in the prior year because a change in the statutory tax rate was enacted on ... (date).

4. Deferred tax liability

	20X2 C	20X1 C
The closing balance is constituted by the effects of:		
• Property, plant and equipment	35 000	45 000

Example 11: rate changes

The closing balance of deferred tax at the end of 20X1 is C60 000.

Required:

Sow the journal entries relating to the rate change in 20X2 assuming that:

- A. the balance in 20X1 is an asset and that the rate was 30% in 20X1 and 40% in 20X2;
- B. the balance in 20X1 is a liability and that the rate was 30% in 20X1 and is 40% in 20X2;
- C. the balance in 20X1 is an asset and that the rate was 40% in 20X1 and is 30% in 20X2;
- D. the balance in 20X1 is a liability and that the rate was 40% in 20X1 and is 30% in 20X2.

Solution to example 11A: rate change (deferred tax asset increasing)

1 January 20X2	Debit	Credit
Deferred tax: normal tax (A)	20 000	
Tax expense: normal tax		20 000
<i>Tax rate increased by 10%: 60 000 / 30 % x (40% – 30%)</i>		

Solution to example 11B: rate change (deferred tax liability increasing)

1 January 20X2	Debit	Credit
Tax expense: normal tax	20 000	
Deferred tax: normal tax (L)		20 000
<i>Tax rate increased by 10%: 60 000 / 30 % x (40% – 30%)</i>		

Solution to example 11C: rate change (deferred tax asset decreasing)

1 January 20X2	Debit	Credit
Tax expense: normal tax	15 000	
Deferred tax: normal tax (A)		15 000
<i>Tax rate decreased by 10%: 60 000 / 40 % x (40% – 30%)</i>		

Solution to example 11D: rate change (deferred tax liability decreasing)

1 January 20X2	Debit	Credit
Deferred tax: normal tax (L)	15 000	
Tax expense: normal tax		15 000
<i>Tax rate decreased by 10%: 60 000 / 40 % x (40% – 30%)</i>		

2.6 Tax losses and deferred tax

A deferred tax asset shall be recognised for the carry forward of unused tax losses and unused tax credits to the extent that it is probable that future taxable profit will be available against which the unused tax losses and unused tax credits can be utilised (IAS 12 para 34).

Tax losses carried forward represent future tax savings. The future tax saving is an asset to the entity, but one that is only recognised to the extent that it is probable that future taxable profits will be sufficient to allow the tax saving from the tax loss to be utilised (i.e. realised). In many instances, therefore, an entity may not recognise the potential future tax savings as an asset because the very existence of a tax loss is often evidence that future profits will not be earned. If we do not earn profits in the future, the tax authorities will not be able to reduce our taxable profits by the assessed loss (tax loss). We would therefore not have an asset.

Example 12: tax losses

Cost of vehicle purchased on 1 January 20X1	C120 000
Depreciation on vehicles to nil residual value	3 years straight-line
Capital allowance (depreciation allowed by the tax authorities)	2 years straight-line
Normal income tax rate	30%

Profit or loss before tax (*after* deducting any depreciation on the vehicle) for the year ended:

• 31 December 20X1	Loss: C40 000
• 31 December 20X2	Loss: C20 000
• 31 December 20X3	Profit: C100 000

There are no permanent differences and no temporary differences other than those evident from the information provided. There are no components of other comprehensive income.

Required:

- Calculate the taxable profits and current tax per the tax legislation for 20X1 to 20X3.
- Calculate the Deferred tax balances for 20X1 to 20X3 assuming that the company expects to be able to utilise any tax losses to reduce future tax payable on future profits.
- Disclose the above tax-related information in the financial statements for 20X3.
- Repeat the disclosure assuming that the company's accounting policy was to *not* recognise deferred tax assets.

Solution to example 12A: tax losses and current tax

Calculation of current normal tax	20X3 C	20X2 C	20X1 C
Profit before tax	100 000	(20 000)	(40 000)
Add back depreciation (120 000 / 3 years)	40 000	40 000	40 000
Less capital allowance (120 000 / 2 years)	0	(60 000)	(60 000)
Tax loss brought forward	(100 000)	(60 000)	0
Taxable profit/ (tax loss)	40 000	(100 000)	(60 000)
Current normal tax at 30%	12 000	nil	nil

Solution to example 12B: tax losses and deferred tax

Property, plant and equipment	Carrying amount (SOF) (a)	Tax base (IAS 12) (b)	Temporary difference (b) – (a) (c)	Deferred tax at 30% (c) x 30% (d)	Deferred tax balance/ adjustment
1 January 20X1	0	0	0	0	
Purchase of asset	120 000	120 000	0	0	
Depreciation	(40 000)	(60 000)	(20 000)	(6 000)	
31 December 20X1	80 000	60 000	(20 000)	(6 000)	Liability
Depreciation	(40 000)	(60 000)	(20 000)	(6 000)	
31 December 20X2	40 000	0	(40 000)	(12 000)	Liability
Depreciation	(40 000)	0	40 000	12 000	
31 December 20X3	0	0	0	0	

Tax loss	Carrying amount (SOF) (a)	Tax base (IAS 12) (b)	Temporary difference (b) – (a) (c)	Deferred tax at 30% (c) x 30% (d)	Deferred tax balance/ adjustment
1 January 20X1	0	0	0	0	
Movement	0	60 000	60 000	18 000	
31 December 20X1	0	60 000	60 000	18 000	Asset
Movement	0	40 000	40 000	12 000	
31 December 20X2	0	100 000	100 000	30 000	Asset
Movement	0	(100 000)	(100 000)	(30 000)	
31 December 20X3	0	0	0	0	

Summary of deferred tax on:	Vehicle	Tax loss	Total	
1 January 20X1	0	0	0	
Movement			12 000	
31 December 20X1	(6 000)	18 000	12 000	Asset
Movement			6 000	
31 December 20X2	(12 000)	30 000	18 000	Asset
Movement			(18 000)	
31 December 20X3	0	0	0	

Solution to example 12C: tax losses and disclosure – deferred tax asset recognised

Entity name			
Statement of comprehensive income			
For the year ended20X3			
	Note	20X3 C	20X2 C
Profit before tax		100 000	(20 000)
Taxation income/ (expense)	3	(30 000)	6 000
Profit for the period		70 000	(14 000)
Other comprehensive income		0	0
Total comprehensive income		70 000	(14 000)

Entity name
Statement of financial position
As at20X3

	Note	20X3 C	20X2 C
ASSETS			
<i>Non-current assets</i>			
Deferred tax: normal tax	5	0	18 000

Entity name
Notes to the financial statements
For the year ended 31 December

	20X3 C	20X2 C
3. Taxation expense		
Normal taxation expense		
• Current	12 000	0
• Deferred	18 000	(6 000)
	<u>30 000</u>	<u>(6 000)</u>

5. Deferred tax asset/ (liability)

The deferred tax balance comprises tax on the following types of temporary differences:

• Property, plant and equipment	0	(12 000)
• Tax losses	0	30 000
	<u>0</u>	<u>18 000</u>

Solution to example 12D: tax losses and disclosure – deferred tax asset not recognised

Summary of deferred tax on:	Vehicle	Tax loss	Total		Limited to	Unrecognised/ (utilised)
1 January 20X1	0	0	0		0	0
Movement			12 000		0	12 000
31 December 20X1	(6 000)	18 000	12 000	Asset	0	12 000
Movement			6 000		0	6 000
31 December 20X2	(12 000)	30 000	18 000	Asset	0	18 000
Movement			(18 000)		0	(18 000)
31 December 20X3	<u>0</u>	<u>0</u>	<u>0</u>		<u>0</u>	<u>0</u>

Entity name
Statement of comprehensive income
For the year ended20X3

	Note	20X3 C	20X2 C
Profit before tax		100 000	(20 000)
Taxation expense	3	12 000	0
Profit for the period		<u>88 000</u>	<u>(20 000)</u>
<i>Other comprehensive income</i>		0	0
Total comprehensive income		<u>88 000</u>	<u>(20 000)</u>

Entity name
Statement of financial position
As at20X3

	Note	20X3 C	20X2 C
LIABILITIES			
<i>Non-current assets/ liabilities</i>			
Deferred tax: normal tax	5	0	0

Entity name
Notes to the financial statements
For the year ended 31 December

		20X3	20X2
		C	C
3. Taxation expense			
Normal taxation			
• Current		12 000	0
• Deferred		0	0
		<u>12 000</u>	<u>0</u>
<i>Tax rate reconciliation</i>			
Applicable tax rate		<u>30%</u>	<u>30%</u>
Tax effects of:			
Profit before tax	<i>(100 000 x 30%) (20 000 x 30%)</i>	30 000	(6 000)
Unrecognised current tax loss	<i>40 000 x 30%</i>		6 000
Utilisation of previously unrecognised tax losses	<i>100 000 x 30%</i>	(18 000)	
Tax expense per the statement of comprehensive income		<u>12 000</u>	<u>0</u>
Effective tax rate	<i>(12 000 / 100 000) (0 / 20 000)</i>	12%	0%
5. Deferred tax asset/ (liability)			
The deferred tax balance comprises tax on the following types of temporary differences:			
• Property, plant and equipment		<u>0</u>	<u>0</u>

3. Disclosure of income tax

3.1 Overview

IAS 1 and IAS 12 require certain tax disclosure in the statement of comprehensive income, statement of financial position and related notes to the financial statements.

Where the tax is caused by profits or losses, this tax:

- is presented as part of the tax expense in the profit or loss section of the statement of comprehensive income; and
- is supported by a note (the tax expense note).

Where the tax is caused by gains or losses recognised directly in equity (other comprehensive income), this tax:

- is shown as a separate line item in the other comprehensive income section of the statement of comprehensive income; or is
- is deducted from each component thereof; and
- is supported by a note (the tax on other comprehensive income note): this note shows the tax effect of each component of other comprehensive income.

3.2 Statement of comprehensive income disclosure

3.2.1 Face of the statement of comprehensive income

Normal tax on companies is considered to be the tax levied on income and are therefore combined to reflect the *tax expense* in the statement of comprehensive income (referred to as *income tax expense*). The tax expense must be reflected as a separate line item in the statement of comprehensive income (required by IAS 1, chapter 1).

3.2.2 Tax expense note

This line item in the statement of comprehensive income should be referenced to a supporting note. The supporting note should provide details of the major components of the tax expense. A logical approach would be to first separate the tax note into the different types of tax levied on company profits, although not expressly required in IAS 12. The second step would be to identify the major categories of tax within each tax type (i.e. the current and deferred portions). The note should also provide a reconciliation explaining why the effective rate of tax differs from the standard or applicable rate of tax.

A summary of the major components of tax that may need disclosure (IAS 12 .80) include:

In respect of current tax:

- Current tax for the current period;
- Adjustments to current tax of prior periods;
- Reductions in current tax caused by *utilisation* of previously unrecognised:
 - tax credits;
 - tax losses; and
 - deductible temporary differences.

In respect of deferred tax:

- Deferred tax adjustment for the current period;
- Effects of rate changes on prior year deferred tax balances;
- Adjustments to deferred tax expense caused by the *write-down* (or reversal thereof) of a deferred tax asset;
- Reductions in deferred tax expense caused by *recognition* of previously unrecognised:
 - tax credits;
 - tax losses; and
 - deductible temporary differences.

In respect of the aggregate of current and deferred tax:

- The tax relating to changes in accounting policies and correction of errors that could not be adjusted in prior years.

The following shall also be disclosed separately (IAS 12.81):

- An explanation of the relationship between tax expense (income) and accounting profit in either or both of the following forms:
 - a reconciliation between tax expense (income) and the product of accounting profit multiplied by the applicable tax rate(s); or
 - a reconciliation between the average effective tax rate and the applicable tax rate;
- An explanation of the basis on which the applicable tax rate(s) is (are) computed;
- An explanation regarding any changes in the applicable tax rate(s) compared to the previous accounting period;
- In respect of discontinued operations, the tax expense relating to:
 - the gain or loss on discontinuance; and
 - the profit or loss from the ordinary activities of the discontinued operation for the period, together with the corresponding amounts for each prior period presented;
- The total tax (current tax and deferred tax) relating to items charged directly to equity (this is covered in other chapters such as the one entitled 'property, plant and equipment'.

3.3 Statement of financial position disclosure

3.3.1 Face of the statement of financial position

The deferred tax asset or liability is always classified as a *non-current* asset or liability. Even if an entity believes that some of their deferred tax balance will reverse in the next year, the amount may never be classified as current (IAS 1.56).

If there is a deferred tax asset *and* a deferred tax liability, these should be disclosed as *separate* line-items on the face of the statement of financial position (i.e. they should not be set-off against one another) unless (IAS 12.74):

- Current tax assets and liabilities are legally allowed to be set-off against each other when making tax payments; and
- The deferred tax assets and liabilities relate to taxes levied by the same tax authority on:
 - the same entity or on
 - different entities within a group that intend to settle their taxes on a net basis or at the same time.

3.3.2 Accounting policy note

Although not specifically required, it is important for foreign investors to know how a local company measures the elements in its financial statements. In this regard, a brief explanation of the method of calculation is considered appropriate.

3.3.3 Deferred tax note

The deferred tax balance may reflect an asset or liability balance and therefore it makes sense to explain, in the heading of the note, whether the balance is an asset or liability (if, for example, you reflect liabilities in brackets, then the heading would be: asset/ (liability)).

IAS 12.81(g) requires disclosure, in respect of each type of temporary difference (deductible and taxable), and in respect of each type of unused tax losses and unused tax credits, the amount of the deferred tax:

- assets and liabilities recognised in the statement of financial position for each period presented, and
- income or expense recognised in the statement of comprehensive income for each period presented, if this is not apparent from the changes in the amounts recognised in the statement of financial position.

IAS 12.81(a) requires the following to be disclosed:

- The aggregate current and deferred tax relating to items charged or credited directly to equity.

IAS 12.81(ab) requires the following to be disclosed in the notes:

- The amount of income tax relating to each component of other comprehensive income

IAS 12.81(a), (ab) and (g) above means that a reconciliation between the opening deferred tax balance and the closing deferred tax balance (asset or liability) will be required:

- whenever a gain or loss is charged directly to equity, (because the deferred tax charge on the gain or loss will also be charged directly to equity and therefore the deferred tax charge will not affect the tax expense for the year);
- an example of a gain that would be recognised directly in equity is a revaluation surplus.

3.3.3.1 Other information needed on deferred tax assets

An entity shall disclose the amount of a deferred tax asset and the nature of the evidence supporting its recognition, when (IAS 12.82):

- the utilisation of the deferred tax asset is dependent on future taxable profits in excess of the profits arising from the reversal of existing taxable temporary differences, *and*
- the entity has suffered a loss in either the current or preceding period in the tax jurisdiction to which the deferred tax asset relates.

Where a deferred tax asset is not recognised, IAS 12.81(e) requires the following disclosure:

- the amount (and expiry date, if any) of the unrecognised deductible temporary differences, unused tax losses and unused tax credits.

Where a deferred tax asset was previously not recognised, IAS 12.80(e) & (f) requires that the amount of the benefit must be disclosed if and when the previously unrecognised deductible temporary differences, unused tax losses and unused tax credits is subsequently used to:

- reduce current tax; or
- reduce deferred tax.

3.3.3.2 Other information needed on deferred tax liabilities

IAS 12.81(f) also requires the following disclosure:

- the aggregate amount of temporary differences associated with investments in subsidiaries, branches and associates and interests in joint ventures, for which deferred tax liabilities have not been recognised.

IAS 12.81(i) requires disclosure of the following:

- the amount of income tax consequences of dividends to shareholders of the entity that were proposed or declared before the financial statements were authorised for issue, but are not recognised as a liability in the financial statements.

3.3.3.3 Other information needed on the manner of recovery or settlement

The manner in which the entity plans to realise its assets (use or sale) or settle its liabilities affects the tax rates used when calculating the deferred tax balances.

The manner of recovery or settlement of its assets or liabilities may have a significant effect on the deferred tax balance, in which case careful consideration needs to be given to whether sufficient information is provided in the financial statements to enable a user to understand how the deferred tax balance was calculated.

If the manner of recovery or settlement could affect the deferred tax balance significantly, disclosure needs to be made of:

- the judgements made regarding the expected manner of recovery of the assets or settlement of the liability; and
- the tax rate/s used to calculate the deferred tax: where more than one tax rate was used to calculate the deferred tax balance, disclosure needs to be made of each component on which deferred tax was calculated at a different rate (including the components on which no tax was levied).

The manner in which the entity expects to recover its assets or settle its liabilities may be clear from the reconciliation in the tax expense note. Extra disclosure may be required if, however, a reconciling item relating to an exempt capital gains, (disclosed in terms of IAS 12.81(c)), refers to a mixture of:

- realised gains (e.g. profit on sale of machine) and
- unrealised gains (e.g. revaluation surplus)
- on a multitude of assets whose manner of recovery differs from one another,

3.4 Sample disclosure involving tax

Entity name
Statement of financial position
As at20X2

		20X2	20X1
		C	C
ASSETS/ LIABILITIES			
<i>Non-current assets/ Non-current liabilities</i>			
- Deferred tax: normal tax	5.	xxx	xxx
<i>Current assets/ Current liabilities</i>			
- Current tax payable: normal tax		xxx	xxx
- Current tax payable: value added tax		xxx	xxx

Entity name
Statement of comprehensive income
For the year ended ...20X2

		20X2	20X1
		C	C
Profit before tax		xxx	xxx
Taxation expense	6.	xxx	xxx
Profit for the period		xxx	xxx
<i>Other comprehensive income</i>		xxx	xxx
Total comprehensive income		xxx	xxx

Entity name
Notes to the financial statements
For the year ended ...20X2

	20X2	20X1
	C	C

1. Accounting policies

1.1 Deferred tax

Deferred tax is provided on the comprehensive basis. Deferred tax assets are provided where there is reason to believe that these will be utilised in the future.

5. Deferred tax asset / (liability)

The closing balance is constituted by the effects of:

• Provisions	xxx	xxx
• Year-end accruals	xxx	xxx
• Property, plant and equipment	(xxx)	xxx
• Unused tax loss	xxx	(xxx)
	<u>(xxx)</u>	<u>(xxx)</u>

- The potential tax savings on an assessed loss of C100 000 has *not* been recognised as a deferred tax asset. This assessed loss will not expire.

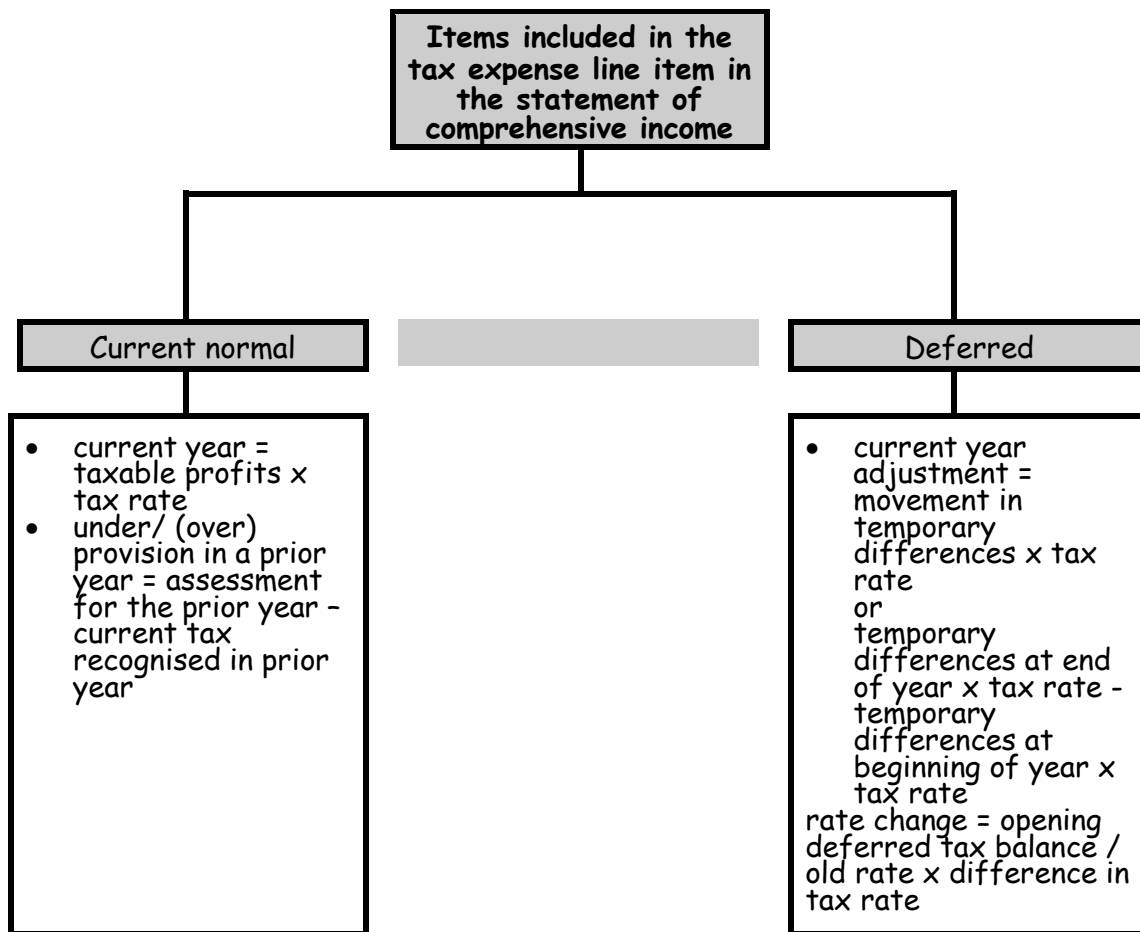
Reconciliation:

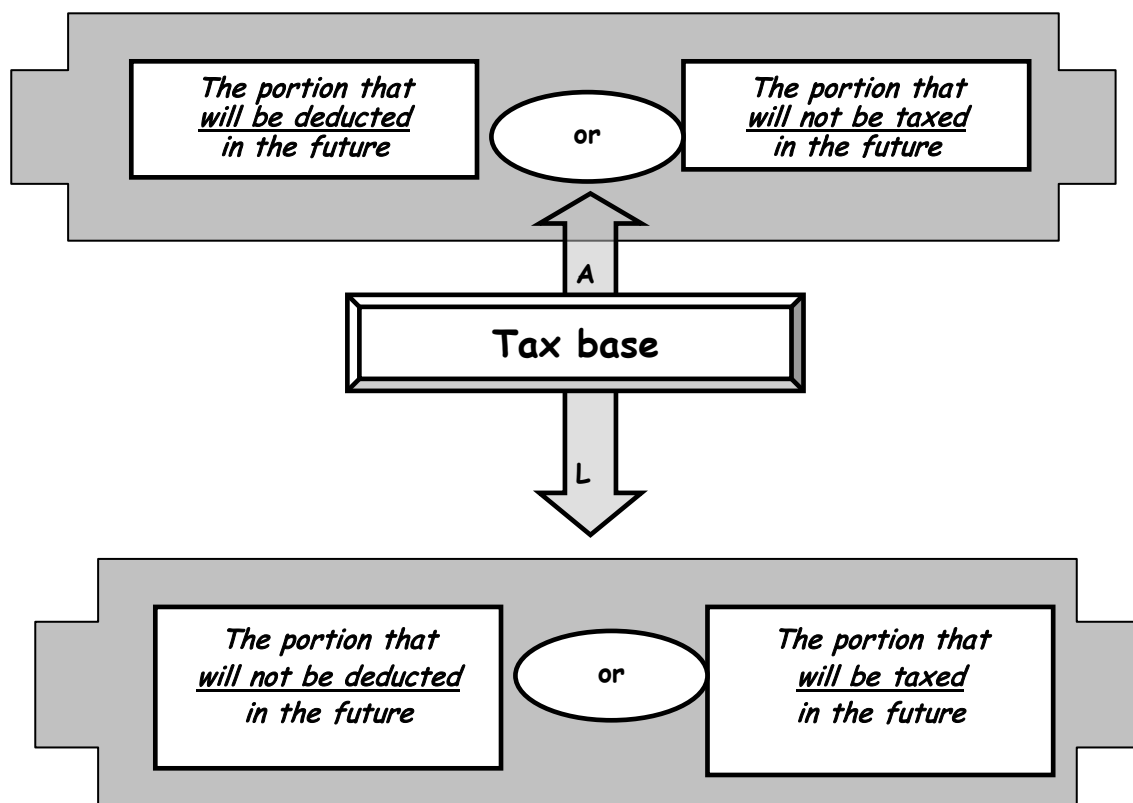
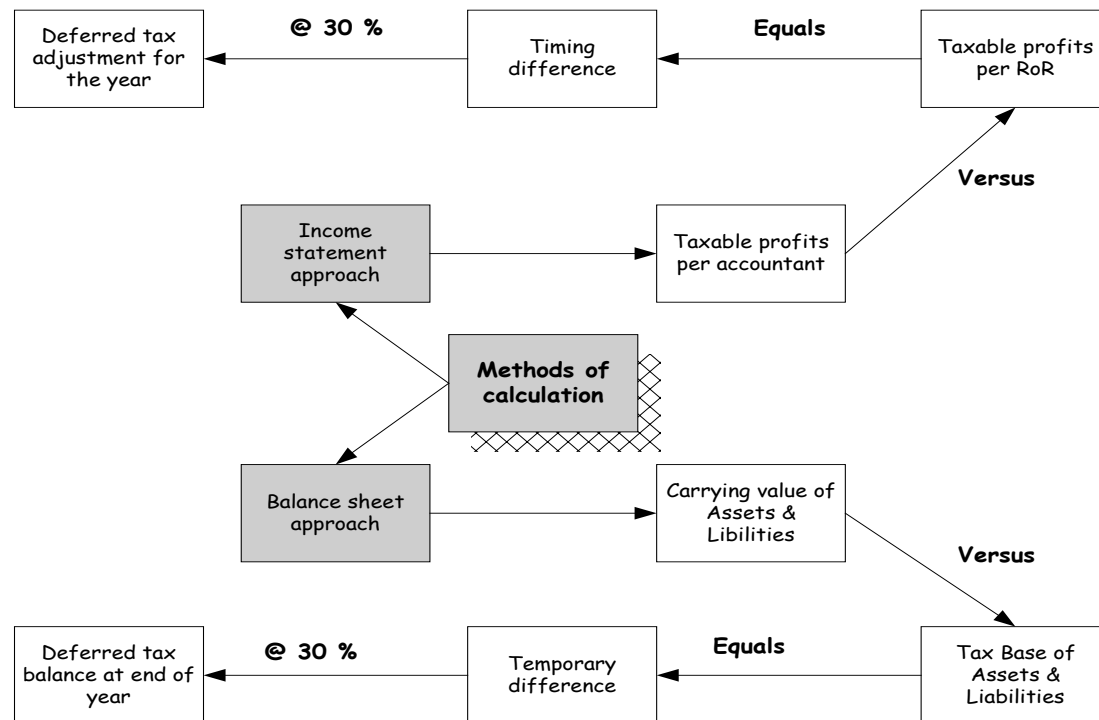
Opening deferred tax balance	(xxx)	xxx
Deferred tax charge recognised in equity	xxx	xxx
Deferred tax charge recognised in the statement of comprehensive income	6. xxx	(xxx)
Closing deferred tax balance	<u>(xxx)</u>	<u>(xxx)</u>

Entity name
Notes to the financial statements
For the year ended continued ...

		20X2 C	20X1 C
6. Taxation expense			
• Normal tax		xxx	xxx
– current		xxx	xxx
– current year provision		xxx	xxx
– prior year under/ (over) provision		xxx	xxx
– deferred	5.	xxx	(xxx)
– originating or reversing temporary differences		xxx	(xxx)
– assessed loss recognised		xxx	xxx
– write-down/ (reversal of a write-down) of def. tax asset		xxx	xxx
– rate change		xxx	xxx
Tax expense per the statement of comprehensive income		xxx	xxx
<i>Rate reconciliation:</i>			
Applicable tax rate (ATR)	<i>Applicable rate (normal rate: 30%)</i>	x%	x%
Tax effects of:			
Profit before tax	<i>Profit before tax x ATR</i>	xxx	xxx
Less exempt income	<i>Exempt income x ATR</i>	(xxx)	(xxx)
Add non-deductible expenses	<i>Non-deductible expenses x ATR</i>	xxx	xxx
Under/ (over) provision of current tax	<i>Per above</i>	xxx	xxx
Prior year tax loss: used	<i>Per above</i>		
Deferred tax rate change	<i>Per above</i>	xxx	xxx
Prior year tax loss: recognised as a deferred tax asset	<i>Per above</i>	xxx	xxx
Deferred tax asset write-down	<i>Per above</i>	xxx	xxx
Total taxation expense per the statement of comprehensive income		xxx	xxx
Effective tax rate (ETR)	<i>Taxation expense/ profit before tax</i>	x%	x%
• The current normal tax was reduced by Cxxx, as a result of a tax loss of Cxxx that had previously not been recognised as a tax asset.			
• The applicable tax rate differs to that of the prior year since a statutory rate change was enacted on (date).			

4. Summary





Chapter 4

Inventories

Reference: IAS 2

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1. Introduction

The topic of inventories is an important area for most companies and thus an important section to properly understand.

The issues regarding inventories include:

- when to recognise the acquisition of inventory,
- how to measure the initial recognition,
- how to measure inventory subsequently (year-ends and when sold),
- derecognition of inventory when it is sold or scrapped,
- disclosure of inventories in the financial statements.

2. Definitions

Inventories are assets that are (IAS 2.6):

- held for sale in the ordinary course of business; or
- in the process of production for such sale; or
- in the form of materials or supplies to be consumed in the production process or in the rendering of services.

Net realisable value is (IAS 2.6):

- the estimated selling price in the ordinary course of business;
- less the estimated costs of completion; and
- less the estimated costs necessary to make the sale.

Fair value is (IAS 2.6):

- the amount for which an asset could be exchanged, or a liability settled,
- between knowledgeable, willing parties in an arm's length transaction.

The difference between a fair value and a net realisable value is essentially as follows:

- a fair value is what is referred to as an *non-entity-specific* value, since it is determined by market forces; whereas
- a net realisable value is what is referred to as an *entity-specific* value because it is affected by how the entity plans to sell the asset.

3. Different classes of inventories

The type or types of inventories that an entity may have depends largely on the type of business: retail, manufacturer and service providers, being the most common types.

If the entity runs a retail business, then the inventory will generally be called: merchandise. A manufacturing business will generally call his inventory:

- finished goods;
- work-in-progress; and
- raw materials.

Another type of inventory held by many types of businesses (e.g. retail, manufacturer and service provider) includes fuel, cleaning materials and other incidentals, often referred to as:

- consumable stores.

A business may, of course, have any combination of the above types of inventory.

4. Recording inventory movements: periodic versus perpetual

4.1 Overview

Inventory movements may be recognised using either the perpetual or periodic system.

The perpetual system refers to the constant updating of both the inventory and cost of sales accounts for each purchase and sale of inventory. The balancing figure will represent the value of inventory on hand at the end of the period. This balance is checked by performing a stock count at the end of the period (normally at year-end).

The periodic system simply accumulates the total cost of the purchases of inventory in one account, (the purchases account), and updates the inventory account on a periodic basis (often once a year) through the use of a physical stock count. The balancing figure, in this case, is the cost of sales.

Example 1: perpetual versus periodic system

	C
Opening inventory balance	55 000
Purchases during the year (cash)	100 000

A stock count at year-end reflected 18 000 units on hand (cost per unit: C5).

Required:

Show the t-accounts using

- A. the perpetual system assuming that 13 000 units were sold during the year; and
- B. the periodic system.

Solution to example 1A: using the perpetual system

Inventory (Asset)		Cost of Sales (Expense)	
O/ balance	55 000	Cost of sales ⁽²⁾	65 000
Bank ⁽¹⁾	<u>100 000</u>	Inventory ⁽²⁾	65 000
	155 000		
C/ balance ⁽³⁾	90 000	C/ balance c/f	<u>90 000</u>
			<u>155 000</u>

- (1) The cost of the purchases is debited directly to the inventory (asset) account.
- (2) The cost of the sale is calculated: $13\,000 \times C5 = C65\,000$ (since the cost per unit was constant at C5 throughout the year, the cost of sales would have been the same irrespective of whether the FIFO, WA or SI method was used).
- (3) The final inventory on hand at year-end is calculated as the balancing figure by taking the opening balance plus the increase in inventory (i.e. purchases) less the decrease in inventory (i.e. the cost of the sales): $55\,000 + 100\,000 - 65\,000 = 90\,000$. This is then compared to the physical stock count that reflected that the balance should be 90 000. No adjustment was therefore necessary.

Solution to example 1B using the periodic system

Purchases		Trading Account	
Bank ⁽²⁾	<u>100 000</u>	Inventory o/b ⁽³⁾	55 000
T/ account ⁽⁵⁾	<u>000</u>	Purchases ⁽⁵⁾	<u>000</u>
		Total b/f ⁽⁶⁾	<u>155 000</u>
		Inventory c/b ⁽⁴⁾	90 000
		Total c/f ⁽⁶⁾	<u>65 000</u>
			<u>155 000</u>

Inventory (Asset)	
O/ balance ⁽¹⁾ 55 000	T/ account ⁽³⁾ - 000
T/ account ⁽⁴⁾ 90 000	

This balance will remain as C55 000 for the entire period until such time as the stock count is performed.

- (1) The purchases are recorded in the purchases account during the period (this account will be closed off at the end of the period to the trading account).
- (2) The closing balance of the inventory account is determined at the end of the period by physically counting the inventory on hand and valuing it (C90 000). In order for the closing balance to be recorded, the opening balance of C55 000 needs to first be removed from the asset account by transferring it to the trading account.
- (3) The inventory is counted and valued via a physical stock count (which is typically performed on the last day of the period, being the end of the reporting period). This figure is debited to the inventory account with the credit-entry posted to the trading account: given as C90 000
- (4) The total of the purchases during the period is transferred to the trading account.
- (5) Notice how the trading account effectively records the cost of sales and that the cost of sales is the same as if the perpetual system had been used instead: 65 000. Incidentally, the inventory balance is also the same, irrespective of the method used: 90 000.

4.2 Stock counts, inventory balances and stock theft

In example 1, the cost of sales and inventory balances are not affected by whether the periodic or perpetual system is used (i.e. cost of sales was C65 000 and inventory was C90 000 in part A and part B). This may not always be the case however, since a disadvantage of the periodic system is that any stock thefts will remain undetected. The periodic system is, however, still useful to small businesses due to its practical simplicity.

4.2.1 The perpetual system and the use of stock counts

When using the perpetual system, the accountant is able to calculate the balance on the inventory account without the use of a stock count. This balance, however, reflects what the balance *should be* – not necessarily what the actual balance is. A sad truth of our society is that it is plagued by theft. Therefore, even though the accountant is not reliant on the stock count, a stock count is performed as a control measure. In other words, the balance calculated by the accountant is checked by performing a stock count at the end of the period (normally at year-end).

If the physical count reveals a lower stock level than is reflected by the balance on the inventory account, the difference will be accounted for as a stock theft (expense) (if the physical count reflects more stock than appears in the inventory account, then this suggests that an error may have occurred in recording the purchases or sales during the period).

4.2.2 The periodic system and the use of stock counts

When using the periodic system, the accountant does not have any idea of what his cost of sales are until the stock count is performed. Since we are using the stock count to calculate the cost of sales, the accountant will also not have an idea of what the inventory balance should be (if we had the cost of sales figure, we could have calculated the closing balance as: opening balance + purchases – cost of sales). In short: when using the periodic system, the accountant is *unable* to calculate the balance on the inventory account without the use of a stock count. If the accountant does not know what the balance should be, the stock count will not be able to highlight any stock thefts.

The fact that any stock thefts will remain undetected if the periodic system is used is shown in this next example.

Example 2: perpetual versus periodic system and stock theft

	C	Units
Opening inventory balance	55 000	11 000
Purchases during the year (cash)	100 000	20 000

A stock count at year-end reflected 16 000 units on hand (cost per unit: C5).

Required:

Show the t-accounts using

- the perpetual system assuming that the company sold 13 000 units during the year; and
- the periodic system.

Solution to example 2A using the perpetual system and stock theft

Inventory (Asset)			Cost of sales (Expense)	
O/ balance	55 000	Cost of S (2)	65 000	Inventory (2) 65 000
Bank (1)	100 000	Subtotal	90 000	
	155 000	c/f	155 000	
Subtotal (3)	90 000	Cost of T(4)	10 000	
	90 000	C/ bal c/f	80 000	
	80 000		90 000	
C/ balance(5)	80 000			

Cost of theft (Expense)	
Inventory (4)	10 000

- The cost of the purchases is debited directly to the inventory (asset) account.
- The cost of the sale is calculated: $13\,000 \times C5 = C65\,000$ (since the cost per unit was constant at C5 throughout the year, the cost of sales would have been the same irrespective of whether the FIFO, WA or SI method was used). If the business has very few sales or has a sophisticated system, the inventory and cost of sales accounts are updated immediately for each sale that takes place. This example processes the cumulative sales for the year.
- The final amount of inventory that should be on hand at year-end is calculated as the balancing figure by taking the opening balance plus the increase in inventory (i.e. purchases) less the decrease in inventory (i.e. the cost of the sales): $55\,000 + 100\,000 - 65\,000 = 90\,000$
- A stock count is performed and whereas there should have been 18 000 units on hand at year-end ($11\,000 + 20\,000 - 13\,000$ units), there are only 16 000 units. It is therefore clear that 2 000 units have been stolen. The cost of this theft is therefore 10 000 ($2\,000 \times C5$).
- The closing balance of inventory must reflect the reality and therefore the balance has been reduced from what it should have been (90 000) to what it is (80 000).

Solution to example 2B using the periodic system and stock theft

Purchases		Trading Account	
Bank ⁽²⁾	<u>100 000</u>	Inventory o/b ⁽³⁾	55 000
T/account ⁽⁵⁾	<u>100 000</u>	Purchases ⁽⁵⁾	<u>000</u>
		Total b/f ⁽⁶⁾	<u>155 000</u>
			75 000

Inventory (Asset)	
O/ balance ⁽¹⁾	<u>55 000</u>
Trade a/c ⁽⁴⁾	<u>80 000</u>

- (1) This balance will remain as C55 000 for the entire period until such time as the stock count is performed.
- (2) The purchases are recorded in the purchases account during the year (this account will be closed off at the end of the period to the trading account).
- (3) The closing balance of the inventory account is determined at the end of the period by physically counting the inventory on hand and valuing it (C90 000). In order for the closing balance to be recorded, the opening balance of C55 000 needs to first be removed from the asset account by transferring it to the trading account.
- (4) The inventory is counted and valued via a physical stock count (which is typically performed at the end of the reporting period). This figure is debited to the inventory account with the credit-entry posted to the trading account: C80 000 (16 000 x C5).
- (5) The total of the purchases during the period is transferred to the trading account.
- (6) The trading account effectively records the cost of sales. Whereas the perpetual system in Part A indicated that cost of sales was 65 000 and that there was a cost of theft of 10 000, this periodic system indicates that cost of sales is 75 000. In other words, the periodic system assumed that all missing stock was sold. It is therefore less precise in *describing* its expense but it should be noted that the total expense is the same under both systems (periodic: 75 000 and perpetual: 65 000 + 10 000). Incidentally, the inventory balance is the same under both methods: 80 000.

4.3 Gross profit and the trading account

If one uses the periodic system, the trading account is first used to calculate cost of sales. The sales account is then also closed off to the trading account, at which point the total on the trading account (sales – cost of sales) equals the gross profit (or gross loss). This total is then transferred to (closed off to) the profit and loss account together with all other income and expense accounts. The total on the profit and loss account will therefore equal the final profit or loss for the year.

If the perpetual system is used, the trading account is only used to calculate gross profit: it is not used to calculate cost of sales. The cost of sales account and sales account are transferred to (closed off to) the trading account. The total on this trading account (sales – cost of sales) represents the gross profit. This total will be transferred to (closed off to) the profit and loss account together with all other income and expense accounts. The total on the profit and loss account will therefore equal the final profit or loss for the year.

The gross profit calculated according to the perpetual system may differ from that calculated under the periodic system if, for example, stock theft went undetected. The final profit or loss calculated in the profit and loss account will, however, be the same.

The use of the trading account to calculate gross profit and how gross profits can differ is shown in this next example.

Example 3: perpetual and periodic system: stock theft and profits

	C	Units
Opening inventory balance	55 000	11 000
Purchases during the year (cash)	100 000	20 000
A stock count at year-end reflected 16 000 units on hand (cost per unit: C5).		
Revenue from sales totalled C95 000 for the period (cash).		

Required:

Show the ledger accounts and extracts of the statement of comprehensive income using:

- the perpetual system assuming that the company sold 13 000 units during the year; and
- the periodic system assuming that sales totalled C95 000.

Solution to example 3A: perpetual system: stock theft and profits

Inventory (Asset)				Cost of sales (Expense)			
O/ balance	55 000	Cost of S	65 000	Inventory	65 000	TA ⁽¹⁾	65 000
Bank	100 000	Subtotal	90 000				
	155 000	c/f	155 000				
	000		000				
Subtotal	90 000	Cost of T	10 000				
b/f		C/ bal c/f	80 000				
	90 000		90 000				
C/ balance	80 000						

Cost of theft (Expense)			
Inventory	10 000	P&L ⁽³⁾	10 000

Sales (Income)			
Trade Acc ⁽¹⁾	95 000	Bank	95 000

Trading account (Closing account)			
CoS ⁽¹⁾	65 000	Sales ⁽¹⁾	95 000
P&L ⁽²⁾	30 000		
	95 000		95 000
	000		000

Profit and loss account (Closing account)			
Cost: theft ⁽³⁾	10 000	Trade A/c (GP) ⁽²⁾	30 000
Total c/f	20 000		
	30 000		30 000
		Total ⁽⁴⁾ b/f	20 000

(1) Sales and cost of sales are transferred to the trading account.

(2) The total on the trading account (gross profit) is transferred to the profit and loss account.

(3) All other income and expenses are closed off at the end of the year to the profit and loss account.

- (4) If there were no other income and expense items, then this total represents the final profit for the year. It would then be transferred to the equity account: retained earnings.

Company name
Statement of comprehensive income
For the period ended (extracts)

	CY C	PY C
Revenue from sales	95 000	x
Cost of sales	(65 000)	(x)
Gross profit	30 000	x
Cost of theft	(10 000)	(x)
Profit before considering other income and expenses	20 000	x

Solution to example 3B: periodic system: stock theft and profits

Inventory (Asset)				Sales (Income)			
O/ balance	55 000	TA	55 000	TA ⁽²⁾	95 000	Bank	95 000
TA	80 000						
<hr/>				<hr/>			
Purchases							
Bank	100 000	TA	100 000				
	000						
<hr/>							
Trading account (Closing account)				Profit and loss account (Closing account)			
Inv o/bal	55 000	Inv c/bal	80 000		TA (GP) ⁽³⁾	20 000	
Purchases	100 000	Total c/f	75 000				
	155 000		155 000				
	000						
Total b/f ⁽¹⁾	75 000	Sales ⁽²⁾	95 000				
P&L ⁽³⁾	20 000						
	95 000		95 000				
<hr/>				<hr/>			

- (1) The total brought forward on the trading account represents the cost of inventory (assumed to be cost of sales).
- (2) Sales are credited to the trading account.
- (3) The balance on the trading account represents the gross profit and this is transferred to the profit and loss account. All other income and expense accounts are then also transferred to (closed off to) the profit and loss account. The profit and loss account therefore converts gross profit into the final profit for the period.

Company name
Statement of comprehensive income
For the period ended (extracts)

CY **PY**

	C	C
Revenue from sales	95 000	x
Cost of sales	(75 000)	(x)
Gross profit ⁽⁴⁾	20 000	x

(4) Notice how the gross profit in the statement of comprehensive income is 20 000 under the periodic system but is 30 000 under the perpetual system. The final profit in both cases is, however, 20 000.

5. Measurement: cost (IAS 2.10)

5.1 Overview

The costs that one should include in (i.e. capitalise to) inventory include the (IAS 2.10):

- costs to purchase the inventory,
- costs to convert the inventory into a saleable or consumable condition; and
- other costs to bring the inventory to its present location and condition.

5.2 Cost of purchase (IAS 2.11)

The cost of inventory would include all costs directly associated with the acquisition, such as:

- purchase price,
- transport costs (inwards),
- import duties and transaction taxes that *are not reclaimable* * by the business, and
- other direct costs.

The following costs would be excluded from the cost of inventory:

- import duties and transaction taxes that *are reclaimable* * by the business,
- financing costs due to extended payment terms.

*: The acquisition of inventory very often involves the payment of transaction taxes and import duties. Sometimes these taxes or import duties (which are either paid over to the supplier or directly to the tax authority) and are able to be reclaimed at a later date from the tax authorities. If they can be reclaimed (recovered), then there is no net cost to the business. A typical example is the transaction tax levied by many countries: VAT. See chapter 3 for more information in this regard.

The following would be set-off against the cost of inventory:

- rebates received,
- trade, bulk and cash discounts received,
- settlement discounts received or expected to be received.

Only those costs that are incurred in bringing the inventory to its present location and condition may be capitalised. The following costs should therefore always be expensed:

- abnormal amounts of wastage;
- storage costs (unless these are directly attributable to the production process, e.g. the cost of storage in-between processes that is considered to be unavoidable and normal); and
- selling costs.

5.2.1 Transport Costs

There are two types of transport costs (carriage costs): transport inwards and transport outwards, each of which being accounted for differently.

5.2.1.1 Transport/ carriage inwards

The cost of transport inwards refers to the cost of transporting the purchased inventory from the supplier to the purchaser's business premises. It is a cost that was incurred in 'bringing the inventory to its present location' and should therefore be included in the cost of inventory.

5.2.1.2 Transport/ carriage outwards

Frequently, when a business sells its inventory, it offers to deliver the goods to the customer's premises. The cost of this delivery is referred to as 'transport outwards'. It is a cost that is incurred in order to complete the sale of the inventory rather than to purchase it and may therefore not be capitalised (since it is *not* a cost that was incurred in 'bringing the inventory to its present location'). Transport outwards should, therefore, be recorded as a selling expense in the statement of comprehensive income instead of capitalising it to the cost of the inventory.

Example 4: transport costs

A company purchases inventory for C100 from a supplier. No VAT was charged. The following additional information is provided:

Cost of transport inwards	C25
Cost of transport outwards	C15

All amounts were on credit and all amounts owing were later paid in cash.

Required:

Calculate the cost of the inventory and show all related journal entries.

Solution to example 4: transport costs

Calculation

Cost of inventory purchased: $100 + 25 = \text{C}125$

Journals

	Debit	Credit
Inventory (A)	125	
Trade payable (L)		125
<i>Cost of inventory purchased on credit: 100 + 25 (transport inwards)</i>		
Transport outwards (E)	15	
Trade payable (L)		15
<i>Cost of delivering inventory to the customer</i>		
Trade payable (L)	100	
Bank		100
<i>Payment of supplier</i>		
Trade payable (L)	25	
Bank		25
<i>Payment of the transport company that transported goods from supplier</i>		
Trade payable (L)	15	
Bank		15
<i>Payment of the transport company that transported goods to the customer</i>		

5.2.2 Transaction taxes

The only time that transaction taxes (e.g. VAT) or import duties will form part of the cost of inventory is if they may not be claimed back from the tax authorities. This happens, for

example, where the entity fails to meet certain criteria laid down by the tax authority (e.g. if the entity is not registered as a vendor for VAT purposes).

Example 5: transaction taxes

An entity purchased inventory. The costs thereof were as follows:

	C
Total invoice price (including 14% VAT) paid in cash to the supplier	9 120
Import duties paid in cash directly to the country's Customs Department	5 000

Required:

Show the ledger accounts assuming:

- The VAT and the import duties were refunded by the tax authorities one month later.
- The VAT and the import duties will not be refunded.

Solution to example 5A: refundable taxes and import duties

Inventory (Asset)		VAT receivable (Asset)	
Bank ⁽¹⁾⁽⁵⁾	8 000	Bank ⁽¹⁾	1 120
		Bank ⁽³⁾	1 120
Bank		Import duties receivable (Asset)	
VAT receivable ⁽³⁾	1 120	Bank ⁽²⁾	5 000
Import duties recoverable ⁽⁴⁾	5 000	Bank ⁽⁴⁾	5 000
	Inv & VAT Receivable ⁽¹⁾ 9 120		
	Import duties recoverable ⁽²⁾ 5 000		

- The VAT portion of the invoice price must be separated and recognised as a receivable since the entity will claim this VAT back: $9\,120 / 114 \times 14 = 1\,120$. The balance of the invoice price is recognised as inventory since this represents the real cost to the entity: $9\,120 / 114 \times 100 = 8\,000$
- The import duties payable directly to the Customs Department were also refundable and therefore the entire import duty paid is recognised as a receivable. This can happen where, for example, another country in which the entity operates offers a dispensation whereby it refunds certain taxes paid by the entity to other countries.
- VAT refund received.
- Import duty refund received.
- Notice that the inventory account reflects C8 000 and that equals net amount paid per the bank account is also C8 000: $9\,120 + 5\,000 - 1\,120 - 5\,000$.

Solution to example 5B: non-refundable taxes and import duties

Inventory (Asset)		Bank	
Bank ⁽¹⁾	9 120	Inv ⁽¹⁾	9 120
Bank ⁽²⁾	5 000	IDR ⁽²⁾	5 000
	14		14
	120		120

- The VAT portion of the invoice price is not separated since none of it is refundable.
- The import duties payable directly to the Customs Department were not refundable and are therefore part of the costs of acquiring the inventory.

- (3) Notice that the inventory account reflects a balance of C14 120 and that this equals the amount paid per the bank account: $9\,120 + 5\,000$.

5.2.3 Rebates

The entity that is purchasing inventory may receive a rebate that is somehow related to the inventory. There are many different types of rebates possible. The rule is, however, that if the rebate is received as a reduction in the purchase price, then the cost of the inventory must be reduced by the rebate. Some rebates, although connected to the inventory, are not really a direct reduction in the purchase price but a refund of certain of the entity's costs. In this case, the rebate received should be recognised as income instead.

Example 6: rebates

An entity purchased inventory for cash. The details thereof were as follows:	C
• Invoice price (no VAT is charged on these goods)	9 000
• Rebate offered to the entity by the supplier	1 000

Required:

Show the ledger accounts assuming that the terms of the agreement made it clear that the rebate:

- A. Was a reduction to the invoice price of the inventory; and
B. Was a refund of the entity's expected selling costs.

Solution to example 6A: rebate reducing cost of inventory

Inventory (Asset)	Bank
Bank ⁽¹⁾ 8 000	Inv ⁽¹⁾ 8 000

- (1) The rebate reduces the cost of inventory: $9\,000 - 1\,000$

Solution to example 6B: rebate not reducing cost of inventory

Inventory (Asset)	Bank
Bank ⁽¹⁾ 9 000	Inv ⁽¹⁾ 8 000

Rebate received (Income)	
Bank ⁽¹⁾ 1 000	

- (1) The cost of inventory is shown at 9 000 even though only 8 000 is paid. This is because the rebate of C1 000 is not connected to the cost of the inventory but the entity's future expected selling costs. The rebate is recognised as income instead because by recognising it as income, it enables the rebate income to be matched with the related selling expenses.

5.2.4 Discount received

There are a variety of discounts that you could receive on the purchase of goods:

- trade discount or bulk discount : this is usually received after successfully negotiating the invoice price down, because you are a regular customer or you are buying in bulk; and
- cash discount : this is sometimes received as a 'reward' for paying in cash;
- settlement discount: this is sometimes received as a 'reward' for paying promptly.

All these discounts are deducted from the cost of the inventory. Trade discounts, bulk discounts and cash discounts are generally agreed to on the transaction date. Settlement discounts, however, will have to be *estimated* on the transaction date based on when the entity expects to settle its account with the creditor.

Example 7: discounts

An entity purchased inventory. The costs thereof were as follows:

• Marked price (no VAT is charged on these goods)	9 000
• Trade discount	1 000

Required:

Show the ledger accounts assuming:

- A. The entity pays in cash on transaction date and receives a cash discount of C500; and
- B. The supplier offers an early settlement discount of C400 if the account is paid within 20 days: the entity pays within the required period of 20 days.
- C. The supplier offers an early settlement discount of C400 if the account is paid within 20 days: the entity pays after a period of 20 days.

Solution to example 7A: discounts including a cash discount

Inventory (Asset)		Bank	
Bank ⁽¹⁾	7 500		
		Inventory ⁽¹⁾	7 500

- 1) The marked price is reduced by the trade discount and the cash discount: $9\,000 - 1\,000 - 500$

Solution to example 7B: discounts including a settlement discount

Inventory (Asset)		Trade payables (Liability)	
Bank ⁽¹⁾	7 600	Bank ⁽²⁾	7 600
		Inventory ⁽¹⁾	8 000
		Sett Disc	400
		All ⁽³⁾	
Bank		Settlement discount allowance (negative liability)	
	Tr Payable ⁽²⁾	Inventory ⁽¹⁾	Tr Payable ⁽³⁾
	7 600	400	400

- (1) The marked price is reduced by the trade discount and the estimated settlement discount: $9\,000 - 1\,000 - 400 = 7\,600$. The settlement discount is an *estimated* discount until the payment is made within the required period, at which point the discount becomes an *actual* discount received. Until then, the creditor's account is credited with the full amount payable and an allowance for possible settlement discount of C400 is debited (this reduces the carrying amount of the creditors presented in the statement of financial position).
- (2) The entity pays within 20 days and the settlement discount becomes a reality (i.e. the *estimated* discount becomes an *actual* discount). The payment is therefore only C7 600.

- (3) Since the creditor is paid within the required settlement period, the entity earned its settlement discount. The settlement discount allowance is thus reversed to the creditors account (clears the balance owing to nil).

Solution to example 7C: discounts including a settlement discount

Inventory (Asset)		Trade payables (Liability)	
Bank ⁽¹⁾	7 600	Bank ⁽²⁾	8 000
			Inventory ⁽¹⁾
Bank		Settlement discount allowance (negative liability)	
	Tr Payable	Inv ⁽¹⁾	Fin exp ⁽³⁾
	⁽²⁾ 8 000	400	400
		Finance expense	
		Sett Disc	
		All ⁽³⁾ 400	

- (1) The marked price is reduced by the trade discount and the estimated settlement discount: $9\,000 - 1\,000 - 400 = 7\,600$. The settlement discount is an *estimated* discount until the payment is made within the required period, at which point the discount becomes an *actual* discount received. Until then, the creditor's account is credited with the full amount payable and an allowance for possible settlement discount of C400 is debited (this reduces the carrying amount of the creditors presented in the statement of financial position).
- (2) The entity pays after 20 days and the settlement discount is forfeited. The payment is therefore C8 000.
- (3) Since the creditor is not paid within the required settlement period, the entity lost its settlement discount. The settlement discount allowance is thus recognised as an expense.

5.2.5 Finance costs due to extended settlement terms

Instead of paying in cash on transaction date or paying within a short period of time, an entity could choose to pay over a long period of time. Instead of receiving a discount and thus decreasing the cash outflow, this choice would increase the cash outflow. The time value of money must be taken into consideration when estimating the fair value of the cost and the cost of paying over an extended period of time must be reflected as an interest expense. This applies in all cases where the effect of the time value of money is considered to be material.

Example 8: extended settlement terms

An entity purchased inventory on 1 January 20X1. The costs thereof were as follows:

- Invoice price payable on 31 December 20X2 C6 050
- Market interest rate 10%

Required:

Show the journal entries assuming:

- The effect of the time value of money *is not* considered to be material; and
- The effect of the time value of money *is* considered to be material.

Solution to example 8A: extended settlement terms: immaterial effect

1 January 20X1	Debit	Credit
----------------	-------	--------

Inventory (A)	6 050	
Trade payable (L)		6 050
<i>Cost of inventory purchased on credit (time value ignored because effects immaterial to the company)</i>		

31 December 20X2

Trade payable (L)	6 050	
Bank		6 050
<i>Payment for inventory purchased from X on 1 January 20X1 (2 years ago)</i>		

Solution to example 8B: extended settlement terms: material effect

The cost of the inventory must be measured at the present value of the future payment (thereby removing the finance costs from the cost of the purchase, which must be recognised as an expense).

The present value can be calculated using a financial calculator by inputting the repayment period (2 years), the future amount (6 050) and the market related interest rate (10%) and requesting it to calculate the present value. (FV = 6 050, i = 10, n = 2, COMP PV)

This can also be done without a financial calculator, by following these steps:

Step 1: calculate the present value factors

Present value factor on due date		1.00000
Present value factor one year before payment is due	$1 / (1 + 10\%)$	0.90909
Present value factor two years before payment is due	$0.90909 / (1 + 10\%)$ or $1 / (1 + 10\%) / (1 + 10\%)$	0.82645

Step 2: calculate the present values

Present value on transaction date	$6\,050 \times 0.82645$ (2 years before payment is due)	5 000
Present value one year later	$6\,050 \times 0.90909$ (1 year before payment is due)	5 500
Present value on due date	Given: future value (or $6\,050 \times 1$)	6 050

The interest and balance owing each year can be calculated using an effective interest rate table:

Year	Opening balance	Interest expense	Payments	Closing balance
20X1	5 000 <i>Opening PV</i>	500 $5\,000 \times 10\%$	(0) 5 500	$5\,000 + 500$
20X2	5 500	550 $5\,500 \times 10\%$	(6 050) 0	$5\,500 + 550 - 6\,050$
		<u>1 050</u>	<u>(6 050)</u>	

Notice that the present value is 5 000 and yet the amount paid is 6 050. The difference between these two amounts is 1 050, which is recognised as interest expense over the two years.

1 January 20X1

	Debit	Credit
Inventory (A)	5 000	
Trade payable (L) *		5 000

Cost of inventory purchased on credit (invoice price is 6 050, but recognised at present value of future amount). 10% used to discount the future amount to the present value: $6\,050 / 1.1 / 1.1$ or $6\,050 \times 0.82645$

31 December 20X1

Interest expense	500	
Trade payable (L) *		500
<i>Effective interest incurred on present value of creditor: $5\,000 \times 10\%$</i>		

31 December 20X2

	Debit	Credit
Interest expense	550	
Trade payable (L) *		550
<i>Effective interest incurred on present value of creditor: $5\,500 \times 10\%$</i>		
Trade payable (L)	6 050	
Bank		6 050
<i>Payment of creditor: $5\,000 + 500 + 550$</i>		

* Notice that the trade payable balance:

- At 1 January 20X1 (2 years before payment is due) is 5 000. This is calculated using the 'present value factor for two years': $6\,050 \times 0.82645 = 5\,000$,
- At 31 December 20X1 (1 year before payment is due) is 5 500 ($5\,000 + 500$). This can be checked by using the 'present value factor after 1 year' of 0.90909: $6\,050 \times 0.90909 = 5\,500$.
- At 31 December 20X2 (immediately before payment) is 6 050 ($5\,000 + 500 + 550$). This can be checked using the 'present value factor for now' of 1: $6\,050 \times 1 = 6\,050$

5.2.6 Imported inventory

When inventory is purchased from a foreign supplier the goods are referred to as being 'imported'. A complication of an imported item is that the cost of the goods purchased is generally denominated in a foreign currency on the invoice. This foreign currency amount must be converted into the local currency using the currency exchange rate ruling on transaction date.

Example 9: exchange rates – a basic understanding

Mr. X has \$1 000 (USD) that he wants to exchange into South African Rands (R).

Required:

Calculate the number of Rands he will receive if the exchange rate ruling on the date he wants to exchange his dollars for Rands is:

- A. R5: \$1 (direct method); and
B. \$0.20: R1 (indirect method).

Solution to example 9A: exchange rates – dollar is the base

$\$1\,000 \times R5 / \$1 = R5\,000$ (divide by the currency you've got and multiply by the currency you want)

Solution to example 9B: exchange rates – Rand is the base

$\$1\,000 \times R1 / \$0.20 = R5\,000$ (divide by the currency you've got and multiply by the currency you want)

Since currency exchange rates vary daily, it is very important to identify the correct transaction date since this will determine both *when* to recognise the purchase and what exchange rate to use when *measuring* the cost of the inventory.

The transaction date for an imported asset is determined using the same principles used had the asset been purchased locally: when the *risks and rewards of ownership are transferred*.

There are two common ways of purchasing goods from a foreign supplier: on a 'customs, insurance and freight' basis (CIF) or a 'free on board' basis (FOB). The difference between the two affects the date on which *risks and rewards are transferred* and thus determine the transaction date. Although the terms of the agreement must always be thoroughly investigated first, the general rule is that:

- if goods are purchased on a FOB basis, the risks and rewards are transferred as soon as the goods are loaded onto the ship at the foreign port; and
- if goods are purchased on a CIF basis, the risks and rewards are transferred only when the goods arrive safely in the local harbour and are released from customs.

In summary: goods purchased from a foreign supplier will be recorded by the purchaser, by converting the foreign currency into what is called the reporting entities functional currency (generally his local currency), using the spot exchange rate ruling on the transaction date. Any change in the spot exchange rate thereafter is generally recognised in profit or loss (i.e. is recognised as an expense or income and not recognised as an adjustment to the inventory asset account).

Example 10: foreign exchange

A company in South Africa purchases \$100 000 of raw materials from a supplier in America. The following are the spot rates (rates of exchange on a particular date):

Date:	R: \$1
1 January 20X2	R7,20:\$1
15 February 20X2	R7,30: \$1
15 March 20X2	R7,50: \$1

The goods are loaded onto the ship in New York on 1 January 20X2 and are released from the Customs Department at the Durban harbour (South Africa) on 15 February 20X2. The company pays the American supplier on 15 March 20X2. The currency of South Africa is rands (R) and the currency of America is dollars (\$).

Required:

Calculate the cost of inventory and the foreign exchange gain or loss and show the related journal entries, assuming the following:

- A. The goods are purchased FOB.
B. The goods are purchased CIF.

Solution to example 10A: foreign exchange – FOB

1 January 20X2		Debit	Credit
Inventory (A)	$\$100\,000 \times 7,20 = R720\,000$	720 000	
Creditor (foreign)			720 000
<i>Purchase of inventory from New York</i>			
<hr/>			
15 March 20X2			
Foreign exchange loss	$(\$100\,000 \times 7,50) - 720\,000$	30 000	
Creditor (foreign)			30 000
<i>Translation of foreign creditor on payment date:</i>			
<hr/>			
Creditor (foreign)	$720\,000 + 30\,000 \text{ or } \$100\,000 \times 7,50$	750 000	
Bank			750 000
<i>Payment of foreign creditor</i>			

Solution to example 10B: foreign exchange – CIF

15 February 20X2	Debit	Credit
------------------	-------	--------

Inventory (A)	$\$100\,000 \times 7,30 = R730\,000$	730 000	
Creditor (foreign)			730 000
<i>Purchase of inventory from New York</i>			

15 March 20X2

Foreign exchange loss	$(\$100\,000 \times 7,50) - 730\,000$	20 000	
Creditor (foreign)			20 000
<i>Translation of foreign creditor on payment date</i>			

Creditor (foreign)	$730\,000 + 20\,000 \text{ or } \$100\,000 \times 7,50$	750 000	
Bank			750 000
<i>Payment of foreign creditor</i>			

Notice: The amount paid under both situations is R750 000 (using the spot rate on payment date). The inventory is, however, measured at the spot rate on transaction date: the transaction dates differed between part A (FOB) and part B (CIF) and therefore the cost of inventory differs in part A and part B. The movement in the spot rate between transaction date and payment date is recognised in profit and loss (i.e. not as an adjustment to the inventory asset account).

5.3 Cost of conversion (IAS 2.12 - .14)

Manufactured inventory on hand at the end of the financial period must be valued at the total cost of manufacture, being not only the cost of purchase of the raw materials but also the cost of converting the raw materials into a finished product, including:

- direct and indirect costs of manufacture; and
- any other costs *necessarily* incurred in order to bring the asset to its present location and condition (where even administrative overheads could be included if it can be argued that they contributed to bringing the asset to its present condition and location).

Apart from the need to know the total manufacturing cost to debit to the inventory account, it is also important to know what the manufacturing cost *per unit* is when quoting customers.

Manufacturing costs (direct and indirect) may be divided into two main categories:

- variable costs: these are costs that vary directly or almost directly with the level of production e.g. raw materials (a direct cost that varies directly), labour and variable overheads (indirect costs that vary directly or almost directly); and
- fixed costs: these are indirect costs that do not vary with the level of production e.g. factory rental, depreciation and maintenance of factory buildings.

5.3.1 Variable manufacturing costs

Variable costs increase and decrease in direct proportion (or nearly in direct proportion) to the number of units produced (or level of production). By their very nature it is easy to calculate the variable cost per unit.

Example 11: variable manufacturing costs

Assume that one unit of inventory manufactured uses:

- 3 labour hours (at C3 per hour) and
- 1 kilogram of raw material X (at C2 per kg excluding VAT).

Required:

- Calculate the variable manufacturing cost per unit of inventory.
- Show the journal entries for the manufacture of 10 such units assuming that the labour is paid for in cash and assuming that the raw materials were already in stock. Assume further that the 10 units were finished.

Solution to example 11: variable manufacturing costs

Calculation: variable manufacturing cost per unit

C

Direct labour:	3 hours x C3	9
Direct materials:	1 kg x C2	2
Variable manufacturing cost per unit		<u>11</u>

Journals

	Debit	Credit
Inventory: work-in-progress	90	
Bank		90
<i>Cost of manufacture of 10 units: labour cost paid in cash (10 x C9)</i>		
Inventory: work-in-progress	20	
Inventory: raw materials		20
<i>Cost of manufacture of 10 units: raw materials used (10 x C2)</i>		

Journals continued ...

	Debit	Credit
Inventory: finished goods	110	
Inventory: work-in-progress		110
<i>Completed units transferred to finished goods (10 units x C11): 90</i>		
<i>+ 20</i>		

5.3.2 Fixed manufacturing costs

It is not as easy to calculate the fixed manufacturing cost per unit. The cost of inventory needs to be known during the year for quoting purposes as well as for any reports needing to be provided during the year. Since the standard requires that the cost of inventory includes fixed manufacturing overheads, we need to calculate a fixed cost per unit, which we call the fixed manufacturing overhead application rate (FOAR).

We won't be able to calculate an accurate fixed cost per unit until *the* end of the year since we will only know the extent of the *actual* production at the end of the year. As mentioned above, however, a rate is needed at the *beginning* of the year for the purposes of quoting, budgeting and interim reporting. This means that a *budgeted* fixed overhead application rate (BFOAR) using budgeted normal production as the denominator, is calculated as an interim measure:

$$\frac{\text{Fixed manufacturing overheads}}{\text{Normal production}}$$

The *actual* fixed overhead application rate (AFOAR), however, would depend on the actual level of inventory produced in any one period and can only be calculated at year-end.

$$\frac{\text{Fixed manufacturing overheads}}{\text{Greater of: actual and normal production}}$$

5.3.2.1 Under-production and under-absorption

If the company produces at a level below budgeted production, a portion of the fixed overheads in the suspense account will not be allocated to the asset account. This unallocated overhead amount is termed an 'under-absorption' of fixed overheads and since it results from under-productivity, it refers to the cost of the inefficiency, which is quite obviously not an asset! This amount is expensed instead.

Example 12: fixed manufacturing costs – under-absorption

Fixed manufacturing overheads	C100 000
Normal expected production (units)	100 000
Actual production (units)	50 000

Required:

- Calculate the budgeted fixed manufacturing overhead application rate;
- Calculate the actual fixed manufacturing overhead application rate; and

C. Journalise the fixed manufacturing costs.

Solution to example 12A: budgeted fixed manufacturing overhead application rate

$$\begin{aligned}
 &= \frac{\text{Fixed manufacturing overheads}}{\text{Budgeted production}} \\
 &= \frac{\text{C100 000}}{100\,000 \text{ units}} \\
 &= \text{C1 per unit}
 \end{aligned}$$

We use this C1 per unit when quoting to our customers and when drafting interim financial statements.

Solution to example 12B: actual fixed manufacturing overhead application rate

$$\begin{aligned}
 &= \frac{\text{Fixed manufacturing overheads}}{\text{Greater of: budgeted and actual production}} \\
 &= \frac{\text{C100 000}}{100\,000 \text{ units}} \\
 &= \text{C1 per unit}
 \end{aligned}$$

Explanation why the actual production could not be used in this example:

The actual application rate is calculated using the normal budgeted production since, in this case, the budgeted production exceeded the actual production. If the actual production had been used it would result in inventory being overvalued:

$$\begin{aligned}
 &= \frac{\text{Fixed manufacturing overheads}}{\text{Actual production}} \\
 &= \frac{\text{C100 000}}{50\,000 \text{ units}} \\
 &= \text{C2 per unit}
 \end{aligned}$$

Each unit would erroneously include fixed manufacturing costs of C2 instead of the normal C1 as a result of the company's **inefficiency**! Bearing in mind that the Framework states that the value of an asset should represent the probable future economic benefits expected to flow from the asset, it does not make sense to show the cost of inventory at twice its **normal** value (C2 instead of C1) simply because the company was inefficient. Measuring the inventory using C2 would suggest that the future economic benefits are expected to double.

Another way of looking at it is: if we used C2 per unit, the value of 50 000 units inventory would represent the full amount of fixed overheads incurred (C100 000) when only half of the required inventory was produced (therefore, only half of the fixed overheads should be included in the inventory account). Half the fixed overheads were wasted and therefore 50% x 100 000 should be expensed.

The answer to this problem is to capitalise only the normal cost per unit (C1) to the inventory asset and expense the balance of the fixed manufacturing overheads (actual: C2 – normal: C1 = wastage: C1) as abnormal wastage of company resources.

Solution to example 12C: fixed manufacturing overheads – journals

During the year

Debit	Credit
-------	--------

Fixed manufacturing costs (Suspense account)	100 000	
Bank/ Creditor		100 000
<i>Fixed manufacturing overheads incurred: given</i>		
Inventory (A)	50 000	
Fixed manufacturing costs (Suspense account)		50 000
<i>Allocation of fixed manufacturing overheads to inventory over the year: 50 000 x C1 (BFOAR)</i>		
At year-end		
Fixed manufacturing overhead expense (E) (<i>under-absorption</i>)	50 000	
Fixed manufacturing costs (Suspense account)		50 000
<i>Expensing of the balance of the fixed manufacturing overhead suspense account at year-end: 100 000 (total paid) – 50 000 (capitalised)</i>		

5.3.2.2 Over-production and over-absorption

If the company's actual level of production exceeds budgeted production, the budgeted fixed overhead application rate per unit will be higher than the actual fixed overhead application rate per unit.

If the budgeted application rate is used to absorb fixed overheads into the cost of the inventory during the course of the year, fixed manufacturing overheads will be 'over-absorbed' into the cost of inventory by the end of the year if the entity produced more units than were budgeted (over-production). This means that the asset will be overstated as the costs capitalised are not the actual costs incurred (i.e. will be shown at a value that exceeds cost) and will therefore need to be reduced.

Example 13: fixed manufacturing costs – over-absorption

Fixed manufacturing overheads	C100 000
Normal expected production (units)	100 000
Actual production (units)	200 000

Required:

- Calculate the budgeted fixed manufacturing overhead application rate;
- Calculate the actual fixed manufacturing overhead application rate; and
- Journalise the fixed manufacturing costs.

Solution to example 13A: budgeted fixed manufacturing overhead application rate

$$\begin{aligned}
 &= \frac{\text{Fixed manufacturing overheads}}{\text{Budgeted production}} \\
 &= \frac{\text{C100 000}}{100\,000 \text{ units}} \\
 &= \text{C1,00 per unit}
 \end{aligned}$$

Solution to example 13B: actual fixed manufacturing overhead application rate

$$\begin{aligned}
 &= \frac{\text{Fixed manufacturing overheads}}{\text{Greater of: budgeted and actual production}} \\
 &= \frac{\text{C100 000}}{200\,000 \text{ units}} \\
 &= \text{C0.50 per unit}
 \end{aligned}$$

Although we would have used the BFOAR of C1 per unit throughout the year for quoting our customers and for allocating fixed manufacturing costs to inventory during the period, the

final inventory balance would be valued using the actual cost (AFOAR) of C0.50 per unit instead.

If the company valued their final inventory balance using the budgeted fixed overhead application rate of C1 instead, C200 000 of fixed overheads would have been included in inventory (C1 x 200 000 units). This is not allowed since the actual fixed overheads incurred were only C100 000 (IAS 2, which governs inventories, prohibits the measurement of inventory at above cost).

Solution to example 13C: fixed manufacturing overheads - journal

		Debit	Credit
During the year			
Fixed manufacturing costs (suspense account)		100 000	
Bank/ Creditor			100 000
<i>Fixed manufacturing overheads incurred during the year: given</i>			
Inventory (A)	200 000 x C1 (BFOAR)	200 000	
Fixed manufacturing costs (suspense account)			200 000
<i>Allocation of fixed manufacturing overheads to inventory over the year</i>			
At year-end			
Fixed manufacturing costs (suspense account) (<i>over-absorption</i>)		100 000	
Inventory (A)			100 000
<i>Reversing the excess fixed manufacturing costs transferred to the inventory account (the suspense account will now have a zero balance)</i>			

5.3.2.3 Budgeted versus actual overhead rates summarised

Budgeted production will seldom equal actual production and therefore the budgeted costs (BFOAR) per unit will generally not equal the actual costs (AFOAR) per unit. If, therefore, the *budgeted* fixed overhead absorption rate (BFOAR) is multiplied by the *actual* units produced, too much or too little of the overhead costs actually incurred are included in the inventory cost.

The budgeted fixed overhead application rate is therefore calculated at:

- the beginning of the year to measure the cost of inventory during the year; and then
- at the end of the year to measuring the inventory balance.

The budgeted fixed overhead application rate is calculated at the beginning of the year:

$$\text{BFOAR} = \frac{\text{Fixed manufacturing overheads}}{\text{Budgeted production}}$$

The actual fixed overhead application rate (AFOAR) is calculated at the end of the year:

$$\text{AFOAR} = \frac{\text{Fixed manufacturing overheads}}{\text{Greater of: budgeted production and actual production}}$$

In the event that actual production is *greater* than budgeted production, the actual fixed overhead application rate (AFOAR) is calculated using *actual* production since this avoids inventory being overvalued as a result of over-efficiency.

In the event that actual production is *less* than budgeted production, the actual fixed overhead application rate is calculated using *budgeted* production, since this avoids inventory being overvalued as a result of company inefficiencies.

Example 14: fixed manufacturing costs – over-absorption

Budgeted production	1 000 units
---------------------	-------------

Actual production	1 500 units
Budgeted fixed non-manufacturing overheads	C10 000
Budgeted fixed manufacturing overheads	C40 000
Prime costs per unit	C12 per unit

Required:

- Calculate the budgeted fixed overhead application rate at the *beginning* of the year.
- Calculate the actual fixed overhead application rate at the *end* of the year.
- Show the entries in the related t-accounts.

Solution to example 14A: budgeted fixed manufacturing overheads rate (AP > BP)

$$\begin{aligned}
 &= \frac{\text{Fixed manufacturing overheads}}{\text{Budgeted production}} \\
 &= \frac{\text{C40 000}}{1\,000 \text{ units}} \\
 &= \text{C40 per unit}
 \end{aligned}$$

Solution to example 14B: actual fixed manufacturing overheads rate (AP > BP)

$$\begin{aligned}
 &= \frac{\text{Fixed manufacturing overheads}}{\text{Greater of: budgeted production and actual production}} \\
 &= \frac{\text{C40 000}}{1\,500 \text{ units}} \\
 &= \text{C26,67 per unit}
 \end{aligned}$$

Solution to example 14C: t-accounts (AP > BP)

Bank			Fixed manufacturing overheads (Suspense)		
	FOE ⁽¹⁾	10 000	Bank ⁽²⁾	40 000	Inv ⁽⁴⁾ 60 000
	FMOS ⁽²⁾	40 000	Inv ⁽⁵⁾	20 000	
	Inv ⁽³⁾	18 000		⁽⁷⁾ 60 000	⁽⁷⁾ 60 000
		000			
Inventory (Asset)			Fixed overheads (Expense)		
Bank ⁽³⁾	18 000	FMOS ⁽⁵⁾ 20 000	(1) 10 000		
FMOS ⁽⁴⁾	60 000	Balance c/d			
	<u>78 000</u>	<u>78 000</u>			
Balance ⁽⁶⁾	58 000				

- payment of non-manufacturing fixed overheads: C10 000 – these are always expensed
- payment of manufacturing fixed overheads: C40 000 – these are first accumulated in a suspense account and then either capitalised to inventory or expensed
- payment of prime costs (direct materials and direct labour): C12 x 1 500 = C18 000, debited directly to inventory
- manufacturing fixed overheads are allocated to the inventory asset as follows (i.e. absorbed into inventory) using the budgeted fixed overhead application rate:

BFOAR x actual production: C40 x 1 500 = C60 000

- (5) since the manufacturing costs incurred only amounted to C40 000, C20 000 too much has been debited to inventory: this over-absorption is simply reversed. This is calculated as the excess of actual over-budgeted production x BFOAR: 500 x C40 = C20 000 (or C60 000 – C40 000)
- (6) notice that the balance is C58 000, which equates with the prime cost per unit plus the *final* fixed manufacturing overheads per unit: (C12 + C26,67) x 1 500 = C58 000
- (7) notice that the suspense account has been cleared out (has a zero balance)!

Example 15: fixed manufacturing costs – under-absorption

Budgeted production	1 000 units
Actual production	500 units
Budgeted fixed non-manufacturing overheads	C10 000
Budgeted fixed manufacturing overheads	C40 000
Prime costs per unit	C12 per unit

Required:

- A. Calculate the budgeted fixed overhead application rate at the *beginning* of the year.
 B. Calculate the final fixed overhead application rate at the *end* of the year.
 C. Show the entries in the related t-accounts.

Solution to example 15A: budgeted fixed manufacturing overheads rate (BP > AP)

$$= \frac{\text{Fixed manufacturing overheads}}{\text{Budgeted production}}$$

$$= \frac{\text{C40 000}}{1\,000 \text{ units}}$$

$$= \text{C40 per unit}$$

Solution to example 15B: actual fixed manufacturing overheads rate (BP > AP)

$$= \frac{\text{Fixed manufacturing overheads}}{\text{Greater of: budgeted production or actual production}}$$

$$= \frac{\text{C40 000}}{1\,000 \text{ units}}$$

$$= \text{C40 per unit}$$

Solution to example 15C: t-accounts (BP > AP)

Bank			Fixed manufacturing overheads (Suspense)			
	FOE ⁽¹⁾	10 000	Bank ⁽²⁾	40 000	Inv ⁽⁴⁾	20 000
	FMOS ⁽²⁾	40 000			FOE ⁽⁵⁾	20 000
	Inv ⁽³⁾	6 000		⁽⁷⁾ 40 000	⁽⁷⁾	40 000

Inventory (Asset)		Fixed overheads (Expense)	
Bank ⁽³⁾	6 000	Bank ⁽¹⁾	10 000

FMOS ⁽⁴⁾	20 000	Balance	26	FMOS ⁽⁵⁾	000
		c/d	000		20
	<u>26 000</u>		<u>26 000</u>		<u>000</u>
Balance ⁽⁶⁾	<u>26 000</u>				30
					<u>000</u>

- (1) payment of non-manufacturing fixed overheads: C10 000 – these are always expensed
- (2) payment of manufacturing fixed overheads: C40 000 – these are first accumulated in a suspense account and then either capitalised to inventory or expensed
- (3) payment of prime costs (direct materials and direct labour): C12 x 500 = C6 000 – debited directly to inventory
- (4) manufacturing fixed overheads are allocated to the inventory asset as follows (i.e. absorbed into inventory) using the budgeted fixed overhead application rate: BFOAR x actual production:
C40 x 500 = C20 000
- (5) the manufacturing costs incurred amounted to C40 000, but since only 500 units have been produced, only C20 000 has been debited to inventory, with C20 000 remaining unallocated in the fixed overhead suspense account. This must be treated as an expense since this relates to the cost of the inefficiency (abnormal wastage). This may be calculated as follows: excess of budgeted production over actual production x budgeted fixed overhead application rate:
C40 x 500 = C20 000
- (6) notice that the balance is C26 000, which equates with the prime cost plus the *final* fixed manufacturing overheads per unit: (C12 + C40) x 500 = C26 000
- (7) notice that the fixed overhead suspense account has been cleared out (i.e. has a balance of zero).

6. Measurement: cost formulas (inventory movements) (IAS 2.23 - .27)

6.1 Overview

The movement of inventories refers to the purchase and the subsequent sale thereof or, where applicable, the conversion into another type of inventory or asset (i.e. in the case of a manufacturing company, the conversion from a raw material into work-in-progress and then into finished goods).

There are three different cost formulae allowed when measuring these movements, being the:

- first-in-first-out method (FIFOM);
- weighted average method (WAM); and
- specific identification method (SIM).

The recording of the cost of the initial purchase of the inventory will not differ with the method chosen but, if the cost of each item of inventory during the year is not constant, the cost of the goods sold or converted will.

The same cost formula must be used for all inventories having a similar nature and use.

6.2 First-in-first-out method (FIFOM)

This method may be used where the goods forming part of inventories are similar in value. The general assumption under this method is that the oldest inventory is used or sold first (whether or not this is the actual fact). The method is best explained by way of example.

Example 16: FIFO purchases

January	purchases	one kilogram of X	C100
January	purchases	two kilograms of X	C220

Required:

Post the related journal entries in the t-accounts using the FIFO method.

Solution to example 16: FIFO purchases (t-accounts)

Inventories (A)		Bank	
Jan	100	Jan	100
Jan	220	Jan	220

It should be noted that there will now be two balances in the inventory account. This is necessary in order that when the goods are sold, the cost of the older inventory can be determined.

Please note that the inventory that would be disclosed in the statement of financial position would be the total of the two balances (i.e. C320).

Example 17: FIFO sales

Assume the same information given in the previous example together with the following sale:

January	Sales	A half a kilogram of X	Cost C?
---------	-------	------------------------	---------

Required:

Post the cost of sales journal entry in the t-accounts using the FIFO method.

Solution to example 17: FIFO sales (t-accounts)

Inventories (A)		Cost of Sales (E)	
Balance 1	100	3rd Jan	50
Balance 2	220	Balance c/f	270
	<u>320</u>		<u>320</u>
Balance 1	50		
Balance 2	220		

The inventory purchased earlier is assumed to be sold first. In other words, the cost of the inventory sold is valued based on the cost of the oldest stock first: half of the first batch is sold and therefore the cost of the sale is estimated at $100 \times 50\% = C50$.

The inventory account still has two balances, where the oldest balance (balance 1) has been reduced. None of the second batch has been used yet and therefore balance 2 remains unchanged.

If the selling price was C150, the gross profit would be $C150 - C50 = C100$.

Example 18: FIFO sales

Assume the same purchases as given in example 16 together with the following sale:
 January Sales 1 ½ kilograms of X Cost C?

Required:

Post the cost of sales journal entry in the t-accounts using the FIFO method.

Solution to example 18: FIFO sales (t-accounts)

Inventories (A)				Cost of Sales (E)	
Balance 1	100	3rd Jan	155	3rd Jan	155
Balance 2	220	Balance c/f	165		
	<u>320</u>		<u>320</u>		
Balance 1	0				
Balance 2	165				

The inventory purchased earlier is assumed to be sold first. In other words, the cost of the inventory sold is valued based on the cost of the oldest stock first: all of the first batch (1 kilogram) is sold plus ½ kilogram of the second batch (which consisted of 2 kilograms). The cost of the sale is therefore estimated at $100 \times 1 / 1 \text{ kilogram} + 220 \times 0.5 / 2 \text{ kilograms} = \text{C}155$.

The inventory account now only has one balance, since the first batch (balance 1) has been entirely used up. A quarter of the second batch has been used and therefore balance 2 is now ¾ of its original value ($\frac{3}{4} \times 220 = 165$ or $220 \times (2 - 0.5) / 2 \text{ kilograms}$).

If the selling price was C250, the gross profit would be $\text{C}250 - \text{C}155 = \text{C}95$.

6.3 Weighted average method (WAM)

As with the first-in-first-out method, the weighted average method is suitable only when the goods are similar in value. Whenever goods are sold or converted, the cost of the sale is calculated by working out the average cost of the goods sold, rather than simply assuming that the oldest goods were sold first. The average costs incurred over a time period will therefore be used to calculate the cost of inventory sold, rather than the actual cost incurred on the item. This is best explained by way of example.

Example 19: WAM purchases

January	Purchases	one kilogram of X	C100
January	Purchases	two kilograms of X	C220

Required:

Post the related journal entries in the t-accounts using the weighted average method.

Solution to example 19: WAM purchases

Inventories (A)		Bank	
1st Jan	100	1st Jan	100
2nd Jan	220	Jan	220
Balance	320		

Example 20: WAM sales

Assume the same information given in the previous example together with the following sale:
 January Sales one kilogram of X cost entity?

Required:

Post the related cost of sale journal in the ledger accounts using the weighted average method.

Solution to example 20: WAM sales

The weighted average cost per kilogram is calculated as follows:

$$\begin{aligned}
 & \frac{\text{total cost of inventories}}{\text{quantity of inventories on hand}} \\
 = & \frac{\text{C}320}{3\text{kg}} \\
 = & \text{C}106.67 \text{ per kg}
 \end{aligned}$$

Inventories (A)				Cost of Sales (E)	
Balance	320,00	Jan	106,67	Jan	106,67
		Balance c/d	213,33		
	<u>320,00</u>		<u>320,00</u>		
Balance b/d	213,33				

If the selling price was C150, then the gross profit would be $C150 - C106,67 = C43,33$.

There is only one balance on the inventory account.

6.4 Specific identification method (SIM)

This method is suitable for items of inventory that are dissimilar in value, for example a retailer of exotic cars. Each item of inventory is assigned its actual cost and this cost is expensed when this item is sold (using any of the above methods would be materially inaccurate and misleading).

Example 21: SIM purchases and sales

			C
January	Purchase 1 Beetle	cost:	25 000
March	Purchase 1 Porsche	cost:	150 000
April	sold 1 Porsche	selling price:	175 000

Required:

Post the related journal entries in the t-accounts using the SI method.

Solution to example 21: SIM purchases and sales

It would be unreasonable to use the first-in-first-out method, in which case the cost of the Beetle would be matched with the sale proceeds of the Porsche.

Similarly, the weighted average method would not be suitable since the values of each of the vehicles are so dissimilar that it would cause the cost to be distorted to unacceptable proportions.

The only method that is suitable in this instance is the specific identification method, which means just that: specifically identify the actual unit sold and then use the actual cost of that unit to match against the proceeds of the sale thereof.

Inventories (A)				Bank	
Beetle	25 000	Porsche	150 000		Beetle 25 000
Porsche	150 000	Balance	25 000		Porsche 150 000
	<u>175 000</u>		<u>175 000</u>		
Balance	25 000				
				Cost of Sales (E)	
				Porsche 150 000	

The profit on sale can now be accurately determined as $C175\,000 - C150\,000 = C25\,000$.

7. Measurement of inventories at year-end (IAS 2.9 and .28 - .33)

7.1 Overview

Although the Framework states that an asset should be measured at an amount representing future economic benefits expected to be derived from the asset, the standard governing inventories disallows the measurement of inventory above cost. Therefore, unlike other assets, even if an inventory asset is expected to render future economic benefits in excess of its cost, it may never be valued above cost.

Inventories must be measured at the lower of cost or net realisable value. At the end of each financial year, inventories should therefore be tested for impairments by calculating the net realisable value (see definitions) and comparing this with the cost of inventories.

If the net realisable value is *lower* than cost, the inventories must be written down to this lower amount. This is the concept of prudence in action: recognising losses as soon as they are *expected* rather than waiting for them to *happen*.

Example 22: lower of cost or net realisable value

A company has inventory on hand at year-end (31 December 20X2) that it expects to be able to sell in the ordinary course of business for C100. The cost of these inventories is C70. In order to sell this inventory, the company expects to incur selling costs of C20 and expects to incur further costs of C30 to put this inventory into a saleable condition.

Required:

- Calculate the net realisable value;
- Calculate any possible write-down; and
- Journalise any write-down necessary.
- Show where the write-down would be included and disclosed in the financial statements.

Solution to example 22A: net realisable value calculation

Net realisable value	C
Estimated selling price	100
Less estimated selling costs	20
Less estimated costs to complete	30
Net realisable value	<u>50</u>

Solution to example 22B: check for possible write-down

Write-down	C
Cost	70

Net realisable value	50
Inventory write-down	20

Solution to example 22C: journalise the write-down

Journal	Debit	Credit
Write-down of inventories (E)	20	
Inventories (A)		20
<i>Write-down of inventories to net realisable value (70-50)</i>		

Solution to example 22D: disclosure of the write-down

Company name			
Statement of comprehensive income			
For the year ended 31 December 20X2 (extracts)			
	Note	20X2 C	20X1 C
Revenue		x	x
Cost of sales	(x + 20)	(x)	(x)
Other costs disclosed using function or nature method		(x)	(x)
Profit before tax	3	(x)	(x)

Company name		
Notes to the financial statements		
For the year ended 31 December 20X2		
3. Profit before tax		
Profit before taxation is stated after taking into account the following separately disclosable (income)/ expense items::		
- Write-down of inventories	20	x

If the net realisable value is *greater* than cost, then no adjustment would be made: the practice of valuing inventories to a net realisable value that is *higher* than cost is not allowed since this would effectively result in the recognition of gross profit before the sale has taken place (and therefore before it has been earned), which would not be prudent.

Example 23: lower of cost or net realisable value

The following information relates to the balance of inventory at year-end:	C
Cost of inventory	100
Net realisable value	150
Future expected gross profit	50

Required:

Calculate whether or not the inventory balance needs to be adjusted and journalise any adjustment.

Solution to example 23: lower of cost or net realisable value**Calculation: test for impairment of inventory**

	C
Cost	100
Net realisable value (given)	150
Inventory write-down (only relevant if cost is greater than net realisable value)	N/A

If the inventory that was written down in a prior year is still on hand at the end of the current year and the circumstances that lead to the write-down have now reversed such that the net realisable value has increased, then the previous write-down may be reversed.

This accounting treatment (based on the concept of prudence) dovetails perfectly with the rules for 'revenue recognition' (IAS 18). In a nutshell, the revenue from the sale of inventory is recognised only when inventories are sold and not before! If you were to value inventory above cost, a gain would be recognised in the current year, which would represent the future profit on the future sale of the inventory! This is not allowed because this would effectively be allowing the recognition of income before it is earned which is obviously not prudent.

Example 24: lower of cost or net realisable value

A company has inventory on hand at year-end that was written down in year 1 to a net realisable value of C50 (its original cost was C70).

Required:

Show the journal entries in year 1 and year 2 and show how the write-back (if any) would be disclosed in year 2; assuming that the net realisable value of this stock at the end of the year 2 is:

- A. C55;
- B. C75.

Solution to example 24A: lower of cost or net realisable value: write-back

W1: calculation of write-down or reversal of write-down	Yr 2	Yr 1
Carrying amount	50	70
Net realisable value (C55) limited to cost (C70): cost is not a limiting factor	55	50
Write-down/ (reversal of previous write-down)	5	20

End of year 1: journal

	Debit	Credit
Write-down of inventories (E)	20	
Inventories (A)		20
<i>Write-down of inventories: W1</i>		

End of year 2: journal

Inventories (A)	5	
Reversal of write-down of inventories (I)		5
<i>Reversal of previous write-down of inventories: W1</i>		

Company name**Statement of comprehensive income****For the year ended 31 December 20X2 (extracts)**

	Note	20X2	20X1
		C	C
Revenue		x	x
Cost of sales	(x - 5)	(x)	(x)
Other costs disclosed using function or nature method		(x)	(x)
Profit before tax	5	(x)	(x)

Company name
Notes to the financial statements
For the year ended 31 December 20X2

	20X2	20X1
	C	C
5. Profit before tax		
Profit before taxation is stated after taking into account the following separately disclosable (income)/ expense items:		
- Write-down/ (Reversal of write-down) of inventories	(5)	20

Solution to example 24B: net realisable value calculation and journal

W1: calculation of write-down or reversal of write-down	Yr 2	Yr 1
Carrying amount	50	70
Net realisable value (Yr2: (C75) limited to cost (C70): cost is a limiting factor)	70	50
Write-down/ (reversal of previous write-down)	(20)	20
End of year 1: journal	Debit	Credit
Write-down of inventories (E)	20	
Inventories (A)		20
<i>Write-down of inventories: W1</i>		
End of year 2: journal		
Inventories (A)	20	
Reversal of write-down of inventories (I)		20
<i>Reversal of previous write-down of inventories: W1</i>		

Company name		20X2	20X1
Statement of comprehensive income			
For the year ended 31 December 20X2 (extracts)			
	Note	C	C
Revenue		x	x
Cost of sales	(x - 20)	(x)	(x)
Other costs disclosed using function or nature method		(x)	(x)
Profit before tax	5	(x)	(x)

Company name
Notes to the financial statements
For the year ended 31 December 20X2

	20X2	20X1
	C	C
5. Profit before tax		
Profit before taxation is stated after taking into account the following separately disclosable (income)/ expense items:		
- Write-down/ (Reversal of write-down) of inventories	(20)	20

7.2 Testing for possible write-downs: practical applications

When testing for possible write-downs, *each item* of inventory should be tested separately. What this means is simply that an estimated percentage write-off would not be acceptable. The write-down must be carefully estimated based on the actual circumstances of the entity.

In certain circumstances, for example, a product *line* (e.g. a cutlery set) must be looked at as a whole rather than on an individual item-by-item basis when these individual items cannot be sold separately: e.g. if the knives, forks and spoons manufactured as part of the cutlery set are

not sold separately, then the cutlery set should be tested for impairment as a separate product line rather than trying to measure the individual knives, forks and spoons making up the set.

Inventory should generally not be tested for impairment based on general classifications, such as raw materials, work-in-progress, finished goods and consumable stores. If, for example, the category of raw materials has a net realisable value that is less than its cost, but the raw materials are to be used in the manufacture of a profitable finished product and will therefore not be sold in its raw state, then a write down of the raw materials would make no sense.

On the other hand, the testing for impairment of a general classification such as raw materials would be appropriate if, for example, the finished product in which the raw materials are used is not profitable and there is a chance that the raw materials and work-in-progress could be sold off separately or even dumped.

If the raw material is to be converted into a finished product and the net realisable value of these raw materials, (for example, the cost of steel on hand used in the manufacture of bicycles), is less than their cost, no write-down would be required *if* the net realisable value of the finished product (i.e. the bicycle) is *greater* than its cost. If, however, the net realisable value of the finished product (i.e. the bicycle) is *less* than the cost thereof, then the materials on hand (e.g. steel) would need to be individually tested for impairment.

Example 25: lower of cost or net realisable value – with disclosure

A bookkeeper has provided you with the following information regarding inventory on hand at 31 December 20X2, used in the manufacture of two product lines: motorbikes and bicycles:

	Cost	NRV: if sold 'as is'	NRV: if sold as a completed product	Write- down required
	C	C	C	C
Raw materials	100 000	45 000	65 000	
Supply of steel (used for motorbikes)	40 000	25 000	15 000	
Supply of aluminium (used for bicycles)	60 000	20 000	50 000	
Work-in-progress	80 000	80 000	65 000	
Incomplete motorbikes	30 000	20 000	25 000	
Incomplete bicycles	50 000	60 000	40 000	
Finished Goods	160 000		170 000	
Motorbikes	80 000	N/a	60 000	
Bicycles	80 000	N/a	110 000	
	<u>340 000</u>			

The lifecycle of both product lines is coming to an end and the company has decided that where it is more profitable to sell a class of inventory such as raw materials 'as is' than to convert it into the finished product, then the class of inventory will be sold 'as is'.

Cost of sales before any adjustments to the cost of inventory was C450 000.

Required:

- Fill in the missing figures, and then calculate the total write-down required.
- Disclose all related information in the financial statements. Comparatives are not required.

Solution to example 25A: calculation of write-down

	Cost	NRV: if sold 'as is'	NRV: if sold as a completed product	Write- down required
	C	C	C	C
Raw materials				
Supply of steel on hand (used for motorbikes)	40 000	25 000	15 000	25 000
Supply of aluminium (used for bicycles)	60 000	20 000	50 000	50 000
Work-in-progress				
Incomplete motorbikes	30 000	20 000	25 000	25 000
Incomplete bicycles	50 000	60 000	40 000	60 000
Finished Goods				
Motorbikes	80 000	N/a	60 000	60 000
Bicycles	80 000	N/a	110 000	110 000
	<u>340 000</u>			

The lower of cost or net realisable value for each item of inventory is as follows (using the highlighted amounts in the above table):

Lower of cost or net realisable value:*Raw materials*

Supply of steel on hand (used for motorbikes)
Supply of aluminium (used for bicycles)

C
75 000
25 000
50 000

Lower of cost or net realisable value continued*Work-in-progress*

Incomplete motorbikes
Incomplete bicycles

C
75 000
25 000
50 000

Finished Goods

Motorbikes
Bicycles

140 000
60 000
80 000

Write-down*Calculations*

Raw materials *100 000 – 75 000*
Work-in-progress *80 000 – 75 000*
Finished Goods *160 000 – 140 000*

C
25 000
5 000
20 000
<u>50 000</u>

The calculation of the net realisable value and related write-down is explained as follows:

The total cost of inventory is C340 000, but the net realisable value thereof depends on what the company does with the individual components of the two product lines (motorbikes and bicycles). The write down would be based on sound business principles of profit making. Therefore, where there are two possible net realisable values, the higher of the two net realisable values would be used.

Raw materials: The *steel supply* would be sold 'as is' rather than be converted into a motorbike, since this renders the greatest economic benefits (C25 000 versus C15 000) thus requiring a write-down of C15 000 (C40 000 – C25 000). On the other hand, the *aluminium supply* would be used in making the completed bicycles since this would render the greatest economic benefits (C50 000 versus C20 000) thus requiring a write-down of only C10 000 (C60 000 – C50 000). The value of raw materials would therefore be C75 000 with a related write-down of C25 000 (C100 000 – C75 000).

Work-in-progress: The incomplete *motorbikes* would first be completed and then sold since this renders the greater economic benefits (C25 000 versus C20 000), thus requiring a write-down of C5 000 (C30 000 – C25 000). The incomplete *bicycles* would be sold ‘as is’ instead of being completed and then sold (C60 000 versus C40 000), thus no write-down is required for the incomplete bicycles. The value of work-in-progress is therefore C75 000 (C25 000 + C50 000) and the cost thereof is C80 000, with a required write-down of C5 000.

Finished goods: Since the net realisable value of the *bicycles* exceeds the cost thereof, no write-down will be required. The net realisable value of the *motorbikes*, however, is less than the cost thereof (C60 000 versus C80 000) and therefore a write-down of C20 000 is required. The value of finished goods is therefore C140 000 (C60 000 + C80 000) with a resultant write-down of C20 000.

Solution to example 25B: disclosure

Company name

Statement of comprehensive income

For the year ended 31 December 20X2 (extracts)

	Note	20X2 C	20X1 C
Revenue		x	x
Cost of sales	(x + 50 000)	(x)	(x)
Other costs disclosed using function/ nature method		(x)	(x)
Profit before tax	5	(x)	(x)

Company name

Statement of financial position

At 31 December 20X2 (extracts)

	Note	20X2 C	20X1 C
ASSETS			
Current assets			
Inventories	3	290 000	x

Company name

Notes to the financial statements

For the year ended 31 December 20X2 (extracts)

	Note	20X2 C	20X1 C
3. Inventory			
Raw materials	(25 000 + 50 000)	75 000	x
Work-in-progress	(25 000 + 50 000)	75 000	x
Finished goods	(60 000 + 80 000)	140 000	x
		<u>290 000</u>	<u>x</u>

5. Profit before tax

Profit before taxation is stated after taking into account the following separately disclosable (income)/ expense items::

- Write-down of inventories (*cost: 340 000 – nrv: 290 000*)

50 000 x

8. Disclosure (IAS 2.36 - .39)

8.1 Accounting policies

An accounting policy note is required indicating the accounting policy in respect of the measurement of inventories and cost formula used (i.e. lower of cost or net realisable value).

8.2 Statement of financial position and supporting notes

Inventories must be shown as a separate line item on the face of the statement of comprehensive income. (IAS 1).

The note supporting the inventories amount in the statement of comprehensive income should indicate the (IAS 2):

- carrying amount of inventories broken down into classifications appropriate to the entity;
- amount of inventories pledged as security.

8.3 Statement of comprehensive income and supporting notes

The cost of inventories recognised as an expense (whether the function or nature method is used to disclose the costs). If the nature method is used, the cost of inventory expense will have to be disclosed in the notes. If the function method is used, the cost of inventory expense may be disclosed either on the face of the statement of comprehensive income or in the notes thereto. Please remember that the cost of inventories expense, which must be disclosed separately, includes costs such as depreciation on factory-related property, plant and equipment (which were originally capitalised to inventory), which must also be disclosed separately. Similarly, cost of inventories expense includes costs such as write-downs of inventory (and reversals thereof), which must also be disclosed separately.

If there was a write-down of inventories, this should be disclosed in the notes and if a previous write-down of inventories is reversed, both the amount of the reversal and the circumstances that led to the reversal should be disclosed.

Example 26: disclosure of cost of sales and inventory related depreciation

A company incurred cost of sales of C100 000. Included in this amount was depreciation of C20 000 on an item of plant used to manufacture inventory.

Required:

Disclose the above in the statement of comprehensive income and related notes thereto.

Solution to example 26: disclosure of cost of sales and inventory related depreciation

Company name

Statement of comprehensive income

For the year ended ... (extracts)

	Note	20X2 C
Revenue		x
Cost of sales	3	(100 000)
Gross profit		<u>x</u>

Company name

Notes to the financial statements

For the year ended ... (extracts)

	20X2 C
3. Cost of sales	
Cost of sales includes:	
Depreciation on plant	20 000

8.4 Sample disclosure involving inventories

8.4.1 Sample statement of financial position and related notes

Company name Statement of financial position At 31 December 20X2 (extracts)			
	Note	20X2 C	20X1 C
ASSETS			
Current assets			
Inventories	5	xxx	xxx
Accounts receivable		xxx	xxx
Cash		xxx	xxx

Company name Notes to the financial statements For the year ended 31 December 20X2 (extracts)			
	Note	20X2 C	20X1 C

2. Accounting policies

2.1 Inventories

Inventories are valued at the lower of cost or net realisable value, where the cost is calculated using the actual cost/ standard cost/ retail method (selling price less gross profit percentage). Movements of inventory are recorded on the weighted average method (or FIFO or SIM).

5. Inventories

Finished goods	xxx	xxx
Work-in-progress	xxx	xxx
Raw materials	xxx	xxx
Consumable stores	xxx	xxx
	<u>xxx</u>	<u>xxx</u>

The company pledged C30 000 of inventories as security for a non-current loan (see note...)

8.4.2 Sample statement of comprehensive income and related notes

8.4.2.1 Sample: costs analysed by *NATURE* in the statement of comprehensive income

Company name Statement of comprehensive income For the year ended 31 December 20X2 (extracts)			
	Note	20X2 C	20X1 C
Revenue		x	x
Add changes in finished goods and work-in-progress inventory		(x)	(x)
Raw materials used and consumed		(x)	(x)
Staff costs (etc)		(x)	(x)
Other expenses		(x)	(x)
Finance costs		(x)	(x)
Profit before tax	3	(x)	(x)

Company name
Notes to the financial statements
For the year ended 31 December 20X2 (extracts)

	Note	20X2 C	20X1 C
3. Profit before tax			
Included in profit before tax are the following:			
Cost of inventory expense (cost of sales + write-downs – write-downs reversed)		x	x
Depreciation (etc)		x	x
Reversal of previous write-down of raw materials due to the recent legalisation of the use thereof		(x)	(x)
Write-down of inventories		x	x

8.4.2.2 Sample: costs analysed by **FUNCTION** in the statement of comprehensive income

Company name
Statement of comprehensive income
For the year ended 31 December 20X2 (extracts)

	Note	20X2 C	20X1 C
Revenue		x	x
Cost of inventory expense (cost of sales + write-downs – write-downs reversed + under-applied fixed overheads)		(x)	(x)
Distribution Costs		(x)	(x)
Administrative Costs		(x)	(x)
Other Operating Expenses		(x)	(x)
Finance costs		(x)	(x)
Profit before tax (not required)		(x)	(x)

8.4.2.3 Sample: costs analysed by **FUNCTION** in the notes to the statement of comprehensive income

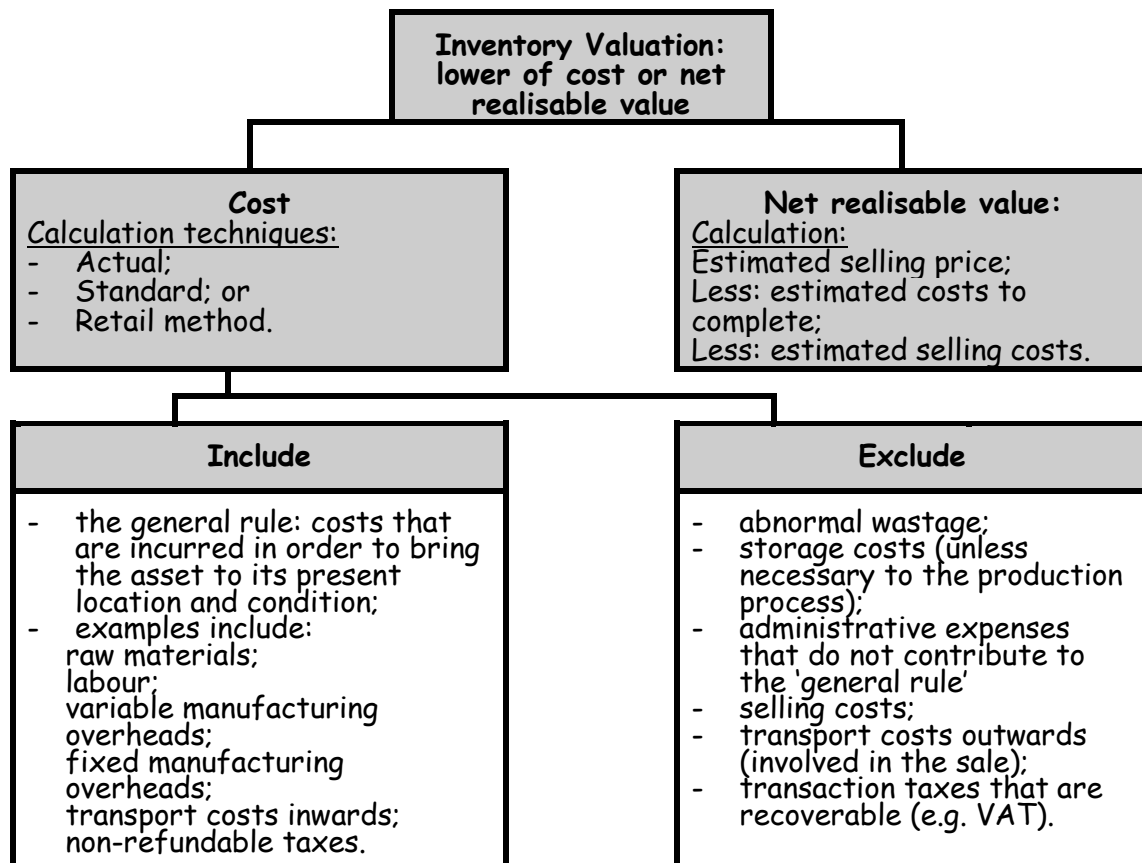
Company name
Statement of comprehensive income
For the year ended 31 December 20X2 (extracts)

	Note	20X2 C	20X1 C
Revenue		x	x
Profit before finance costs	3	x	x
Finance costs		(x)	(x)
Profit before tax		(x)	(x)

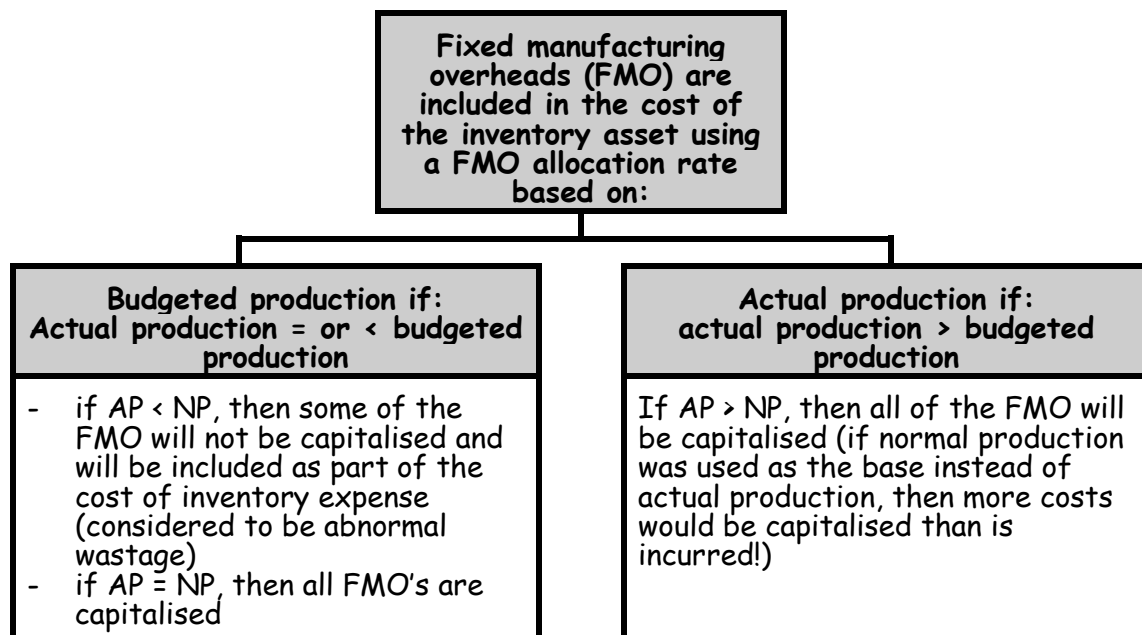
Company name
Notes to the financial statements
For the year ended 31 December 20X2 (extracts)

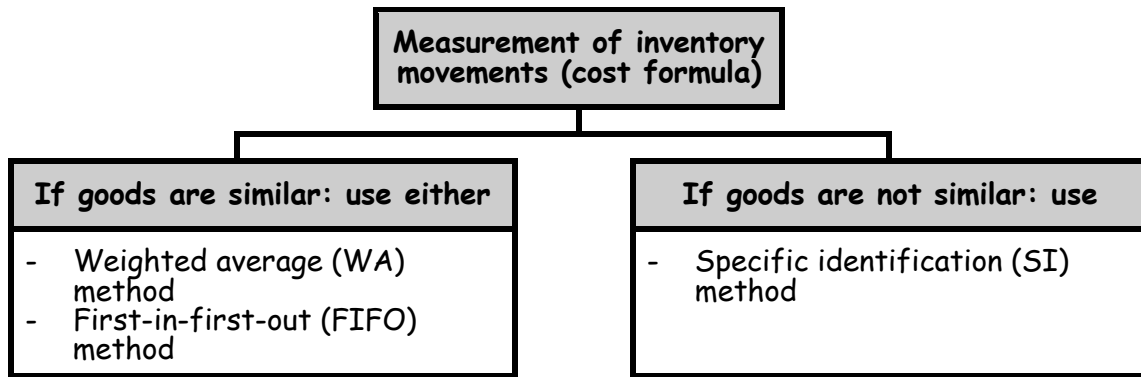
	Note	20X2	20X1
		C	C
3. Analysis of costs by function			
Included in profit before finance costs are the following costs, analysed by function:			
Cost of inventory expense (cost of sales + write-downs – write-downs reversed)		x	x
Distribution Costs		x	x
Administrative Costs		x	x
Other Operating Expenses		x	x

9. Summary



The inclusion of fixed manufacturing overheads in the cost of inventories deserves extra mention:





Chapter 5

Property, Plant and Equipment: The Basics

Reference: IAS 16 and IAS 20

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1. Introduction

This section deals with a vital component of most businesses: the physical (tangible) assets that are used to make the profits. There are a variety of assets that fall under this section, each of which shares one important characteristic: they are used by the business over more than one year period in order to generate income. They are therefore non-current in nature.

Examples of assets that fall under the heading of 'property, plant and equipment' include:

- land;
- buildings;
- plant;
- machinery;
- equipment (factory);
- equipment (office);
- furniture; and
- vehicles.

We will learn a variety of things in this chapter:

- when to recognise an asset;
- when to capitalise subsequent expenditure to an asset account;
- when and how to recognise 'a replacement or renewal' as a separate asset;
- how to calculate (measure):
 - the initial cost of the asset;
 - depreciation and the asset's carrying amount;
 - adjustments to the carrying amount:
 - when using the cost model; and
 - when using the revaluation model; and
- how to disclose property, plant and equipment.

Property, plant and equipment may be measured using either the cost model or revaluation model. This chapter assumes the entity uses the cost model. The revaluation model and the intricacies of using the cost model are dealt with in the next chapter.

Before reading this chapter, please gloss over and try to get at least a basic understanding of the definitions.

2. Definitions

The following definitions (from IAS 16) have been simplified wherever considered appropriate:

Property, plant and equipment:

- a tangible asset;
- held by the entity for use (except as an investment): in the production or supply of goods and services, in renting to others or in the area of administration;
- expected to be used during more than one period.

Depreciation:

- systematic allocation of the
- depreciable amount of an asset
- over its useful life.

Depreciable amount:

- the cost of the asset (or other amount, for example its fair value)
- less its residual value.

Cost:

- the amount of cash or cash equivalents paid; or
- the fair value of the consideration given (if it is not cash)
- at the time of acquisition or construction.

Fair value:

- the amount for which an asset could be exchanged between
- knowledgeable, willing parties in an arm's length transaction.

Residual value:

- the expected proceeds on disposal of the asset
- less expected costs of disposal
- assuming the asset were already of age and in the condition expected at the end of its useful life (i.e. current values are used).

Useful life:

- the *period* over which the asset is expected to be available for use by the entity; or
- the *number of units* expected to be obtained from the entity's use of the asset.

Carrying amount:

- the cost (or fair value)
- less accumulated depreciation and
- less accumulated impairment losses (if applicable)

Impairment loss:

- the excess of
- the carrying amount
- over the recoverable amount

The term 'recoverable amount' is covered in IAS 36, the standard governing the Impairments of Assets, which is covered in an entirely separate chapter.

3. Recognition

3.1 Overview

In order to recognise an item as 'property, plant and equipment', the definition of an asset and the related recognition criteria must first be met.

3.2 Meeting the definitions

The definition of an item of 'property, plant and equipment' is:

- a tangible
- asset
- held by the entity for use (except as an investment): in the production or supply of goods and services, in renting to others or in the area of administration; and
- expected to be used during more than one period.

You will notice that the definition of property, plant and equipment includes the word 'asset'. This means that the definition of an asset, as set out in the Framework, must also be met:

- a resource;
- controlled by an entity;
- as a result of past events; and
- from which future economic benefits are expected to flow to the entity.

3.3 Meeting the recognition criteria

Once both of these definitions are met (per IAS 16 and the Framework), the recognition criteria must also be met. These recognition criteria of an asset (given in the Framework), are that the asset must:

- cause a flow of future economic benefits into the entity that is *probable*; and
- have a cost (or fair value, if applicable) that can be *reliably measured*.

3.4 When the definitions and recognition criteria are met

In order to facilitate more accurate calculation of the future depreciation of the asset, the cost of each significant part should be recognised in a separate asset account. A part is considered to be significant if its cost is significant in relation to the total cost of the asset.

Example 1: significant parts

Choochoo Limited bought a train for C1 000 000 on 15 January 20X1, in cash. It is considered to have two significant parts, the costs of which have been estimated as follows:

- Engine: C300 000
- Carriages: C500 000

The balance of the train is constituted by various moving parts, non-moving parts and chairs in some of the carriages. These remaining parts are individually insignificant.

Required:

- Show the journal entry to record the purchase of the train.
- Present the train in Choochoo Limited's detailed statement of financial position on the date of acquisition.

Solution to example 1: significant parts

a) Journals

15 January 20X1		Debit	Credit
Train engine: cost (asset)		300 000	
Train carriages: cost (asset)		500 000	
Train other parts: cost (asset)	<i>balancing</i>	200 000	
Bank			1 000 000
<i>Purchase of train</i>			

b) Disclosure in the statement of financial position

Choochoo Limited	
Statement of financial position (extracts)	
As at 15 January 20X1	
	20X1
	C
ASSETS	
Non-current Assets	
Train	1 000 000

4. Initial measurement

4.1 Overview

Once we have established that an item must be recognised as an item of property, plant and equipment (i.e. it meets the definitions and recognition criteria), it must be measured at cost.

The cost of the asset on date of recognition is referred to as the 'initial cost'. Initial costs are generally paid for in cash (or a cash equivalent) but where an asset other than cash is used to purchase the item, the 'fair value' of the non-cash payment is used as the cost instead.

If the asset is not acquired by way of a purchase but by way of a government grant, the asset may be measured either at its fair value or the nominal amount paid for it, if any.

Later on in the asset's life, further costs may be incurred in relation to the asset, which we refer to as 'subsequent costs'. These subsequent costs include, for example:

- Repairs and maintenance;
- Replacement or renewal of parts; and
- Major inspections.

Each of these areas will now be discussed as follows:

- Method of acquisition: cash, asset exchange or government grant;
- Initial costs;
- Subsequent costs.

4.2 Method of acquisition

The asset may be acquired by:

- paying an amount in cash (immediately or after a period of time, i.e. on credit);
- paying by exchanging another non-cash asset;
- government grant.

If the transaction is paid for in cash, the measurement of the asset is based on the cash amount. If, however, the asset is acquired by giving up a non-cash asset (e.g. machine), or if the government gave the asset to the entity, a fair value may be needed.

4.2.1 Cash

If the acquisition is paid for in cash, either immediately or within normal credit terms, then the asset is recorded at the cash amount. If a cash payment is deferred beyond normal credit terms, then the amount paid (nominal amount) must be present valued to the equivalent cash amount due on date of recognition. The difference between the present value and the actual amount that will be paid is recognised as a finance charge.

Example 2: payment in cash – normal credit terms

A company purchased a machine for C100 000. There were no individually significant parts.

The purchase price is payable within normal credit terms.

Required:

Show the journal entries relating to the purchase and payment of the machine.

Solution to example 2: payment in cash – normal credit terms

	Debit	Credit
Machine: cost (asset)	100 000	
Trade accounts payable (liability)		100 000
<i>Purchase of machine on normal credit terms</i>		
Trade accounts payable (liability)	100 000	
Bank		100 000
<i>Payment made to supplier of machine</i>		

Example 3: payment in cash – beyond normal credit terms

A company purchased a machine for C100 000. There were no individually significant parts.

The purchase price is payable after one year. This is considered to be a longer than normal credit term. The present value of this amount, calculated using 10%, being an appropriate rate of interest, is C90 909.

Required:

Show the journal entries relating to the purchase and payment of the machine.

Solution to example 3: payment in cash – beyond normal credit terms

	Debit	Credit
Machine: cost (asset)	90 909	
Trade accounts payable (liability)		90 909
<i>Purchase of machine on normal credit terms</i>		
Finance costs (expense)	9 091	
Trade accounts payable (liability)		9 091
<i>Finance costs on present value of purchase price: 90 909 x 10%</i>		
Trade accounts payable (liability)	100 000	
Bank		100 000
<i>Payment made to supplier of machine</i>		

4.2.2 Fair value

If the asset is not paid for in cash, or is not entirely paid for in cash, the fair value of the purchase consideration must be estimated. These include instances where the asset is acquired via

- an asset exchange; or
- a government grant (at either no value at all or at a nominal amount).

4.2.2.1 Asset exchange

When recording an asset acquired through an exchange of assets, the cost of the new asset will be the fair value of the asset/s *given up*. However, the fair value of the asset *received* must be used instead if:

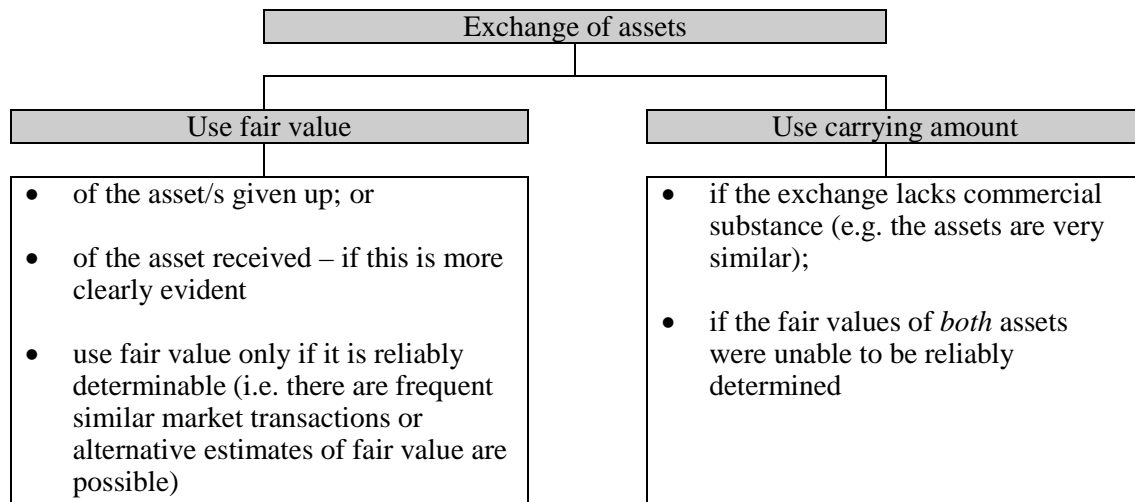
- the fair value of the asset given up is not available; or
- the fair value of the asset received is 'more clearly evident'.

In the event that the exchange of assets is deemed to have no commercial substance (e.g. two vehicles are exchanged, of the same vintage, with the same mileage and in the same condition), the cost of the asset acquired is the carrying amount of the asset given up.

An exchange is considered to have no commercial substance if the exchange of assets:

- will not change the future cash flows in any way (risk, timing or amount);
- will not change the value of the operation that is to use the asset; or
- any expected change in cash flows or value is insignificant relative to the fair value of the assets exchanged.

The following diagramme may help to simplify the treatment of exchanges of assets:



Example 4: exchange of assets where both fair values are known

A company exchanged machine A (given up) for another machine, machine B (acquired):

	C
Machine A:	
Carrying amount (cost: C18 000 and accumulated depreciation: C8 000)	10 000
Fair value	11 000
Machine B:	
Fair value	12 000

The difference in fair values is considered to be immaterial.

Required:

Discuss how this exchange should be recorded, if at all.

Solution to example 4: exchange of assets where both fair values are known

The old asset must be removed from the books and replaced by the new asset at the fair value of the asset being given up, being C11 000. The journal entry will be as follows:

	Debit	Credit
Machine: cost (B)	11 000	
Machine: cost (A)		18 000
Machine: accumulated depreciation (negative A)	8 000	
Profit on exchange of assets (balancing)		1 000
<i>Exchange of machines: machine B measured at FV of machine A</i>		

Comment: It is submitted that the intention of the wording is that the fair value of the asset given up should always be used, unless the difference between the fair value of the asset given up and the asset received are so materially different, that it is clear that the fair value of the asset received should be used instead. In this example, it is given that the difference between the two fair values of C1 000 is considered to be immaterial.

Example 5: exchange of assets where both fair values are known

A company exchanged machine A (given up) for another machine, machine B (acquired):

Machine A:

Carrying amount (cost: C18 000 and accumulated depreciation: C8 000) 10 000

Fair value 11 000

Machine B:

Fair value 15 000

The difference in fair values is considered to be *material* and the fair value of machine B is more clearly evident than the fair value of machine A.

Required:

Discuss how this exchange should be recorded, if at all.

Solution to example 5: exchange of assets where both fair values are known

The old asset must be removed from the books and replaced by the new asset at the fair value of the asset being acquired (since the difference in the fair values is considered to be material, the fair value of the asset acquired is considered to be more clearly evident than the fair value of the asset given up), being C15 000. The journal entry will be as follows:

	Debit	Credit
Machine: cost (B)	15 000	
Machine: cost (A)		18 000
Machine: accumulated depreciation (negative A)	8 000	
Profit on exchange of assets (balancing)		5 000
<i>Exchange of machines: machine B measured at its fair value</i>		

Example 6: exchange of assets where the fair value of the asset given up is unknown

A company exchanges machine A (given up) for another machine, machine B (acquired):

Machine A:

Carrying amount (cost: C18 000 and accumulated depreciation: C8 000) 10 000

Fair value is not reliably determinable

Machine B:

Fair value 12 000

Required:

Discuss how this exchange should be recorded, if at all.

Solution to example 6: exchange of assets where the fair value of the asset given up is unknown

The *previous* asset must be removed from the books and be replaced by the fair value of the *newly acquired* asset (since the fair value of the previous asset is not available), being C12 000. The journal entry will be as follows:

	Debit	Credit
Machine: cost (B)	12 000	
Machine: cost (A)		18 000
Machine: accumulated depreciation (negative A)	8 000	
Profit on exchange of assets		2 000
<i>Exchange of machines: machine B measured at its fair value</i>		

Example 7: exchange of assets with no commercial substance

Assume that a machine, with a carrying amount of C45 000 (cost: C50 000 and accumulated depreciation: C5 000), is given in exchange for another similar machine. The exchange is considered to have no impact on future cash flows (or present value thereof) of the business as a whole.

Required:

Discuss how this should be recorded in the general ledger, if at all, assuming that:

- the fair value of the machine *given up* is C30 000 (the fair value of the newly acquired machine is unavailable);
- the fair value of the *newly acquired* machine is C30 000 (the fair value of the machine given up is unavailable); and
- neither the fair value of the machine given up nor the machine acquired is available.

Solution to example 7A: exchange of assets with no commercial substance

If the difference is considered to be material and if the fair value is considered to be an indication of the impairment of the asset, the carrying amount of the asset being given up must first be impaired to its fair value. The journal would be as follows:

	Debit	Credit
Impairment loss (E)	15 000	
Machine: accumulated depreciation and impairment loss (-A)		15 000
<i>Adjustment for the impairment loss of machine given up:</i>		
<i>C45 000 – C30 000 = C15 000</i>		

Solution to example 7B: exchange of assets with no commercial substance

The material difference between the carrying amount of the asset given up and the fair value of the acquired asset suggests one of two things. Either:

- i. the two assets are truly similar but the asset given up is impaired; or
- ii. the two assets are not truly similar and therefore the loss on exchange must result from a bad business decision (the entity disposed of the asset for less than its true value).

7B(i) The assets are truly similar

The fair value of the two machines should be similar. If the difference is considered to be material and if the fair value is considered to be an indication of the impairment of the asset, the machine given up will first have to be impaired to its fair value as follows:

	Debit	Credit
Impairment loss (E)	15 000	
Vehicles: accumulated depreciation and impairment loss (-A)		15 000
<i>Adjustment for the impairment loss of the machine given up:</i>		
<i>C45 000 – C30 000 = C15 000</i>		

No further entry is required since the carrying amount of the previous machine has already been adjusted to the fair value of the newly acquired machine: C30 000.

7B(ii) The assets are not truly similar

If, although not reliably determinable, the fair value of the machine given up is alleged to roughly equate its carrying amount of C45 000 and the fair value of the acquired machine truly is C30 000, then the newly acquired machine must be measured at its own fair value (since this is more clearly evident or relevant than the fair value of the previous machine).

	Debit	Credit
Machine: cost (newly acquired)	30 000	
Machine: cost (previous)		50 000
Machine: accumulated depreciation (previous)	5 000	
Loss on exchange of machines (45 000 – 30 000)	15 000	
<i>Exchange of dissimilar machines</i>		

Solution to example 7C: exchange of similar assets where neither fair value is available

No adjustment is needed since the new machine must be assumed to be worth the same as the carrying amount of the machine that was given up.

Example 8: exchange of assets involving cash and cash equivalents

A company exchanged a vehicle and cash for a machine:

	C
Vehicle:	
Carrying amount (cost: C18 000 and accumulated depreciation: C8 000)	10 000
Fair value	10 000
Cash:	1 000
Machine:	
Fair value	unknown

Required:

Show the related journal entry.

Solution to example 8: exchange of assets involving cash and cash equivalents

	Debit	Credit
Vehicle: accumulated depreciation and impairment loss	8 000	
Vehicle: cost		18 000
Bank		1 000
Cost: machine (fair value of old vehicle + cash paid)	11 000	
<i>Vehicle and cash exchanged for a machine</i>		

Example 9: exchange of assets involving cash and cash equivalents

A company exchanged a one-of-a-kind vehicle, designed and built by the entity, together with C1 000 in cash for a machine.

	C
Vehicle:	
Carrying amount (cost: C18 000 and accumulated depreciation: C8 000)	10 000
Fair value (the vehicle is unique and there is therefore no active market for it)	unknown
Cash:	
	1 000
Machine:	
Fair value	12 000

Required:

Show the related journal entry.

Solution to example 9: exchange of assets involving cash and cash equivalents

	Debit	Credit
Vehicle: accumulated depreciation and impairment loss	8 000	
Vehicle: cost		18 000
Machine: cost: (fair value of new machine)	12 000	
Bank		1 000
Profit on exchange of assets		1 000
<i>Machine and cash exchanged for a vehicle</i>		

Since the fair value of the asset given up is not available, the fair value of the acquired asset is used instead.

4.2.2.2 Government grants (IAS 20)

Government grants are often provided to assist businesses in starting up. This obviously benefits the business but also benefits the government through creation of jobs and thus a larger base of taxpayers.

Government grants can be analysed into two basic categories. Either the company is granted:

- the actual non-monetary asset such as a casino licence; or
- cash.

If the company is granted the actual non-monetary asset (e.g. a casino licence or land), the company will measure the transaction at the asset's fair value and:

- debit the asset; and
- credit a deferred income (equity) account.

If the company is granted the actual non-monetary asset (e.g. a casino licence or land), but is required to pay a small sum of cash (a nominal amount), the company may choose to measure the asset at its fair value or at the nominal amount to be paid.

If the entity chooses to measure the asset at its fair value even though a small amount is paid for the grant, the journal is similar to the one above:

- debit the asset (fair value);
- credit bank (nominal amount); and
- credit a deferred income (equity) account (fair value – nominal amount).

If the entity chooses to measure the asset at the nominal amount to be paid for the grant, the journal is as follows (notice how the value of the grant is not recognised at all):

- debit the asset (at its nominal cost); and
- credit bank.

Example 10: grant asset – fair value or nominal amount

The South African government grants a South African company a licence to fish off the coast of Cape Town, South Africa.

The fair value of the licence is C50 000 and the company is required to pay a relatively small sum of C1 000 for the licence.

Required:

Show the journal entries assuming:

- The company chooses to measure the licence at its fair value.
- The company chooses to measure the licence at its nominal amount.

Solution to example 10A: grant asset – fair value

		Debit	Credit
Fishing licence (asset)	<i>Given</i>	50 000	
Deferred fishing income	<i>50 000 – 1 000</i>		49 000
Bank	<i>Given</i>		1 000
<i>Recognising the licence granted by the government at fair value</i>			

Solution to example 10B: grant asset – nominal amount

		Debit	Credit
Fishing licence (asset)	<i>Given</i>	1 000	
Bank	<i>Given</i>		1 000
<i>Recognising the licence granted by the government at nominal value</i>			

If the grant is cash to be used in the acquisition of another asset (as opposed to cash to be used to fund expenses or provided simply as financial assistance), the company will:

- debit bank with the grant (or debit another asset account if the grant is not cash); and
- credit the cost of the asset being subsidised (or credit a deferred income account).

Example 11: government grant to acquire an asset

The government grants the company C50 000 in cash in order to acquire a nuclear plant. The company then purchases the nuclear plant for C80 000.

Required:

Show the journal entries relating to the grant and the subsequent purchase of the nuclear plant.

Solution to example 11: government grant to acquire an asset

	Debit	Credit
Bank	50 000	
Nuclear plant: cost		50 000
<i>Receipt of government grant to acquire a nuclear plant</i>		
Nuclear plant: cost	80 000	
Bank		80 000
<i>Purchase of nuclear plant</i>		

Notice that the nuclear plant has a cost of C30 000 instead of C80 000 because the cost of its acquisition was subsidised by the government.

4.3 Initial costs

Costs that should be included in the initial cost of an asset are those that are necessary to bring the asset to a location and condition suitable for its intended use. It is calculated as follows:

- purchase price;
- directly attributable costs; and
- initial estimates of future costs where the entity has the obligation to incur these costs.

4.3.1 Purchase price

The term purchase price includes import duties and non-refundable taxes. The purchase price is reduced by trade discount received and rebates received. Where the purchase price includes a tax that will be claimed back from the tax authorities, this tax is excluded from the purchase price.

4.3.2 Directly attributable costs

Directly attributable costs are those costs that are directly and necessarily incurred to:

- bring the asset to a location and condition that enables it to be used
- as intended by management.

Recognition of costs in the asset's carrying amount must stop as soon as the asset is in a location and condition that enables it to be used in the manner intended by management.

Examples of directly attributable costs include:

- cost of preparing the site;
- initial delivery and handling costs;
- installation and assembly costs;
- professional fees; and
- cost of testing that the asset is functioning correctly (net of any proceeds made from the sale of items produced during testing).

Costs that are not *directly attributable* in bringing the asset to a location and condition that enables it to be used as intended by management are not included in the cost of the asset.

Examples include:

- administration and other general overheads;
- advertising and other costs relating to introducing a new product or service; conducting business in a new location or with a new type of customer;
- cost of training staff, for example, on how to use the newly acquired asset.

Costs that were not *necessary* in bringing the asset to a location and condition that enables it to be used as intended by management are not included in the cost of the asset, for example:

- abnormal wastage;

- income and expenses that result from incidental operations occurring before or during construction of an asset (e.g. using a building site as a car park until construction starts). Costs that are incurred *after* the asset is brought to a location and condition that enables it to be used as intended by management are not included in the cost of the asset, for example:

- staff training and costs of opening new facilities; and
- initial operating losses made while demand for an asset's output increases;
- costs of moving the asset to another location; and
- costs incurred while an asset, which is now capable of being used, remains idle or is being utilised at below intended capacity.

4.3.3 Future costs

The ownership of an asset may come with an obligation to dismantle the asset, remove it and restore the site on which it is located at some stage in the future. These costs must be estimated and included in the cost of the asset.

This obligation may arise simply by purchasing the asset, or through the use of the asset. If the asset is used to manufacture inventories, however, then the cost of this obligation must not be included in the cost of the item of property, plant and equipment but must be accounted for in accordance with the standard on Inventories (IAS 2).

Example 12: initial cost

A Limited bought a special bread-making plant on 1 January 20X1, details of which follow:

	C
Purchase price (including VAT of 14%)	570 000
Import duties - non-refundable	100 000
Installation costs	30 000
Fuel (incurred when transporting the plant to the factory)	45 000
Administration costs	10 000
Staff party to celebrate the acquisition of the new plant	14 000
Staff training	12 000
Testing to ensure plant fully operational before start of production	10 980
Proceeds from sale of samples and by-products made during testing	13 000
Advertising of the 'special bread' to be made by the new plant	50 000
Initial operating loss	35 000
Estimated costs of dismantling/ removal costs at the end of its useful life (future amount payable of C70 031 present valued at a discount rate of 10%)	27 020

The initial operating loss was incurred as a result of having to dump unsold 'special bread' at sea since the advertising had not yet created sufficient demand.
The company is registered as a 'VAT vendor'.

Required:

Calculate the cost to be capitalised to the plant account.

Solution to example 12: initial cost

	€
Purchase price (excluding VAT: 570 000 x 100/114) (note 1)	500 000
Import duties - non-refundable	100 000
Installation costs	30 000
Fuel	45 000
Administration costs (note 2)	0
Staff party (note 2)	0
Staff training (note 2)	0
Testing	10 980
Proceeds from sale of samples and by-products	(13 000)
Advertising	0
Initial operating losses (note 3)	0
Estimated cost to dismantle and remove the plant at end of useful life (note 4)	27 020
Debit to the asset account	<u>700 000</u>

Note 1: since the company is registered as a VAT vendor, the VAT paid is refundable and may therefore not be capitalised.

Note 2: these costs are excluded since they are not costs directly and necessarily associated with bringing the asset to a location and condition enabling it to be used as intended by management.

Note 3: these costs are excluded because they are incurred after the asset was brought to a location and condition that enabled it to be used as intended by management.

Note 4: Since these costs will only be paid for at a future date, the credit entry will be to a liability account: a certain degree of uncertainty exists regarding the C70 031 of future costs, so the liability is classified as a provision. The liability is increased gradually over the life of the asset to the amount that is finally paid out (C70 031); the contra entry will be finance charges. See the chapter on provisions, contingent liabilities, contingent assets and events after reporting period for more information.

Example 13: initial costs involving multiple parts

BB Airlines Limited acquired a small aircraft on the 1 January 20X2.

The following costs were all incurred in January 20X2 in connection with the new aircraft:

	€'000
<i>Purchase price</i>	
Outerbody component	50 000
Engine component	70 000
Internal fittings component	20 000
<i>Other costs</i>	
Delivery costs*	500
Legal costs associated with purchase rights*	200
Costs of safety certificate	1 000

*The company considers that these costs are incurred in proportion to the purchase price across the 3 components of the aircraft.

Under local aviation authority regulations, all passenger aircraft have to be granted a safety certificate by the aviation authority, which must be renewed every 2 years.

All components have a nil residual value. The useful lives of the component parts of the aircraft have been assessed as follows:

Outerbody	30 years
Engines	10 years
Internal fittings	5 years

Required:

Determine the carrying amount of the separate components at 31 December 20X2.

Solution to example 13: initial costs involving multiple parts

		Outerbody	Engine	Interior fittings	Safety certificate
		C'000	C'000	C'000	C'000
Initial cost		50 000	70 000	20 000	0
Safety certificate					1 000
Delivery costs	$50/140 \times 500$	179	250	71	0
	$70/140 \times 500$				
	$20/140 \times 500$				
Legal costs	$50/140 \times 200$	71	100	29	0
	$70/140 \times 200$				
	$20/140 \times 200$				
		50 250	70 350	20 100	1 000
Less: depreciation	$50250/30 \text{ years}$	(1 675)	(7 035)	(4 020)	(500)
	$70350/10 \text{ years}$				
	$20100/5 \text{ years}$				
	$1000/2 \text{ years}$				
Carrying amount: 31/12/20X2		48 575	63 315	16 080	500

4.4 Subsequent costs

As mentioned earlier, further costs are frequently incurred in connection with an asset well after the acquisition or construction thereof. The costs can be categorised as follows:

- Day to day servicing;
- Replacement of parts
- Major inspections.

4.4.1 Day-to-day servicing

It is to be expected that an asset requires certain maintenance. Although maintenance costs may be material in amount, these should always be expensed. Typically, day-to-day servicing includes costs of labour, consumables, and small parts.

Example 14: repainting of vehicle

Assume that a delivery vehicle acquired for C100 000, is repainted one month after acquisition. The cost of repainting is C3 000. The vehicle is to be used as a delivery vehicle.

Required:

Briefly discuss whether or not this cost must be capitalised to the vehicle.

Solution to example 14: repainting of vehicle

The repainting of the vehicle will not increase the useful life of the vehicle and will not increase the performance thereof. Therefore, the cost of repainting the vehicle should be expensed. This is because the estimated future economic benefits remaining in the vehicle immediately before the painting thereof have not been increased by the act of painting it. Since the reason for the painting was probably for advertising or maintenance purposes, they should be expensed as such.

	Debit	Credit
Advertising/ maintenance expense	3 000	
Bank/ creditors		3 000
<i>Painting of vehicle</i>		

Example 15: purchase of engine

Assume that the delivery vehicle acquired in example 14 is acquired without an engine. Subsequent to the original acquisition of the vehicle, a new engine is purchased at a cost of C8 000.

Required:

Briefly discuss whether this cost may be capitalised to the vehicle.

Solution to example 15: purchase of engine

Since the vehicle is to be used as a delivery vehicle, no future economic benefits would be possible without the engine. The subsequent installation of the engine makes future economic benefits possible and thus the cost of the engine should be capitalised. This cost, although incurred subsequent to the purchase of the vehicle, is an initial cost, not a 'subsequent cost', in that it is a cost that was required in order to bring the asset to a location and condition that enabled it to be used. If this engine is considered to have a significant cost and a materially different useful life to that of the vehicle, then it must be capitalised as a separate part of the vehicle.

	Debit	Credit
Vehicle: cost	8 000	
Bank/ creditors		8 000
<i>Purchase of engine for the vehicle</i>		

Example 16: engine overhaul - extending useful life

Assume that the delivery vehicle acquired in example 15 has its engine overhauled a few days after acquisition. This overhaul, costing C2 000, is performed in order to extend the useful life of the engine.

Required:

Briefly discuss whether this cost must be capitalised to the vehicle.

Solution to example 16: engine overhaul - extending useful life

Since the vehicle is to be used as a delivery vehicle, future economic benefits would flow for as long as the engine (and other parts) remained in working order. The increase in the life of the engine represents an increase in the future economic benefits that were expected immediately prior to the overhaul. If the increase in the useful life and the future economic benefits during this extended useful life are probable, the cost of the overhaul meets the recognition criteria and must be capitalised as 'subsequent cost'.

	Debit	Credit
Vehicle: cost	2 000	
Bank/ creditors		2 000
<i>Payment for engine overhaul</i>		

If the overhaul is a significant cost and results in the engine having a materially longer useful life than the vehicle shell, then the carrying amount of the engine (together with the cost of the overhaul) should be removed from the 'vehicle shell' account and recorded as a separate part of the vehicle. In this case, the journals would be as follows:

	Debit	Credit
Vehicle engine: cost	8 000	
Vehicle (without engine): cost		8 000
<i>Separation of the components: engine and vehicle shell</i>		
Vehicle engine: cost	2 000	
Bank/ creditors		2 000
<i>Payment for engine overhaul</i>		

The cost of the engine (8 000 + 2 000 = 10 000) will be depreciated separately from the cost of the vehicle (100 000).

Example 17: servicing an engine

Assume that the engine acquired in example 15 has its engine serviced 6 months after acquisition.

Required:

Briefly discuss whether this cost must be capitalised.

Solution to example 17: servicing an engine

The cost of the service should not be capitalised since it is necessary in order to maintain the level of expected future economic benefits assessed immediately before the service and should be expensed as maintenance costs instead.

4.4.2 Replacement of parts

4.4.2.1 Derecognition of the old part

Where a part of an asset needs to be replaced, the carrying amount of this old part must be removed from the statement of financial position (derecognised) and the cost of the replacement part must be capitalised. If the old part was not originally recorded as a separate part of the asset, the carrying amount thereof will need to be estimated (see example 19 for an example).

4.4.2.2 Capitalisation of the new part

Assuming that the definitions and recognition criteria are met, the cost of the replacement part must be recognised as an asset. If the cost of this new part is significant in relation to the value of the asset as a whole and has a useful life and method of depreciation that is different to the rest of the asset, then this new part must be recorded in a *separate* asset account. All immaterial replacement parts should, however, be expensed as day-to-day servicing.

Example 18: replacement of a part

Bigboy Limited owned a car that had a carrying amount of C30 000 on 1 January 20X1. Details of this cars, recorded as two significant parts, were as follows on 1 January 20X1:

- Car structure: C20 000 – with a remaining useful life of 10 years and a nil residual value
- Car engine: C10 000 – with a remaining useful life of 2 years and a nil residual value

This old engine (that had originally cost C12 000) needed to be replaced during 20X1 due to the car having been driven without oil. The engine was replaced on 1 October 20X1 at a cost of C15 000. The new engine has a useful life of 3 years and a nil residual value. The straight line method is used.

Required:

Show the journal entries relating to the purchase of the new engine in 20X1.

Solution to example 18: replacement of a part

1 October 20X1	Debit	Credit
Depreciation - vehicle	3 750	
Vehicle engine: accumulated depreciation		3 750
<i>Depreciation of the vehicle's engine to date of replacement:</i>		
<i>Structure: $(10\,000 - 0) / 2 \text{ years} \times 9/12$</i>		
Impairment loss - vehicle	6 250	
Vehicle engine: accumulated depreciation and impairment loss		6 250
<i>Impairment of the vehicle's engine to date of replacement:</i>		
<i>Structure: $10\,000 - 3\,750$</i>		
1 October 20X1 continued ...	Debit	Credit
Vehicle engine: accumulated depreciation and impairment loss	12 000	
Vehicle engine: cost		12 000
<i>Derecognition of old engine:</i>		
<i>Cost: 12 000 (given)</i>		
<i>Accumulated depreciation: $12\,000 - 10\,000 + 3\,750 + 6\,250$</i>		
Vehicle engine: cost	15 000	
Bank/ creditors		15 000
<i>Purchase of new engine</i>		
31 December 20X1		
Depreciation - vehicle	3 250	
Vehicle engine: accumulated depreciation		1 250
Vehicle structure: accumulated depreciation		2 000
<i>Depreciation of the vehicle at year end:</i>		
<i>New engine: $(15\,000 - 0) / 3 \text{ years} \times 3/12$</i>		
<i>Structure: $(20\,000 - 0) / 10 \text{ years} \times 12/12$</i>		

Example 19: replacement of a part that was not previously identified

An asset is purchased for C1 000 cash on January 20X1, on which date the estimated useful life thereof is estimated to be 10 years. No significant parts were identified on this date.

On January 20X2, the engine of this asset seized up and had to be replaced. A new engine was installed (on the same day) at a cost of C500 cash. It was estimated that the original engine, when originally purchased as part of the asset, was worth C300. The estimated useful life of the new engine is 5 years.

Required:

Show the journals in 20X2.

Solution to example 19: replacement of a part that was not previously identified

Calculations:	Original asset	Original engine	Asset without engine
Cost: January 20X1	1 000	300	700
Accum. depreciation: $(1\,000/10 \times 1)$ and $(300/10 \times 1)$	(100)	(30)	(70)
Carrying amount: December 20X1	900	270	630

Journals:**1 January 20X2**

	Debit	Credit
Impairment of engine (expense)	270	
Engine: accumulated depreciation and impairment losses		270
<i>Impairment of carrying amount of previous engine</i>		
Engine: accumulated depreciation and impairment losses	300	
Engine: cost		300
<i>Derecognition of engine (engine write-off)</i>		
Engine: cost	500	
Bank		500
<i>Purchase of new engine</i>		

31st December 20X2

	Debit	Credit
Depreciation	100	
Engine: accumulated depreciation		100
<i>Depreciation of new, separate engine: C500/ 5 years</i>		
Depreciation	70	
Asset without engine: accumulated depreciation		70
<i>Depreciation of the asset excluding the engine: C700/ 10 years or C630/ 9 remaining years</i>		

4.4.3 Major inspections

When an asset requires 'regular major inspections as a condition to its continued use', (an obvious example, given in the IAS 16.14, being an aircraft), then the cost thereof, (or an estimate thereof), must be capitalised as soon as the cost is incurred or an obligation arises. This inspection will be recognised as an asset.

This 'major inspection' asset is then depreciated over the period until the date of the next inspection. If the cost of the inspection is significant and the rate and method of depreciation

of the inspection differs from that applied to the other parts of the related asset, then the cost of the inspection must be recognised as a separate part.

Example 20: major inspection

New legislation was promulgated on 1 September 20X1 whereby all public transport buses are required to undergo regular major inspections every 2 years. Vroom Limited owns a bus that has a carrying amount of C80 000 as at 1 January 20X1.

This bus is depreciated on the straight-line method to a nil residual value and had a remaining useful life of 10 years on 1 January 20X1.

A major inspection of this bus was performed on 1 October 20X1 at a cost of C20 000.

Required:

Show the journal entry relating to the major inspection and present the bus in the detailed statement of financial position of Vroom Limited as at 31 December 20X1.

Solution to example 20: major inspection

a) Journals

1 October 20X1

	Debit	Credit
Bus major inspection: cost	20 000	
Bank		20 000

Major inspection performed on 1 October 20X1

31 December 20X1

Depreciation - bus	10 500	
Bus: accumulated depreciation		8 000
Bus major inspection: accumulated depreciation		2 500

Depreciation of bus:

Physical bus: $(80\,000 - 0) / 10 \text{ years} \times 1 \text{ year}$

Major inspection of bus: $20\,000 / 2 \text{ years} \times 3 / 12$

Notice that the inspection is recognised on 1 October 20X1 and not on 1 September 20X1: the pure enactment of the new law does not create an obligation for Vroom Limited since it can choose to simply not drive the bus publicly. The obligation therefore arises when the inspection is performed.

Notice that the major inspection has a different useful life to that of the physical bus. Its useful life is 2 years after which a new inspection will have to be performed. The inspection occurred 3 months before year-end and therefore the inspection was depreciated over these 3 months.

b) Disclosure

Vroom Limited

Statement of financial position (extracts)

As at 31 December 20X1

ASSETS	20X1
Non-current Assets	C
Bus	80 000 + 20 000 – 8 000 – 2 500
	89 500

If a company purchases an asset that, on the date of purchase had been previously inspected and thus not requiring a further inspection for a significant period of time, the purchase cost

should be separated into the cost that relates to the physical asset (or its separate significant parts) and the cost that relates to the balance of the previous major inspection purchased. The cost of the inspection does not need to be separately identified in the sale documentation i.e. an estimate of the cost can be made based on the expected cost of future similar inspections.

Example 21: major inspection purchased as part of the asset

A ship is purchased for C1,3 million cash on January 20X1 when its economic useful life was estimated to be 10 years.

This ship may only be used if it is inspected for faults every 3 years.

The 20X0 inspection was done on December 20X0 and is included in the purchase price (although the exact cost thereof is not known).

The next inspection is due on December 20X3. The expected cost of this future inspection is C400 000 and the present value thereof is C300 000.

Required:

Show how this should be recorded in 20X1.

Solution to example 21: major inspection purchased as part of the asset

January 20X1	Debit	Credit
Ship structure: cost (asset)	1 000 000	
Ship major inspection: cost (asset)	300 000	
Bank		1 300 000
<i>Purchase of ship: 1300K – 300K(estimated 20X0 inspection costs based on the present value of the expected 20X3 inspection costs)</i>		
<hr/>		
December 20X1		
Depreciation - ship	200 000	
Ship structure: accumulated depreciation		100 000
Ship major inspection: accumulated depreciation		100 000
<i>Depreciation of ship: 1 000 000/ 10 years</i>		
<i>Depreciation of major inspection: 300 000/ 3 years</i>		
<hr/>		

Example 22: major inspection – de-recognition

Use the same information as that provided in example 21 and that on December 20X3 the first major inspection is performed at a cost of C400 000. New legislation now requires that major inspections be performed every 2 years from now. The next major inspection is estimated to cost C600 000.

Required:

Show the journals in 20X2, 20X3 and 20X4.

Solution to example 22: major inspection – de-recognition

December 20X2	Debit	Credit
Depreciation - ship	200 000	
Ship structure: accumulated depreciation		100 000
Ship major inspection: accumulated depreciation		100 000
<i>Depreciation of ship: 1 000 000/ 10 years</i>		
<i>Depreciation of major inspection: 300 000/ 3 years</i>		
December 20X3		
Depreciation	200 000	
Ship structure: accumulated depreciation		100 000
Ship major inspection: accumulated depreciation		100 000
<i>Depreciation of ship: 1 000 000/ 10 years</i>		
<i>Depreciation of major inspection: 300 000/ 3 years</i>		
Ship major inspection: accumulated depreciation (20X0)	300 000	
Ship major inspection: cost (20X0)		300 000
Ship major inspection: cost (20X3)	400 000	
Bank		400 000
<i>Payment: 20X3 major inspection & derecognition: 20X0 inspection</i>		
December 20X4		
Depreciation	300 000	
Ship structure: accumulated depreciation		100 000
Ship major inspection: accumulated depreciation		200 000
<i>Depreciation of ship: 1 000 000/ 10 years</i>		
<i>Depreciation of major inspection: 400 000/ 2 years</i>		

Comment:

- 1) The estimated cost of the first (20X0) major inspection paid for by the company is fully depreciated by 31st December 20X3.
- 2) The cost of the next major inspection, due on 31st December 20X5, may not be provided for since there is no present obligation (the ship may be sold before this date, in which case, the cost of the major inspection would be avoided).

5. Subsequent measurement: depreciation**5.1 Overview**

All property, plant and equipment, with the exception of land (in most cases), should be depreciated. In certain cases, however, land *may* have a limited useful life (e.g. a quarry or a landfill site), in which case it must be depreciated.

The depreciable amount (cost less residual value) must be allocated over the expected useful life, from the time that the asset is available for use and using a method that reflects the expected pattern of the flow of future economic benefits. Professional judgement, borne through experience, is what is largely required in order to determine each of the following:

- the residual value;
- the useful life; and
- the method of depreciation.

Property, plant and equipment is depreciated on a significant parts basis, which means that each part of an asset that has a significant cost, different useful life or pattern of future economic benefits is recognised and depreciated separately. For example, an aircraft has an engine, a shell, seats and so on, each of these parts is being 'used up' at different rates. This means that an engine could be depreciated over 3 years straight-line, and the seats over 10 years reducing balance and so on.

5.2 Residual value

The residual value is calculated as follows:

- expected proceeds on disposal
- *less* the expected costs of disposal.

The calculation of the residual value entails estimating the:

- expected proceeds on disposal: this is the amount for which the entity would be able to sell the asset assuming it had reached the end of its useful life; and
- expected costs of disposal: costs that would be incurred in order to dispose of the asset.

It is necessary to review the residual value at the end of each financial year. Depreciation ceases when the residual value exceeds the carrying amount of the asset.

5.3 Method of depreciation

A variety of methods of depreciation are possible, including:

- the straight-line method (resulting in a stable depreciation expense over the asset's life);
- the diminishing balance method (resulting in a decreasing depreciation expense over the asset's life); and
- the sum-of-the-units method, now also known as the units of production method, (this results in a fluctuating depreciation expense over the useful life of the asset).

The method chosen should match the generation of future economic benefits expected through the use of the asset.

The method of depreciation must be reviewed at the end of each financial year.

5.4 Useful life

Depreciation begins when an asset is available for use (not from the date that it was actually brought into use). It should be noted that depreciation does not cease when an asset is temporarily idle. Depreciation ceases at the earlier of date that the asset is classified as held for sale in accordance with IFRS 5 and the date that the asset is derecognised.

Determining the useful life involves a careful consideration of many factors including:

- 'the expected usage of the asset' (for example, the total number of units expected to be manufactured by a plant);
- 'the expected physical wear and tear' on the asset (for instance, this would be less in a company that has a repair and maintenance programme than in another company that does not have such a programme);
- 'technical or commercial obsolescence', which may shorten the asset's useful life; and
- other limits on the asset's useful life, including legal limits (with the result that the useful life to the *company* may be shorter than the asset's *actual* useful life).

The useful life of an asset must be reviewed at the end of each financial year.

5.5 Depreciating the whole asset or the parts thereof

It may, for depreciation purposes, be more accurate to separately value each part of an asset and then depreciate each of these parts individually, rather than depreciating the asset as a whole. This is suitable when the asset comprises a variety of significant parts that will, for example, be 'used up' at different rates or in a different pattern (i.e. where different methods of depreciation are appropriate).

5.6 Depreciation journal

Depreciation is usually expensed, but on occasion, a business may use an existing asset to build another asset. In this case, the depreciation charge may be capitalised to the cost of the newly constructed asset instead (i.e. included in the constructed asset's carrying amount).

	Debit	Credit
Depreciation (E) <u>or</u> Constructed Asset (A)	xxx	
Asset name: Accumulated depreciation		xxx
<i>Depreciation of an asset</i>		

5.7 Change in estimate

If a company decides that any one of the three factors (residual value, useful life or method of depreciation) needs to be changed, this must be adjusted for as a change in accounting estimate (in terms of IAS 8).

Example 23: depreciation calculation with many dates

Braaimaster Limited bought an asset for C100 000 on 1 January 20X1. It was available for use on 1 February 20X1 and was brought into use on 1 March 20X1. It was temporarily idle for the month of April 20X1. Management estimated that it had a useful life of 10 years and a nil residual value. The straight-line method is considered to be appropriate for this asset. The asset was re-classified as an asset that is held for sale on 31 October 20X1.

Required:

Calculate the depreciation on this asset for the year ended 31 December 20X1.

Solution to example 23: depreciation calculation with many dates

The asset is depreciated from the time that it is available for use, being 1 February 20X1. Depreciation must not cease while the asset is temporarily idle in April 20X1. Depreciation ceases, however, on 31 October 20X1, when the asset is classified as held for sale.

$$\text{Depreciation in 20X1} = (100\,000 - 0) / 10 \text{ years} \times 9 / 12 = 7\,500$$

Example 24: depreciable amount and straight-line depreciation

An asset is purchased at a cost of C110 000 on 1 January 20X1. The asset has a total useful life of 10 years but the company will dispose of the asset after 5 years for an estimated C30 000 (present value). This figure has been arrived at before taking into consideration the present value of the expected costs of disposal of C20 000. The straight-line method of depreciation is to be used for this asset.

Required:

Calculate the depreciation for the year ended 31 December 20X1.

Solution to example 24: depreciable amount and straight line depreciation

Residual value:	C
Expected proceeds on disposal (in current terms)	10 000
Less expected costs of disposal (in current terms)	30 000
	(20 000)
Depreciable amount:	100 000
Cost	110 000
Less residual value	(10 000)
Useful life:	5 years
The shorter of:	
Total useful life of the asset	10 years
The useful life to the business	5 years
Depreciation 20X1:	C20 000
Depreciable amount, divided by	C100 000
Useful life	5 years

Since the asset is depreciated using the straight-line method, the depreciation will remain constant at C20 000 per annum for each of the remaining 4 years of its useful life.

Example 25: depreciation using reducing balance

Koos Limited purchased an asset on 1 January 20X1 for C100 000. The rate of depreciation to be used is 10% and the residual value is zero. The method appropriate to the use of this asset is the reducing balance.

Required:

Calculate the depreciation on this asset for the year ended 31 December 20X1, 20X2 and 20X3.

Solution to example 25: depreciation using reducing balance

	20X1	20X2	20X3
Cost	100 000	100 000	100 000
Less accumulated depreciation	0	10 000	19 000
Carrying amount 1 January	100 000	90 000	81 000
Less residual value	0	0	0
Depreciable amount	100 000	90 000	81 000
Multiplied by	X	X	X
Rate	10%	10%	10%
Depreciation	10 000	9 000	8 100
Accumulated depreciation to 31 December	10 000	19 000	27 100

Example 26: depreciation using sum-of-the-units

Assume that the company intends to depreciate the asset referred to in the previous example using the sum-of-the-units method (the *depreciable amount* was calculated to be C100 000). The asset is expected to be able to produce 100 000 units in its lifetime. In the first year (20X1) 10 000 units are produced and in the second year (20X2), 15 000 units are produced.

Required:

Calculate the depreciation for the year ended 31 December 20X1 and 20X2 using the sum-of-the-units method.

Solution to example 26: depreciation using sum-of-the-units

Depreciable amount: Given: 100 000

Depreciation: 31 December 20X1: C100 000 / 100 000 units x 10 000 units = C10 000

Depreciation: 31 December 20X2: C100 000 / 100 000 units x 15 000 units = C15 000

Where there is a change in expected output (estimated total production in units), there are two methods that may then be used to calculate the revised depreciation: the reallocation method and cumulative catch-up method – although the cumulative catch-up method has traditionally been used (see the chapter on ‘accounting policies, estimates and correction of errors’). This effect of a change in expected output is best explained by way of example.

Example 27: sum-of-the-units depreciation with a change in total expected production

Assume the same information provided in example 26 and assume further that, in 20X2, the estimated *total* production was changed to 90 000 units (from 100 000 units).

Required:

Calculate the depreciation charge for 20X2

Solution to example 27: sum-of-the-units depreciation, change in expected production**Depreciation for 20X2**

- *Cumulative catch-up method:*

Accumulated depreciation to 31/12/20X2: C100 000 / 90 000 units x (10 000u + 15 000u) = C27 777

Depreciation in 20X2: acc. depr. 20X2 – acc. depr. 20X1 = C27 777 – C10 000 = C17 777

- *Reallocation method:*

Carrying amount 1 January 20X2: C100 000 – C10 000 = C90 000

Depreciation in 20X2: C90 000 / (90 000 – 10 000 units) x 15 000 = C16 875

Example 28: depreciation involved with a self-constructed asset

Terrace Limited was constructing another asset. The labour and material costs of constructing this asset totalled C100 000 during 20X1, all paid for in cash. Terrace Limited used one of its machines in the construction of this asset for a period of six months in 20X1. The depreciation of this machine was C20 000 for the twelve month period ending 31 December 20X1.

Required:

Show the journal entries in 20X1 relating to the asset assuming:

- The constructed asset is a plant that became available for use on 1 October 20X1 and was depreciated for 5 years to a nil residual value.
- The constructed asset is inventory, half of which was sold on 1 October 20X1.

Solution to example 28A: depreciation involved with a self-constructed plant

	Debit	Credit
Plant: cost	100 000	
Bank		100 000
<i>Payment for construction costs: labour and material</i>		
Depreciation - machine	20 000	
Machine: accumulated depreciation		20 000
<i>Depreciation of machine (given)</i>		
Plant: cost	10 000	
Depreciation - machine		10 000
<i>Allocation of depreciation of machine to plant in respect of 6 month usage thereon: $20\,000 / 12 \times 6$</i>		
Depreciation - plant	5 500	
Plant: accumulated depreciation		5 500
<i>Depreciation of plant: $(100\,000 + 10\,000 - 0) / 5 \text{ years} \times 3/12$</i>		

Solution to example 28B: depreciation involved with manufacture of inventory

	Debit	Credit
Inventory	100 000	
Bank		100 000
<i>Payment for construction costs: labour and material</i>		
Depreciation - machine	20 000	
Machine: accumulated depreciation		20 000
<i>Depreciation of machine (given)</i>		
Inventory	10 000	
Depreciation - machine		10 000
<i>Allocation of depreciation of machine to inventory in respect of 6 month usage thereon: $20\,000 / 12 \times 6$</i>		
Cost of sales	55 000	
Inventory		55 000
<i>Sale of half of the inventory: $(100\,000 + 10\,000 - 0) \times 50\%$</i>		

6. Deferred tax consequences

6.1 Explanation

There may be deferred tax consequences if, at any stage, the tax authorities do not treat an item of property plant and equipment in the same way that IAS 16 requires it to be treated.

Perhaps the best way to look at the deferred tax consequences is by considering all of the things that we currently know could happen to property, plant and equipment. We could:

- buy an asset (or part of an asset)
- depreciate an asset
- sell an asset (or part of an asset)

The deferred tax balance is affected by differences between the tax legislation and the accounting treatment as required by IAS 16.

These movements are explained in more depth in the chapters entitled 'Taxation' and 'Deferred taxation'. The chapter on 'Deferred taxation' offers examples on:

- the deferred tax implication of depreciation (example 8);
- the deferred tax implication of sales of depreciable assets (examples 9 – 12).

The following example, however, serves as a refresher on the deferred tax resulting from property, plant and equipment.

Example 29: deferred tax: purchase, depreciation and a sale

- A company buys plant on 2 January 20X0 for C100 000 in cash.
- The plant is sold on 30 June 20X2 for C80 000.
- Depreciation on plant is calculated using the straight-line basis to a nil residual value over 4 years.
- The tax authorities allow the cost of plant to be deducted from taxable profits at 20% per annum.
- The tax authorities apportion the tax deduction for part of a year.
- The company's year-end is 31 December.
- The normal income tax rate is 30%.

Required:

Calculate the deferred tax balance and adjustments and show the related journal entries.

Solution to example 29: deferred tax: purchase, depreciation and a sale

Comment: You will notice that it is not necessary to know how much the asset is sold for when calculating deferred tax. The selling price is only used when calculating the current tax charge, (see chapter 3 in this regard) since it only affects profits (it has no impact on the asset's balance). The only effect that a sale of an asset has on the asset account is that its carrying amount is reduced to zero. If you recall from earlier years of study, when disposing of an asset, you:

- transfer the carrying amount of the asset to the disposal account (debit the disposal account); then
- record the proceeds on sale, if any (credit the disposal account); and then
- transfer the net amount in the disposal account to either profit on sale (if the proceeds exceeded the carrying amount) or loss on disposal (if the carrying amount exceeded the proceeds).

W1: Deferred tax calculation

Plant	Carrying amount	Tax base	Temporary difference	Deferred taxation	Details
Balance: 1/1/20X0	0	0	0	0	
Purchase: 2 January 20X0	100 000	100 000			
Depreciation <i>100 000 / 4 years; 100 000 x 20%</i>	(25 000)	(20 000)		1 500	<i>Dr DT (SOFP) Cr Tax (SOCl)</i>
Balance: 31/12/20X0	75 000	80 000	5 000	1 500	Asset
Depreciation <i>75 000 / 3 years; 100 000 x 20%</i>	(25 000)	(20 000)		1 500	<i>Dr DT (SOFP) Cr Tax (SOCl)</i>
Balance: 31/12/20X1	50 000	60 000	10 000	3 000	Asset
Depreciation <i>50 000 / 2 years x 6 / 12; 100 000 x 20% x 6 / 12</i>	(12 500)	(10 000)			
	37 500	50 000		(3 000)	<i>Cr DT (SOFP) Dr Tax (SOCl)</i>
Sale of plant: 30 June X2 <i>CA: 50 000 – 12 500 TB: 60 000 – 10 000</i>	(37 500)	(50 000)			
Balance: 31/12/20X2	0	0	0	0	

2 January 20X0

	Debit	Credit
Plant: cost (asset)	100 000	
Bank		100 000
<i>Purchase of plant for cash</i>		

31 December 20X0

Depreciation – plant	<i>(100 000 – 0) / 4 years x 12 / 12</i>	25 000	
Plant: accumulated depreciation			25 000
<i>Depreciation of plant</i>			

Deferred tax (asset)	<i>W1 or (25 000 – 20 000) x 30%</i>	1 500	
Tax expense			1 500
<i>Deferred tax adjustment – due to plant – see W1</i>			

31 December 20X1

Depreciation – plant	<i>(75 000 – 0) / 3 years x 12 / 12</i>	25 000	
Plant: accumulated depreciation			25 000
<i>Depreciation of plant</i>			

31 December 20X1 continued ...

Deferred tax (asset)	<i>W1 or (25 000 – 20 000) x 30%</i>	1 500	
Tax expense			1 500
<i>Deferred tax adjustment – due to plant – see W1</i>			

30 June 20X2

Depreciation – plant	$(50\,000 - 0) / 3 \text{ years} \times 6 / 12$	12 500	
Plant: accumulated depreciation			12 500

Depreciation of plant to date of sale (30 June 20X2)

Plant: accumulated depreciation	$25\,000 + 25\,000 + 12\,500$	62 500	
Plant: cost			100 000
Asset disposal		37 500	

Carrying amount of plant transferred to asset disposal

Bank	Given	80 000	
Asset disposal			80 000

Proceeds on sale of plant

Asset disposal	$80\,000 - 37\,500$	42 500	
Profit on sale of plant			42 500

Profit on sale of plant**31 December 20X2**

Tax expense	$W1 \text{ or } [(12\,500 - 42\,500) - (10\,000 - 50\,000)] \times 30\%$	3 000	
Deferred tax (asset)			3 000

Deferred tax adjustment – due to plant – see W1**7. Disclosure****7.1 Overview**

The disclosure of property, plant and equipment involves various financial statements:

- the statement of comprehensive income;
- the statement of financial position;
- the notes (for accounting policies, extra detail on statement of financial position and statement of comprehensive income items including any changes in estimates); and
- the statement of changes in equity.

Remember that the topic of property, plant and equipment has been split over two chapters. The disclosure requirements listed below are therefore not complete. Certain items that should also be disclosed have been ignored for the purposes of this more basic chapter. The complete disclosure requirements are provided in the next chapter.

7.2 Accounting policies and estimates

For each class of property, plant and equipment (e.g. land, buildings, machinery, etc) the following should be disclosed:

- depreciation methods used (e.g. straight-line method); and
- useful lives or depreciation rates used (e.g. 5 years or 20% per annum).

The nature and effect of a change in estimate must be disclosed in accordance with IAS 8 (the standard governing ‘accounting policies, changes in accounting estimates and errors’).

7.3 Statement of comprehensive income disclosure

Property, plant and equipment can affect the statement of comprehensive income by either:

- Reducing profit: depreciation and losses on disposals; or
- Increasing profit: reversals of depreciation (changes in estimate) and profits on disposal.

Assuming that one were to present the statement of comprehensive income using the function method, however, depreciation and losses on disposal of asset would be included in one of the categories of expense (for example: depreciation on an asset used to manufacture inventories would be included in inventories, which would then affect profit via cost of sales, depreciation on office computers would be included directly in administration costs). Similarly, profit on disposal of items of property, plant and equipment would generally be included under 'other income'.

In other words, aspects of property, plant and equipment generally do not appear as separate line items in the statement of comprehensive income but in the notes instead (a good idea is to simply include these in a note that supports the 'profit before tax' line item in the statement of comprehensive income). The standard requires that the following be disclosed in the notes to the financial statements and should be shown per class of property, plant and equipment:

- depreciation (whether recognised in profit or loss or as part of the cost of another asset);
- profits or losses on the realisation, scrapping or other disposal of a non-current asset.

7.4 Statement of financial position disclosure

The following is the main information that should be disclosed in the note to the 'property, plant and equipment' line item in the statement of financial position.

For each class of property, plant and equipment (e.g. land, buildings, machinery, etc) the following should be disclosed:

- 'gross carrying amount' and 'accumulated depreciation and impairment losses' at the beginning and end of each period;
- a reconciliation between the 'net carrying amount' at the beginning and end of the period separately disclosing each of the following where applicable:
 - additions;
 - acquisitions through business combinations;
 - disposals;
 - assets transferred to 'non-current assets held for sale' in accordance with IFRS 5;
 - depreciation;
 - other movements (e.g. currency translation differences);
- the existence and amounts of restrictions on title;
- the existence and amounts of property, plant and equipment pledged as security for a liability;
- the costs capitalised in respect of property, plant and equipment being constructed;
- the amount of any contractual commitments to acquire property, plant and equipment in the future.

7.5 Further encouraged disclosure

- the carrying amount of property, plant and equipment that is temporarily idle;
- the gross carrying amount of property, plant and equipment that is still in use but that has been fully depreciated;
- the carrying amount of property, plant and equipment that is no longer used and is to be disposed of (but not yet classified as held for sale in accordance with IFRS 5); and
- the fair value of the asset in the event that the cost model is adopted and the difference between fair value and carrying amount is material.

7.6 Sample disclosure involving property, plant and equipment

ABC Limited

Statement of financial position (extracts)

As at 31 December 20X2

		20X2	20X1
ASSETS	Note	C	C
Non-current Assets			
Property, plant and equipment	3	X	X

ABC Limited

Notes to the financial statements (extracts)

For the year ended 31 December 20X2

2. Accounting policies

2.1 Property, plant and equipment

Property, plant and equipment is shown at cost less accumulated depreciation and impairment losses. Depreciation is not provided on land. Depreciation is provided on all other property, plant and equipment over the expected economic useful life to expected residual values using the following rates and methods:

- Plant and vehicles at 10% per annum, reducing balance method.

3. Property, plant and equipment

	20X2	20X1
	C	C
Total net carrying amount:		
Land and buildings		
Plant		
Vehicles		
Land and Buildings	20X2	20X1
	C	C
Net carrying amount: 1 January		
Gross carrying amount: 1 January		
Accumulated depreciation and impairment losses: 1 January		
Depreciation		
Impairment loss/ Impairment loss reversed		
Additions		
Disposals		
Other		
Net carrying amount: 31 December		
Gross carrying amount: 31 December		
Accumulated depreciation and impairment losses: 31 Dec		

Land... (description of and its situation) acquired on... (date) for... (amount paid).
 Additions and improvements since date of acquisition have cost... (amount).

ABC Limited**Notes to the financial statements (extracts) continued ...****For the year ended 31 December 20X2****3. Property, plant and equipment continued ...****Plant**

Net carrying amount: 1 January

*Gross carrying amount: 1 January**Accumulated depreciation and impairment losses: 1 January*

Depreciation

Impairment loss/ Impairment loss reversed

Additions

Disposals

Other

Net carrying amount: 31 December

*Gross carrying amount: 31 December**Accumulated depreciation and impairment losses: 31 Dec***Vehicles**

Net carrying amount: 1 January

*Gross carrying amount: 1 January**Accumulated depreciation and impairment losses: 1 January*

Depreciation

Impairment loss/ Impairment loss reversed

Additions

Disposals

Other

Net carrying amount: 31 December

*Gross carrying amount: 31 December**Accumulated depreciation and impairment losses: 31 Dec***4. Profit before tax**

Profit before tax is stated after taking the following into account:

Depreciation on plant

Depreciation on vehicles

Impairment losses

Reversals of previous impairment losses

20X2
C**20X1**
C

Example 30: disclosure of property, plant and equipment

Flowers Limited own a variety of assets, the carrying amounts of which were as follows at 1/1/20X0:

- Land: C50 000 (cost: C50 000 on 1 January 19X7, being Lot XYZ comprising 4 000 square metres, situated in Durban North, South Africa)
- Plant: C1 800 000 (cost C3 000 000)
- Machines: C400 000 (cost: C500 000, consisting of 5 identical machines)

Other than for depreciation, there was no movement of property, plant and equipment during the year ended 31 December 20X0.

Movements during the year ended 31 December 20X1:

- Plant purchased on 1 June 20X1 for C100 000
- Machine sold on 30 June 20X1 for C70 000 (cost: C100 000, accumulated depreciation on date of sale: C35 000)

Depreciation is provided as follows:

- Land is not depreciated.
- Plant is depreciated at 20% per annum to a nil residual value.
- Machines are depreciated at 10% per annum to a nil residual value.

The company pledged both plants as security for a loan. Details of the loan will be provided in note 16.

The company used one of its machines on the installation of the new plant. This machine was used for one month (June 20X1) in this process. The plant was installed and ready to use from 1 July 20X1. Depreciation on machines is usually classified as 'other costs' in the statement of comprehensive income.

Plant is used to manufacture inventories.

Required:

Disclose the plant and all related information in the financial statements for the years ended 31 December 20X1 in accordance with the International Financial Reporting Standards. Ignore deferred tax.

Solution to example 30: disclosure of property, plant and equipment**ABC Limited****Statement of financial position (extracts)****As at 31 December 20X1**

	Note	20X1 C	20X0 C
ASSETS			
Non-current Assets			
Property, plant and equipment	4	980 750	1 600 000

ABC Limited**Notes to the financial statements (extracts)****For the year ended 31 December 20X1**

Note	20X1 C	20X0 C
------	-----------	-----------

2. Accounting policies

1.1 Property, plant and equipment

Property, plant and equipment is measured at cost less accumulated depreciation.

Depreciation is provided on all property, plant and equipment over the expected economic useful life to expected residual values using the following rates and methods:

Plant:	20% per annum, straight-line method.
Machines:	10% per annum, straight-line method
Land:	is not depreciated

3. Profit before tax

Profit before tax is stated after taking the following disclosable (income)/ expenses into account:

• Depreciation on machine		44 167	50 000
- total expense	<i>See PPE note</i>	45 000	50 000
- less capitalised to plant	$(500\,000 - 0) / 5 \times 10\% \times 1/12$	(833)	(0)
• Depreciation on plant		0	0
- total expense	<i>See PPE note</i>	610 083	600 000
- less capitalised to inventory		(610 083)	(600 000)
• Profit on sale of machine	$(70\,000 - 65\,000)$	(5 000)	0

ABC Limited

Notes to the financial statements (extracts) continued ...

For the year ended 31 December 20X1

	Note	20X1 C	20X0 C
4. Property, plant and equipment			
Property, plant and equipment comprises:			
• Land		50 000	50 000
• Machine		240 000	350 000
• Plant		690 750	1 200 000
		<u>980 750</u>	<u>1 600 000</u>

4.1 Land

Land was purchased for C50 000 on 1/1/19X7. It is described as Lot XYZ comprising 4 000 square metres. It is situated in Durban North, South Africa.

4.2 Machine

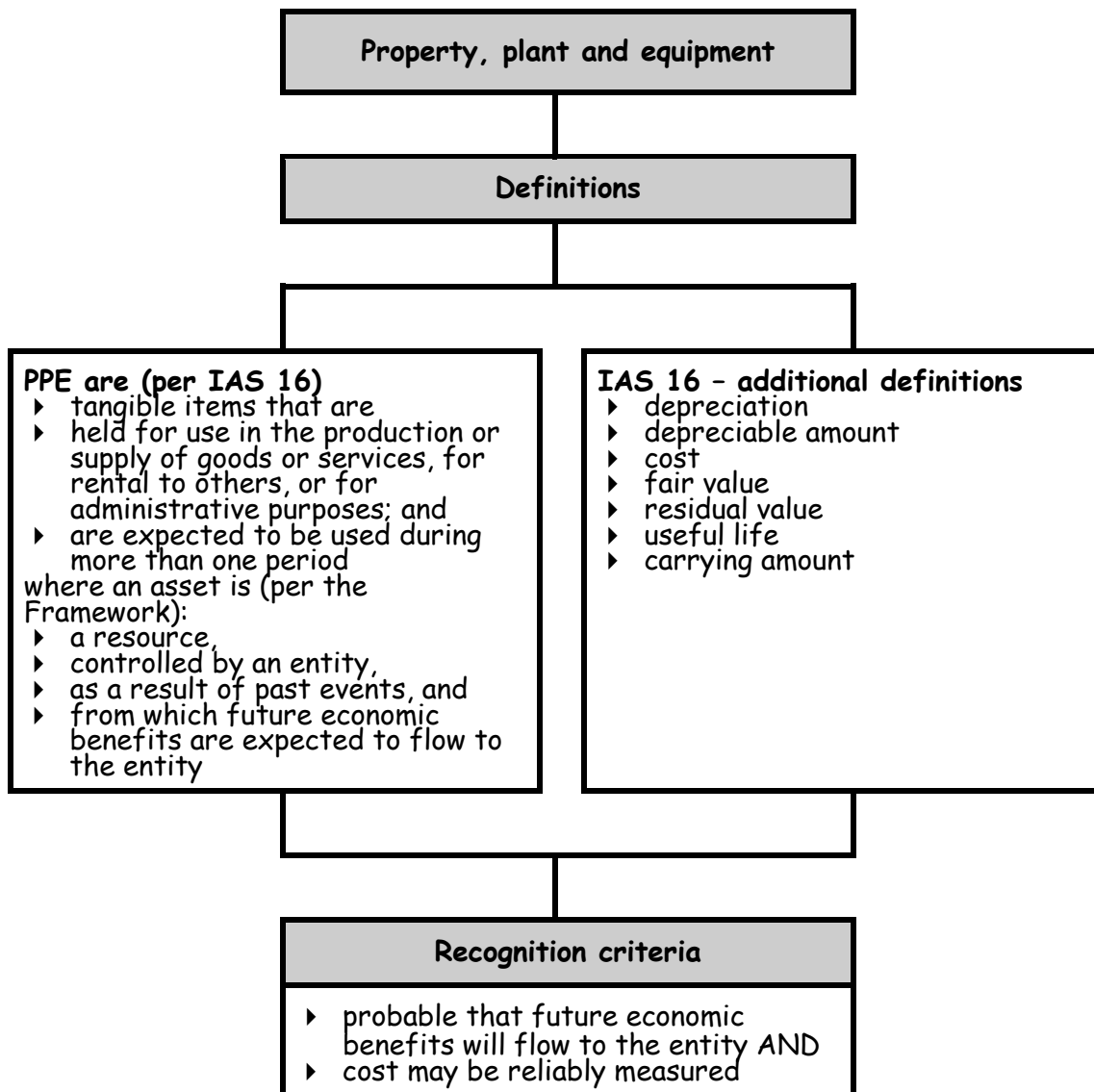
Net carrying amount – opening balance		350 000	400 000
Gross carrying amount:		500 000	500 000
Accumulated depreciation	$20X0: 500\,000 - 400\,000$	(150 000)	(100 000)
Depreciation	$20X0: (500\,000 - 0) \times 10\%$ $20X1: (500\,000 - 100\,000 - 0) \times 10\% + (100\,000 - 0) \times 10\% \times 6/12$	(45 000)	(50 000)
Disposals	$20X1: 100\,000 - 35\,000$	(65 000)	0
Net carrying amount – closing balance		240 000	350 000
Gross carrying amount	$20X1: 500\,000 - 100\,000 \text{ disposal}$	400 000	500 000
Accumulated depreciation	$20X1: 150\,000 + 45\,000 - 35\,000 \text{ disp}$	(160 000)	(150 000)

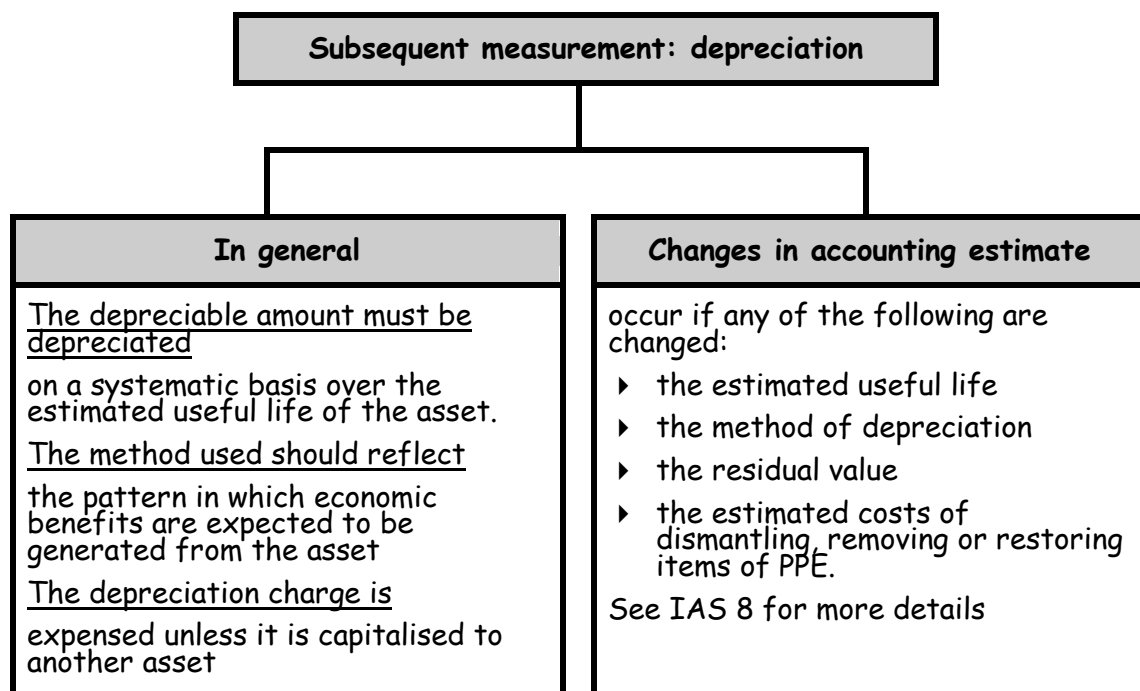
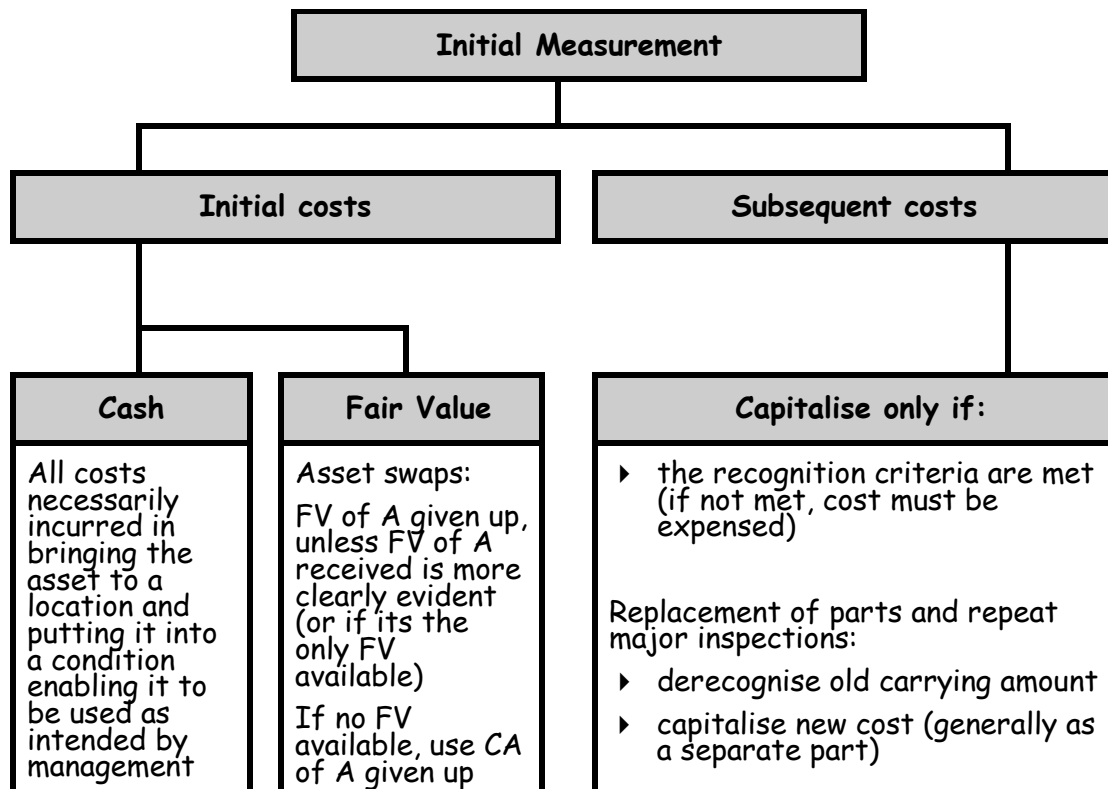
4.3 Plant

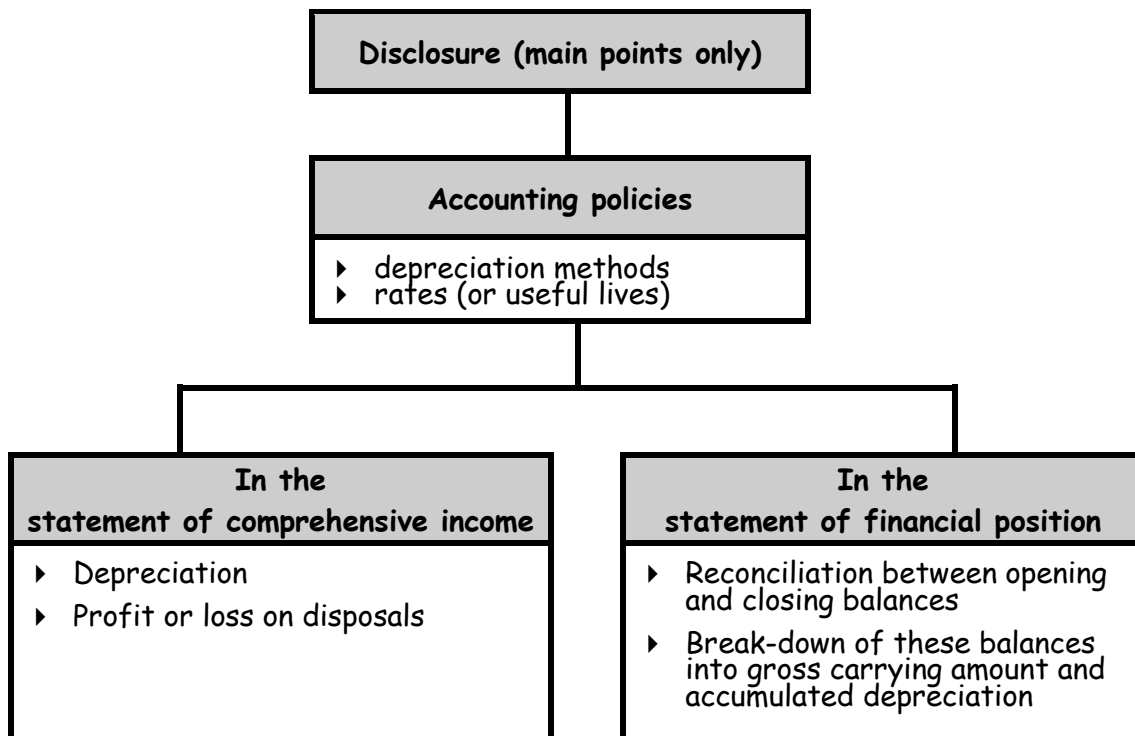
Net carrying amount – opening balance		1 200 000	1 800 000
Gross carrying amount:		3 000 000	3 000 000
Accumulated depreciation	<i>20X0: 3 000 000 – 1 800 000</i>	(1 800 000)	(1 200 000)
Additions		100 000	0
Capitalised depreciation	<i>20X1: (500 000 – 0) / 5 x 10% x 1/12</i>	833	
Depreciation	<i>20X0: (3 000 000 – 0) x 20%</i> <i>20X1: (3 000 000 – 0) x 20%</i> <i>+ (100 000 + 833 – 0) x 20%</i> <i>x 6/12</i>	(610 083)	(600 000)
Net carrying amount – closing balance		690 750	1 200 000
Gross carrying amount	<i>(3 000 000 + 100 000)</i>	3 100 833	3 000 000
Accumulated depreciation	<i>(1 800 000 + 610 000)</i>	(2 410 083)	(1 800 000)

Plant was pledged as security for a loan. Details of the loan liability are provided in note 16.

8. Summary







Chapter 6

Property, Plant and Equipment: The Models

Reference: IAS 16, SIC 21

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1. Introduction

This chapter is really a continuation of the last chapter in that both chapters relate to property, plant and equipment and both are therefore governed by IAS 16. This chapter, however, deals with the two measurement models that IAS 16 allows you to apply:

- the cost model; and
- the revaluation model.

You can choose either model but must then apply that model to an entire class of assets. This means, for example, that an entity may not use the cost model for a machine that makes bread and the revaluation model for a machine that slices bread. Both machines must be measured using the same model, say the cost model (since *machines* are a 'class of asset'). Using the cost model for machines would not, however, prevent the entity from measuring its vehicles using the revaluation model because *vehicles* are a different class of asset to *machines*.

The cost model is the simplest model and is based on the original cost. The cost model is therefore the base-line or benchmark method. This cost model is definitely easier to apply in practice (and research suggests that it is currently the most commonly used model). This does not for a minute suggest that the revaluation model is an unlikely test or exam question though since the current trend in accounting is to use fair values (instead of historic costs) for measurement purposes. Fortunately for you, however, the difficulty in applying the revaluation model is not due to complexity from an *academic* point of view, but rather it is complex to apply from a *practical* point of view (i.e. accounting and computer systems may need to be updated to enable the revaluation model to be used).

Irrespective of the model used, the asset's carrying amount is reflected through the use of the following accounts:

- cost account
- accumulated depreciation and impairment loss account.

These two accounts (accumulated depreciation account and accumulated impairment loss account) could be combined into one account instead in which case, depreciation, impairment losses and impairment losses reversed would all be accumulated in the *accumulated depreciation and impairment loss account*. This is the approach used in this book.

Irrespective of the model chosen, an asset is depreciated and tested for impairment annually. We know how to calculate depreciation (this was covered in the previous chapter). Impairments will be briefly explained in the process of this chapter, although impairment testing is explained in more detail in the next chapter.

The previous chapter was based on the cost model, with the one exception: the previous chapter did not tell you about the need to test for impairments annually. If the results of an impairment test suggest that an asset's carrying amount may be too high, it could be for the simple reason that the accumulated depreciation is insufficient, in which case extra depreciation is processed and accounted for as a change in estimate (according to IAS 8: estimates, errors and policies). If the impairment test suggests that the carrying amount may be too high, but you think the past depreciation is a fair reflection of past usage, then the asset's recoverable amount must be calculated and then compared with its carrying amount. If the recoverable amount is less than the carrying amount, the carrying amount must be reduced by processing an impairment loss adjustment. Notice the difference: the reduction in carrying amount is expensed as an *impairment loss* if it reflects 'damage' to the asset whereas a drop in value through 'normal usage' is called *depreciation* instead.

If the estimates that were used in calculating the recoverable amount change in the future, and these estimates change such that the recoverable amount then increases above the carrying amount, the previous impairment loss or part thereof may be reversed. The difference is called an *impairment loss reversed*.

The *carrying amount under the cost model* is therefore measured at:

- *cost* less accumulated depreciation and less accumulated impairment losses.

The revaluation model, whilst requiring the entity to revalue to fair value, still requires the entity to check for impairments at the end of every year.

This means that the *carrying amount under the revaluation model* is measured at:

- *fair value* less *subsequent* accumulated depreciation and accumulated impairment losses.

The calculation of the recoverable amount is covered by IAS 36, the standard governing Impairments of Assets, and is therefore covered in an entirely separate chapter. This chapter does not show you how to calculate the recoverable amount but shows you how to account for adjustments to the asset's carrying amount.

2. Definitions

Here are a further few definitions that will be used in this chapter (these are IAS 16 definitions, some of which I have modified slightly):

Impairment loss:

- the excess of
- the carrying amount
- over the recoverable amount

Fair value:

- the amount for which an asset could be exchanged between
- knowledgeable, willing parties in an arm's length transaction.

Recoverable amount:

- is the higher of the asset's
 - fair value less costs to sell and
 - value in use.

Remember that the term 'recoverable amount' is covered in IAS 36, the standard governing the Impairments of Assets. This standard is covered in an entirely separate chapter and, therefore, the definitions and calculations of 'fair value less costs to sell' and 'value in use' are covered in that separate chapter.

In order to understand the differences between the cost model and the revaluation model, there are a few more terms that are used in this chapter that you should first become familiar with. These terms are not defined in IAS 16 and are simply the author's definitions.

Historical carrying amount (depreciated historic cost):

- original cost less
- accumulated depreciation;

Actual carrying amount, when using the cost model:

- original cost
- less accumulated depreciation and impairment losses.

Actual carrying amount, when using the revaluation model:

- the fair value at date of revaluation
- less subsequent accumulated depreciation and impairment losses.

3. The cost model

3.1 The ledger accounts

The cost model relates to the measurement of the asset as follows:

- original cost
- less accumulated depreciation and
- less accumulated impairment losses.

When using the cost model, the *cost account* remains unchanged unless there is:

- a purchase of another asset (in which case, the cost of the new asset is added); or
- a sale of an asset (in which case, the cost of the sold asset is deducted).

You may keep two separate accounts for accumulated depreciation and accumulated impairment losses, but it is possible to combine these two accounts into one account. This text has opted to combine these two accounts into one account: accumulated depreciation and impairment losses.

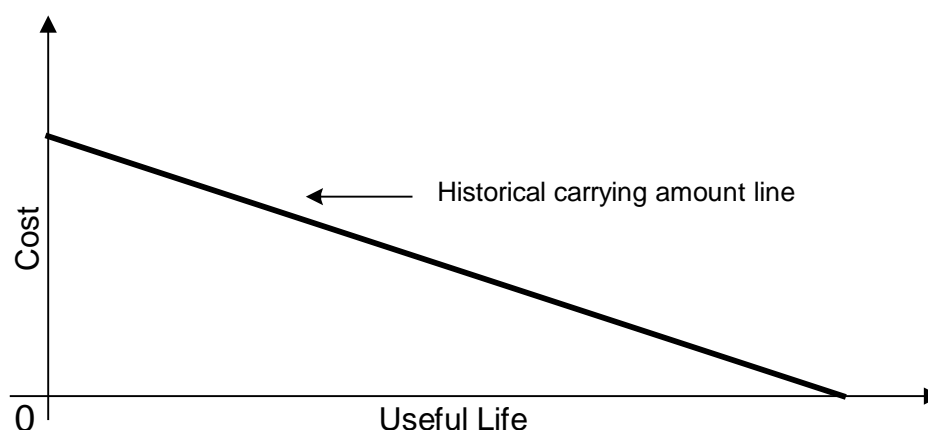
The *accumulated depreciation and impairment loss account* reflects adjustments to the carrying amount caused by:

- depreciation (usage);
- impairment losses (damage); and
- impairment losses reversed (if the damage is repaired in some way).

3.2 The magical line

When using the cost model, the value of an asset may never be increased above its historical carrying amount (the magical line). Since this historical carrying amount decreases each year, the amount of any *impairment loss reversed* (income) will not be as great as the amount of the original *impairment loss* (expense).

This is best explained by way of examples. At first you may find it useful to sketch a graph of the situation, plotting the ‘magical’ historical carrying amount line (HCA), and then later the actual carrying amount (ACA) and the recoverable amount (RA). Incidentally, most of us never grow out of the need for a graph!



Notice how the diagonal line represents a gradual reduction in the historical carrying amount as the asset is depreciated over its useful life. Look at the graph carefully: when using the cost model, the carrying amount of the asset is not allowed to be raised above this magical line (the diagonal line).

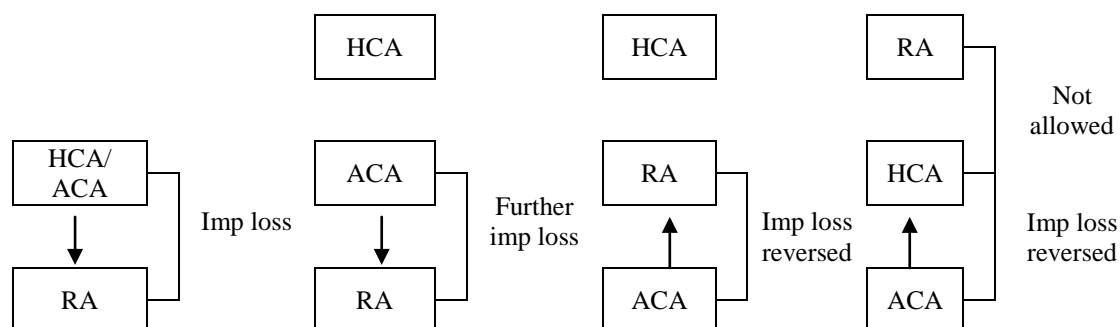
For example:

Assume that the recoverable amount is *greater* than the historical carrying amount.

- If the actual carrying amount *equalled* the historical carrying amount, no adjustment would be made since this would entail increasing the actual carrying amount above its historical carrying amount.
- If, however, the asset had previously been impaired, then the asset's actual carrying amount would be *less* than the historical carrying amount. In this case, the *actual* carrying amount must be increased, but only back up to the historical carrying amount (reversal of a previous impairment loss) but not all the way up to the recoverable amount (i.e. not above the historical carrying amount line).

Another way of showing the relationship between the recoverable amount, the carrying amount and the historical carrying amount is presented in the following block diagramme.

Block diagramme 1: Adjustments to the carrying amount using the cost model



This is much easier to understand if we look at a few examples involving numbers.

Example 1: cost model - impairment loss:

Cost of plant at 1/1/20X1:	C100 000
Depreciation:	20% straight-line per annum (i.e. over a useful life of 5 years)
Recoverable amount at 31/12/20X1:	C60 000
Recoverable amount at 31/12/20X2:	C45 000

Required:

Provide the journals for both 20X1 and 20X2.

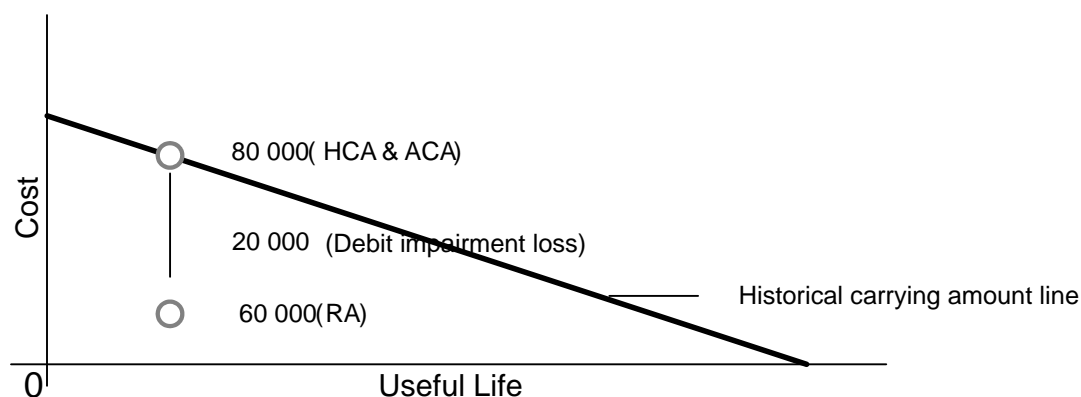
Solution to example 1: cost model - impairment loss

W1: Impairment loss: 20X1

		C
Cost 1/1/20X1	Given	100 000
Accumulated depreciation 20X1	$(100\,000 \times 20\% \times 1\text{ yr})$	(20 000)
Actual (and historic) carrying amount 31/12/20X1		80 000
Recoverable amount 31/12/20X1	Given	(60 000)
Impairment loss	The RA is less than CA	20 000

Journals: 20X1

	Debit	Credit
Depreciation – plant (expense) $(100\,000 / 5\text{ yrs remaining})$	20 000	
Plant: accumulated depreciation & impairment losses (-A)		20 000
<u>Depreciation of asset for year ended 31 December 20X1</u>		
Impairment loss – plant (expense) W1	20 000	
Plant: accumulated depreciation & impairment losses (-A)		20 000
<u>Impairment of asset as at 31 December 20X1</u>		

Graphical depiction: 31/12/20X1**Journals: 20X2**

	Debit	Credit
Depreciation – plant (expense) (60 000/4yrs remaining (5-1))	15 000	
Plant: accumulated depreciation & impairment losses (-A)		15 000
<u>Depreciation of asset for year ended 31 December 20X2</u>		

Note: no further impairment loss was required to be journalised at 31/12/20X2 since the new carrying amount (60 000 – 15 000 = 45 000) equals the recoverable amount.

Example 2: cost model - reversal of impairment loss

Cost of plant at 1/1/20X1:	C100 000
Depreciation:	20% straight-line per annum (i.e. over a useful life of 5 years)
Recoverable amount at 31/12/20X1:	C60 000

Required:

Provide the journals for 20X2, assuming that the recoverable amount at 31/12/20X2 was estimated at:

- A. C55 000; and
- B. C65 000

Solution to example 2: cost model - reversal of impairment loss**W1: Historical carrying amount 31/12/20X2:****A and B**

Cost	100 000
Accumulated depreciation (100 000 x 20% x 2yrs)	(40 000)
	<u>60 000</u>

W2: Actual carrying amount 31/12/20X2 (before the impairment testing):**A and B**

Cost	100 000
Accumulated depreciation and impairment losses	(55 000)
(depreciation 20X1: 20 000 + IL 20X1: 20 000 + depr 20X2: 15 000)	
	<u>45 000</u>

W3: Reversal of impairment loss required:**A****B**

Recoverable amount limited to historical carrying amount	55 000	60 000
(given: note that in part B that the RA of 65 000 is limited to historical carrying amount of 60 000)		
Less actual carrying amount (W2)	45 000	45 000
	<u>10 000</u>	<u>15 000</u>

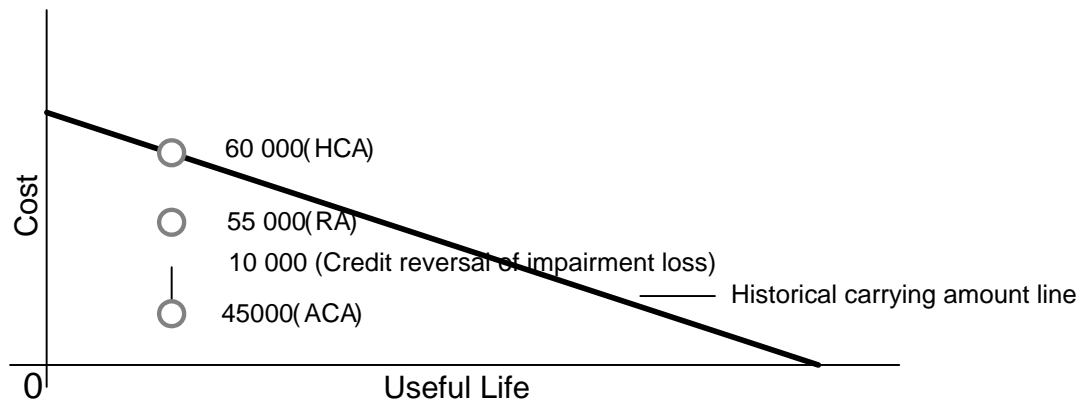
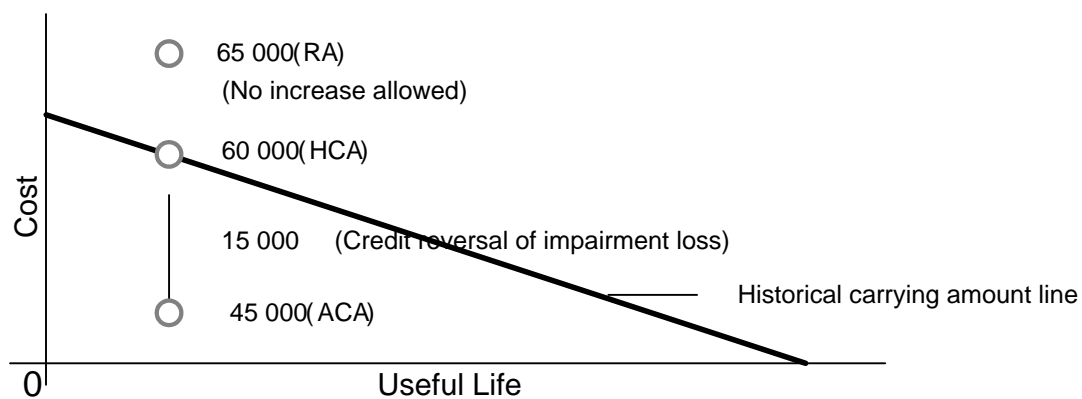
Journals: 20X2

Plant: accumulated depreciation and impairment losses (-A)

Impairment loss reversed – plant (income)

Reversal of impairment loss journal on 31/12/20X2:

A	B
Dr/ (Cr)	Dr/ (Cr)
10 000	15 000
(10 000)	(15 000)

Graph depicting A: 31/12/20X2**Graph depicting B: 31/12/20X2**

In summary, let's consider the effects of impairment testing on:

- an asset that is not depreciated: land (example 3)
- an asset that is depreciated (example 4).

Example 3: cost model – a summary example (the asset is not depreciated)

Cost of land at 1/1/20X1:	100 000
Depreciation:	This land is not depreciated
Recoverable amount	
• 31/12/20X1	120 000
• 31/12/20X2	70 000
• 31/12/20X3	90 000
• 31/12/20X4	110 000

Required:

Show the statement of financial position and ledger accounts for each of the years ended 31 December up to 20X4.

Solution to example 3: cost model - summary example (the asset is not depreciated)**Workings:**

W1: Carrying amount		Jnl No.	20X4 Dr/ (Cr)	20X3 Dr/ (Cr)	20X2 Dr/ (Cr)	20X1 Dr/ (Cr)
Opening balance		1	90 000	70 000	100 000	100 000
Depreciation	<i>Land not depreciated</i>		(0)	(0)	(0)	(0)
Adjustment:						
• above HCA	<i>Not allowed above HCA</i>		0			0
• below HCA	<i>Dr: Impairment loss</i>	2			(30 000)	
• up to HCA	<i>Cr: impairment loss reversed</i>	3; 4	10 000	20 000		
Closing balance: (lower of recoverable amount or carrying amount)			100 000	90 000	70 000	100 000
Historical carrying amount: (cost)			100 000	100 000	100 000	100 000

Ledger accounts:

Cost: land (asset)		Accumulated impairment losses: land (asset)	
1/1/ 20X1:		31/12/20X2	
Bank ⁽¹⁾	100 000	Balance c/f	30 000
	100 000		30 000
Balance	100 000	31/12/20X3	
		Imp Loss Rev ⁽³⁾	20 000
		Balance c/f	10 000
			30 000
		31/12/20X4	
		Imp Loss Rev ⁽⁴⁾	10 000
		Balance c/f	0
			10 000
		31/12/20X4	
		Balance b/f	0
Bank		Reversal of impairment loss income	
1/1/ 20X1:		31/12/20X3	
Land ⁽¹⁾	100 000	P&L	20 000
		31/12/20X4	
		P&L	10 000
Impairment loss expense		Reversal of impairment loss income	
31/12/20X2		31/12/20X3	
Acc Imp Loss ⁽²⁾	30 000	P&L	20 000
		31/12/20X4	
		P&L	10 000

Disclosure:**Company name****Statement of financial position****As at 31 December (extracts)**

ASSETS		20X4	20X3	20X2	20X1
Non-current Assets		C	C	C	C
Land	<i>20X1: Cost: 100 000 – AIL: 0</i>	100 000	90 000	70 000	100 000
	<i>20X2: Cost: 100 000 – AIL: 30 000</i>				
	<i>20X3: Cost: 100 000 – AIL: 10 000</i>				
	<i>20X4: Cost: 100 000 – AIL: 0</i>				

Example 4: cost model – a summary example (the asset is depreciated)

Cost of machine at 1/1/20X1: 100 000

Depreciation: 25% per annum to a nil residual value

Recoverable amount

• 31/12/20X1	120 000
• 31/12/20X2	40 000
• 31/12/20X3	60 000
• 31/12/20X4	0

Required:

Show the statement of financial position and ledger accounts for each of the years ended 31 December.

Solution to example 4: cost model – a summary example (the asset is depreciated)**Workings:**

W1: Carrying amount and adjustments		Jnl	20X4	20X3	20X2	20X1
		No.	Dr/ (Cr)	Dr/ (Cr)	Dr/ (Cr)	Dr/ (Cr)
Opening balance		1	25 000	40 000	75 000	100 000
Depreciation	100 000 / 4; 75 000 / 3; 40 000 / 2; 25 000 / 1	2	(25 000)	(20 000)	(25 000)	(25 000)
Adjustment:						
• above HCA	Not allowed above HCA			0		0
• up to HCA	Cr: impairment loss reversed	4		5 000		
• below HCA	Dr: Impairment loss	3			(10 000)	
Closing balance:						
lower of recoverable amount or carrying amount			0	25 000	40 000	75 000
Historical carrying amount: (cost)			0	25 000	50 000	75 000

Disclosure:**Company name****Statement of financial position****As at 31 December (extracts)**

ASSETS		20X4	20X3	20X2	20X1
Non-current Assets		C	C	C	C
Machine	20X1: Cost: 100 000 – AD&IL: 25 000 20X2: Cost: 100 000 – AD&IL: 60 000 20X3: Cost: 100 000 – AD&IL: 75 000 20X4: Cost: 100 000 – AD&IL: 100 000	0	25 000	40 000	75 000

Ledger accounts:

Cost (asset)				Bank	
1/1/ 20X1:				1/1/ 20X1:	
Bank ⁽¹⁾	100 000	Balance c/f	100 000	Machine ⁽¹⁾	100 000
	100 000		100 000		
Balance b/f	100 000				

Depreciation expense				Accumulated depreciation & impairment losses			
31/12/20X1		31/12/20X1				31/12/20X1	
AD&IL ⁽²⁾	25 000	P&L	25 000	Balance c/f	25 000	Depr ⁽²⁾	25 000
31/12/20X2		31/12/20X2					
AD&IL ⁽²⁾	25 000	P&L	25 000		25 000		25 000
31/12/20X3		31/12/20X3				31/12/20X2:	
AD&IL ⁽²⁾	20 000	P&L	20 000			Balance b/f	25 000
31/12/20X4		31/12/20X4				Depr ⁽²⁾	25 000
AD&IL ⁽²⁾	25 000	P&L	25 000	Balance c/f	60 000	Imp loss ⁽³⁾	10 000
					60 000		60 000
						31/12/20X3:	
				ILR ⁽⁴⁾	5 000	Balance b/f	60 000
				Balance c/f	75 000	Depr ⁽²⁾	20 000
					80 000		80 000
						31/12/20X4:	
						Balance b/f	75 000
				Balance c/f	100 000	Depr ⁽²⁾	25 000
					100 000		100 000
						Balance b/f	100 000
Impairment loss expense				Reversal of impairment loss income			
31/12/20X2		31/12/20X2		31/12/20X3		31/12/20X3	
AccImpLoss ⁽³⁾	10 000	P&L	10 000	P&L	5 000	AccImpLoss ⁽⁴⁾	5 000

4. The revaluation model

4.1 Overview

The revaluation model involves revaluing the asset's carrying amount to its fair value. This does not have to happen every year but can be at periodic intervals. Whatever interval is used, however, the revaluations must be performed regularly enough so that the carrying amount of the asset at year-end does not differ materially from its fair value.

If the entity wishes to use the revaluation model for a particular asset, it must remember that it will have to apply the revaluation model to all assets within that class of assets.

4.2 The ledger accounts

The revaluation model refers to the measurement of an asset's carrying amount at:

- fair value
- less subsequent accumulated depreciation
- less subsequent accumulated impairment losses.

When using the revaluation model, the *cost account* remains unchanged unless there is:

- a purchase of another asset (in which case, the cost of the new asset is added);
- a sale of an asset (in which case, the cost of the sold asset is deducted); or
- a revaluation to fair value.

You may keep two separate accounts for accumulated depreciation and accumulated impairment losses, but it is possible to combine these two accounts into one account. This text has opted to combine these two accounts into one account: accumulated depreciation and impairment losses.

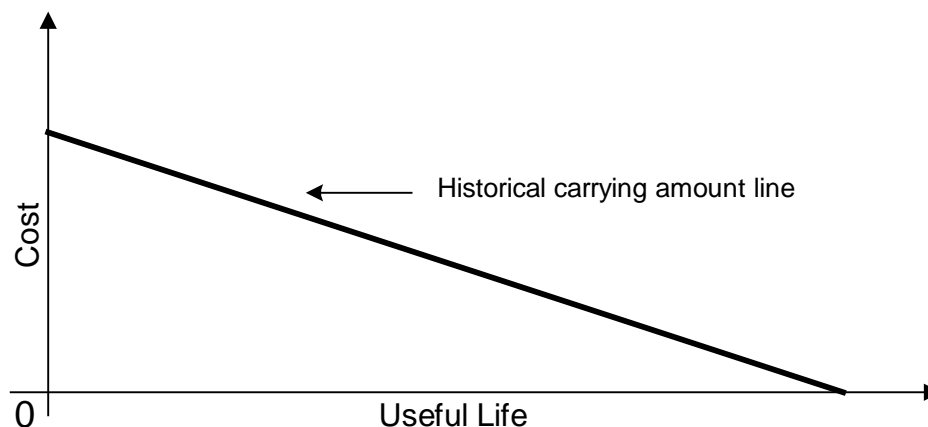
This *accumulated depreciation and impairment loss account* reflects adjustments to the carrying amount caused by:

- depreciation (usage);
- impairment losses (damage); and
- impairment losses reversed (if the damage is repaired in some way).

4.3 The magical line

Unlike the cost model, the *revaluation model* allows the carrying amount of the asset to be increased above its historical carrying amount (the magical line) as well as to be decreased below it.

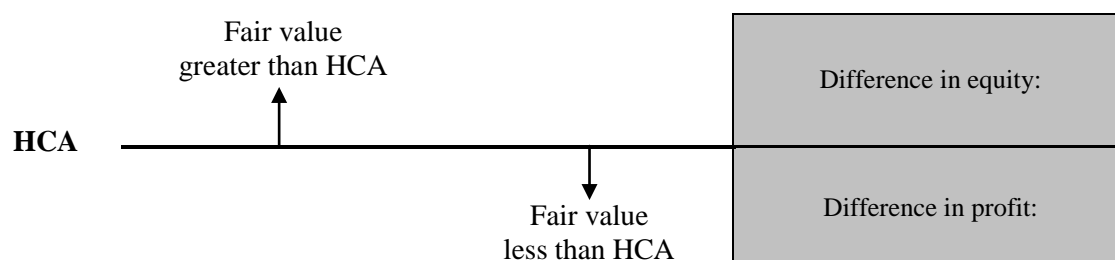
As with the cost model, the concepts are best understood by way of examples. At first you may find it useful to sketch a graph of the situation, plotting the ‘magical’ historical carrying amount line (HCA), and then later the actual carrying amount (ACA) and the recoverable amount (RA).



Notice how the diagonal line represents a gradual reduction in the historical carrying amount as the asset is depreciated over its useful life. Look at the graph carefully: when using the revaluation model, the carrying amount of the asset may be raised above this magical line (the diagonal line) – but an increase in carrying amount above the magical line is recognised in equity, not in the entity’s profits. Adjustments to the carrying amount that do not increase the carrying amount *above* the magical line are simply recognised as part of profit for the year (i.e. as an income or expense).

In the event that the carrying amount of an asset is increased to such a degree that it is now *greater than* its historical carrying amount, the increase above the line is recognised in the revaluation surplus account. This account is an equity account. The portion above the line is not credited to income because income represents economic benefits that have *already been earned*. In contrast, such an increase in the carrying amount of an asset represents *extra future* economic benefits expected from the *future* use or sale of the asset. Furthermore, an asset has increased in value with no concomitant increase in liabilities, thus having increased equity (assets – liabilities). This increase is recognised as other comprehensive income and is accumulated in equity.

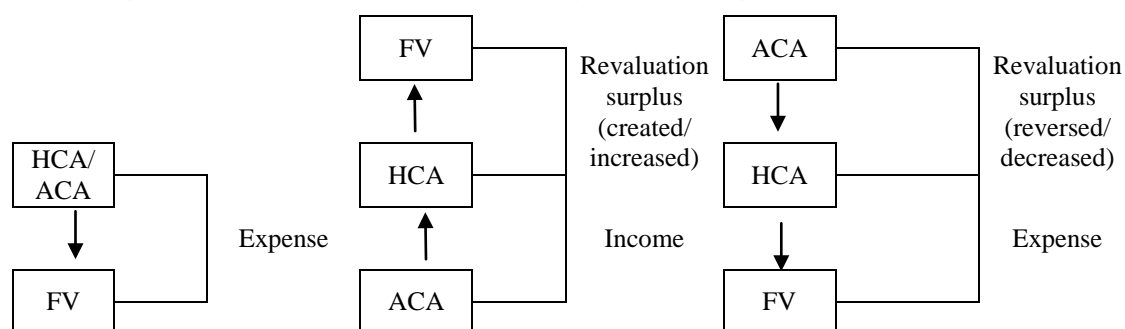
The difference between the historical carrying amount and the fair value carrying amount can be summarised as follows:



HCA: historical carrying amount

A summary of carrying amount adjustments under the revaluation model is reflected in the following block diagramme, which shows the inter-relationship between the actual carrying amount, fair value and historical carrying amount (i.e. the balance that the asset would have had had we not been fiddling with the carrying amounts).

Block diagramme 2: Adjustments to the carrying amount using the revaluation model



All assets must be tested for impairment – even those measured under the revaluation model. Although IAS 16 does not provide any guidance, it is submitted that when making an adjustment to an asset's carrying amount to one that is *below* the historical carrying amount line, one should differentiate between adjustments to a *fair value* from adjustments to a *recoverable amount*. Although IAS 16 may not make this differentiation, this text identifies:

- an expense (i.e. a downward adjustment) as:
 - a revaluation expense if the carrying amount is decreased to a fair value;
 - an impairment loss expense if the carrying amount is decreased to a recoverable amount;
- an income (upward adjustment) as:
 - a revaluation income if the carrying amount is increased to a fair value;
 - an impairment loss reversed if the carrying amount is increased to a recoverable amount.

This differentiation is relevant, it is submitted, because for example, a drop to a lower fair value does not technically mean that the recoverable amount has dropped and therefore it does not mean that the asset is impaired. Consider the following worked example.

Worked example:		€
Cost: 1/1/20X1		120 000
Less accumulated depreciation: 31/12/20X2		20 000
Carrying amount (actual and historical): 31/12/20X2		100 000
Fair value: 1/1/20X3		90 000
Expected costs to sell: 1/1/20X3		5 000
Value in use: 1/1/20X3		130 000
Recoverable amount (greater of value in use and fair value less costs to sell)		130 000
• Value in use	<i>Given</i>	130 000
• Fair value less costs to sell	<i>90 000 – 5 000</i>	85 000

If the revaluation model is applied on 1 January 20X3, the asset's carrying amount will drop from 100 000 to its fair value of 90 000. The issue is, however, that before making this downward adjustment, the asset's recoverable amount (130 000) is far greater than its carrying amount (100 000) and therefore the asset is definitely not impaired. It would therefore not be appropriate to call this downward adjustment an impairment loss expense (because the asset is not impaired) and would therefore be better identified as a revaluation expense (or similar).

As already explained, this text differentiates a *revaluation expense* from an *impairment loss expense* (and a *revaluation income* from an *impairment loss reversed*), but there are those who advocate that such differentiation is unnecessary. On the basis that IAS 16 does not make this differentiation clearly required, it is common practice to identify all adjustments made to the carrying amount below the historical carrying amount line, (whether an adjustment to a recoverable amount or to a fair value), as follows:

- expense adjustments (i.e. adjustments downwards from historical carrying amount):
 - impairment losses; and
- income adjustments (i.e. adjustments upwards to historical carrying amount):
 - impairment loss reversed.

Please note that irrespective of whether or not you interpret IAS 16 and IAS 36 to require differentiation, the carrying amount will be the same. To start with, we will look at an example that involves land, since land is an asset that is generally not depreciated. This will allow us to see the essence of the revaluation model. From there we will progress to an example that involves a depreciable asset.

Example 5: revaluation model – a summary example (the asset is not depreciated)

Cost of land at 1/1/20X2:	100 000
Depreciation:	This piece of land is not depreciated
Fair value	
• 1/1/20X2	120 000
• 1/1/20X3	90 000
• 1/1/20X4	70 000
• 1/1/20X5	110 000

The company's policy is to leave any balance on the revaluation surplus intact until such time as the asset is disposed of.

Required:

Show the statement of financial position and ledger accounts for each of the years ended 31 December 20X2 to 20X5.

Solution to example 5: revaluation model - a summary example (asset is not depreciated)

Workings:

W1. Carrying amount and adjustments		Jnl No.	20X5 Dr/ (Cr)	20X4 Dr/ (Cr)	20X3 Dr/ (Cr)	20X2 Dr/ (Cr)
Opening balance		1	70 000	90 000	120 000	100 000
Depreciation	Land not depreciated		(0)	(0)	(0)	(0)
Fair value adjustments:						
Above HCA	Cr: revaluation surplus	2; 7	10 000			20 000
Down to HCA	Dr: revaluation surplus	3			(20 000)	
Below HCA	Dr: revaluation expense	4; 5		(20 000)	(10 000)	
Up to HCA	Cr: revaluation income	6	30 000			
Closing balance fair value			110 000	70 000	90 000	120 000
Historical carrying amount: (cost)			100 000	100 000	100 000	100 000

Cost: land (asset)				Revaluation surplus			
1/1/ 20X1: Bank ⁽¹⁾	100 000	Balance c/f	100 000	Balance c/f	20 000	1/1/20X2: Cost ⁽²⁾	20 000
	100 000		100 000		20 000		20 000
31/12/ 20X1: Balance b/f	100 000			1/1/20X3: Cost ⁽³⁾	20 000	31/12/20X2: Balance b/f	20 000
1/1/20X2: Rev Surp ⁽²⁾	20 000	Balance c/f	120 000		20 000		20 000
	120 000		120 000			31/12/20X3: Balance b/f	0
31/12/ 20X2: Balance b/f	120 000	1/1/20X3: Rev Surp ⁽³⁾	20 000			1/1/20X5: Cost ⁽⁷⁾	10 000
		Rev Exp ⁽⁴⁾	10 000	10 000			10 000
		Balance c/f	90 000			31/12/20X5: Balance b/f	10 000
	120 000		120 000				
31/12/ 20X3: Balance b/f	90 000	1/1/20X4: Rev Exp ⁽⁵⁾	20 000				
		Balance c/f	70 000				
	90 000		90 000				
31/12/ 20X4: Balance b/f	70 000						
1/1/20X5: Rev Inc ⁽⁶⁾	30 000						
Rev Surp ⁽⁷⁾	10 000						
	110 000		110 000				
31/12/ 20X5: Balance b/f	110 000						
Revaluation expense				Revaluation income			
1/1/20X3: Cost ⁽⁴⁾	10 000	31/12/20X3 P&L	10 000	31/12/20X5 P&L	30 000	1/1/20X5 Cost ⁽³⁾	30 000
1/1/20X4 Cost ⁽⁵⁾	20 000	31/12/20X4 P&L	20 000				

Company name
Statement of financial position
As at 31 December (extracts)

ASSETS		20X5	20X4	20X3	20X2
Non-current Assets		C	C	C	C
Land	20X1: Cost: 100 000 – AIL: 0	110 000	70 000	90 000	120 000
	20X2: Cost: 100 000 – AIL:30 000				
	20X3: Cost: 100 000 – AIL:10 000				
	20X4: Cost: 100 000 – AIL:0				
EQUITY AND LIABILITIES					
Equity					
Revaluation surplus		10 000	0	0	20 000

Now let us do an example that involves a depreciable asset. To keep things simple, we will combine the cost and accumulated depreciation accounts into one account that reflects carrying amount. It is not difficult to separate the entries between these two accounts, but is important to see the big picture before getting bogged down with the detail.

Example 6: revaluation model – a summary example (the asset is depreciated)

Cost of machine at 1/1/20X1:	100 000
Depreciation:	10% per annum to a nil residual value
Fair value	
• 1/1/20X2	180 000
• 1/1/20X3	60 000
• 1/1/20X4	77 000
• 1/1/20X5	120 000

The company's policy is to transfer the realised portion of the revaluation surplus to retained earnings as the asset is used.

Required:

Show the statement of financial position and ledger accounts for each of the years ended 31 December 20X1 to 20X5. Prepare the asset's account as a net carrying amount account (i.e. do not prepare separate cost and accumulated depreciation accounts).

Solution to example 6: revaluation model - a summary example (asset is depreciated)

Workings:

W1: Carrying amount and adjustments		Jnl No.	20X5 Dr/ (Cr)	20X4 Dr/ (Cr)	20X3 Dr/ (Cr)	20X2 Dr/ (Cr)
Opening balance 20X2: $100\,000 \times 9/10$			66 000	52 500	160 000	90 000
Adjustment:						
Above HCA	Cr: revaluation surplus	1;7; 9	54 000	7 000		90 000
Down to HCA	Dr: revaluation surplus	3			(80 000)	
Below HCA	Dr: revaluation expense	4			(20 000)	
Up to HCA	Cr: revaluation income	6		17 500		
Fair value			120 000	77 000	60 000	180 000
Depreciation:						
• $180\,000/9$ yrs		2				(20 000)
• $60\,000/8$ yrs		5			(7 500)	
• $77\,000/7$ yrs		8		(11 000)		
• $120\,000/6$ yrs		10	(20 000)			
Closing balance			100 000	66 000	52 500	160 000
Historical carrying amount on date of revaluation			60 000	70 000	80 000	90 000

Ledger accounts are overleaf.

Ledger accounts:

Carrying amount: machine (asset)				Revaluation surplus (equity)			
1/1/ 20X2: Balance b/f	90 000	31/12/20X2 Depr ⁽²⁾	20 000	31/12/20X2: Ret Earn	10 000	1/1/20X2: Cost ⁽¹⁾	90 000
				(90 000/ 9)			
Rev Surp ⁽¹⁾	90 000	Balance c/f	160 000	Balance c/f	80 000		
	<u>180 000</u>		<u>180 000</u>		<u>90 000</u>		<u>90 000</u>
31/12/ 20X2: Balance b/f	160 000	1/1/20X3: Rev Surp ⁽³⁾	80 000	1/1/20X3: CA ⁽³⁾	80 000	31/12/ 20X2: Balance b/f	80 000
		Rev Exp ⁽⁴⁾	20 000	Balance c/f	0		
		31/12/20X3 Depr ⁽⁵⁾	7 500		<u>80 000</u>		<u>80 000</u>
		Balance c/f	52 500	31/12/20X4: Ret Earn	1 000	31/12/20X3 Balance b/f	0
				(7 000/ 7)		1/1/20X4 CA ⁽⁷⁾	7 000
	<u>160 000</u>		<u>160 000</u>	Balance c/f	6000		
					<u>7 000</u>		<u>7 000</u>
31/12/ 20X3: Balance b/f	52 500	31/12/20X4 Depr ⁽⁸⁾	11 000	31/12/20X5: Ret Earn	10 000	31/12/20X4 Balance b/f	6 000
1/1/20X4 Rev Inc ⁽⁶⁾	17 500	Balance c/f	66 000	(60 000/ 6)		1/1/20X5 CA ⁽⁹⁾	54 000
Rev Surp ⁽⁷⁾	7 000			Balance c/f	50 000		
	<u>77 000</u>		<u>77 000</u>		<u>60 000</u>		<u>60 000</u>
31/12/ 20X4: Balance b/f	66 000	31/12/20X5 Depr ⁽¹⁰⁾	20 000			31/12/ 20X5: Balance b/f	50 000
1/1/20X5 Rev Surp ⁽⁹⁾	54 000	Balance c/f	100 000				
	<u>120 000</u>		<u>120 000</u>				
31/12/ 20X5: Balance b/f	100 000						
Depreciation expense				Retained earnings (equity)			
31/12/20X2 CA ⁽²⁾	<u>20 000</u>	31/12/20X2 P&L	<u>20 000</u>			31/12/20X2 Rev Surp	10 000
31/12/20X3 CA ⁽⁵⁾	<u>7 500</u>	31/12/20X3 P&L	<u>7 500</u>			31/12/20X4: Rev Surp	1 000
31/12/20X4 CA ⁽⁸⁾	<u>11 000</u>	31/12/20X4 P&L	<u>11 000</u>			31/12/20X5: Rev Surp	10 000
31/12/20X5 CA ⁽¹⁰⁾	<u>20 000</u>	31/12/20X5 P&L	<u>20 000</u>				
Revaluation expense				Revaluation income			
1/1/20X3: CA ⁽⁴⁾	<u>20 000</u>	31/12/20X3 P&L	<u>20 000</u>	31/12/20X4 P&L	<u>17 500</u>	1/1/20X4 CA ⁽⁶⁾	<u>17 500</u>

Disclosure:

Company name				
Statement of financial position				
As at 31 December (extracts)				
ASSETS	20X5	20X4	20X3	20X2
Non-current assets	C	C	C	C
Machine 20X1: Cost: 100 000 – AIL: 0	100 000	66 000	52 500	160 000
20X2: Cost: 100 000 – AIL:30 000				
20X3: Cost: 100 000 – AIL:10 000				
20X4: Cost: 100 000 – AIL:0				
EQUITY AND LIABILITIES				
Equity				
Revaluation surplus	50 000	6 000	0	80 000

Notice how the revaluation surplus balance in the above statement of financial position reflects the difference between the carrying amount and what it would have been had the asset not been revalued:

	20X5	20X4	20X3	20X2
	C	C	C	C
Carrying amount of asset is: statement of financial position	100 000	66 000	52 500	160 000
Historical carrying amount: original cost – depreciation	50 000	60 000	70 000	^(a) 80 000
Revaluation surplus	50 000	6 000	0	80 000

a) Remember that by the end of 20X2, the asset has been depreciated for **two** years (20X1 and 20X2):
 $100\,000 - 100\,000 \times 10\% \times 2 \text{ years} = 80\,000$

Another interesting point is that the adjustments made to retained earnings reflect the effect that the revaluation has had on income in each of the years to date:

<i>Effect on statement of comprehensive income between 20X2 and 20X5</i>		Cumulative
		C
<i>Actual effect on profit using the revaluation model:</i>		
Depreciation expense: 20X1 to 20X5	$10\,000 + 20\,000 + 7\,500 + 11\,000 + 20\,000$	68 500
Revaluation expense (20X3)		20 000
Revaluation income (20X4)		(17 500)
Net effect on profit (between 20X1 and 20X5)		71 000
<i>Effect on profit had the cost model been used instead:</i>		
Depreciation expense: 20X1 to 20X5	$100\,000 \times 10\% \times 5 \text{ years}$	(50 000)
Transfer: revaluation surplus to retained earnings	$10\,000 + 1\,000 + 10\,000$	21 000

4.4 The difference between the gross and net methods

As mentioned under the cost model, whether the cost model or the revaluation model is used, the asset's carrying amount is represented by two accounts:

- Cost account; and
- Accumulated depreciation and impairment loss account.

Under the *cost model*, adjustments to carrying amount *only affect* the accumulated depreciation and impairment loss account (with the result that the cost account remains unchanged). Under the *cost model*, therefore, the cost account continues to reflect cost.

Under the *revaluation model*, however, adjustments to carrying amount *affect both* the cost account and the accumulated depreciation and impairment loss account. In fact, since adjustments are made to the cost account such that the cost account no longer reflects cost, it is referred to as 'gross carrying amount' in the financial statements.

When making adjustments to an asset's carrying amount under the revaluation model, the entity may choose to account for the adjustment using:

- the gross replacement value method; or
- the net replacement value method.

The carrying amounts under each of these methods will be the same, although the method used will affect the *disclosure* of the breakdown of the net carrying amount into its components of:

- gross carrying amount (i.e. the amount sitting in the cost account); and
- accumulated depreciation and impairment losses.

4.4.1 The gross replacement value method

This method involves restating the cost account to the new gross replacement value and proportionally restating the accumulated depreciation so that the net carrying amount equals the net replacement value (fair value). In other words, the cost account will reflect the gross replacement value, (which equals the total economic benefits embodied in the asset) and the accumulated depreciation account will reflect how much of the total economic benefits have been used up to date. We'll do an example in a moment.

4.4.2 The net replacement value method

This method involves transferring the balance in the accumulated depreciation account (immediately prior to the revaluation) to the cost account and then adjusting this net carrying amount to the net replacement value (fair value).

The difference between the 'gross' and 'net' methods is best explained by way of an example. The following three examples ignore the effects of deferred tax. The deferred tax effects of revaluations are not difficult but are covered later in this chapter.

Example 7: revaluation model - increase in value, creating a revaluation surplus

Plant cost at 1/1/20X1:	C100 000
Depreciation:	20% straight-line per annum to a nil residual value
Value at 1/1/20X2:	C90 000 calculated as follows:
Gross replacement value	112 500
Accumulated depreciation	<u>22 500</u>
Net replacement value (i.e. fair value)	<u>90 000</u>

The revaluation surplus is transferred to retained earnings over the life of the asset.

Required:

Show the journals using the:

- A net replacement value method (NRVM)
- B gross replacement value method (GRVM)

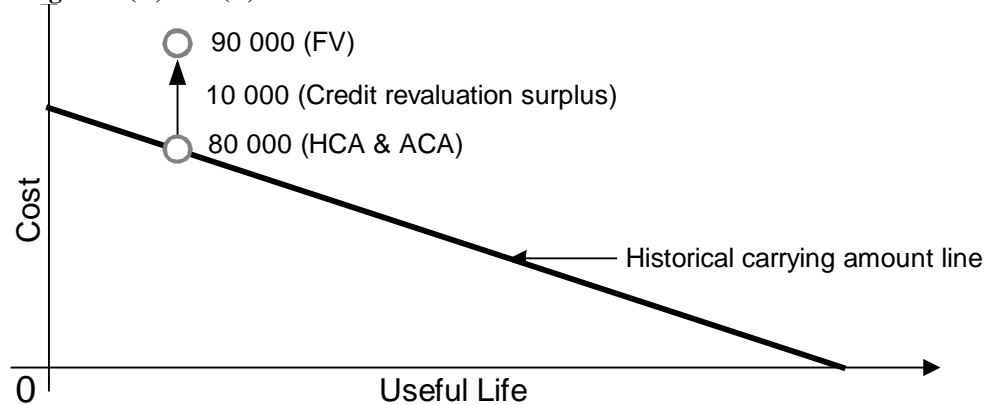
Solution to example 7: revaluation model – increase creating a revaluation surplus

Workings: applicable to both (A) and (B)

W1: Actual (and historic) carrying amount 1/1/20X2:	C
Cost	100 000
Accumulated depreciation (100 000 x 20% x 1 yr)	<u>(20 000)</u>
	<u>80 000</u>

W2: Revaluation required at 1/1/20X2:**C**

Fair value	90 000
Actual carrying amount	(80 000)
	<u>10 000</u>

Graph depicting both (A) and (B): 1/1/20X2**Journals****20X1:**

Plant: cost	100 000	100 000
Bank/ Liability	(100 000)	(100 000)
<i>Purchase of asset: (1/1/20X1)</i>		

Depreciation <i>(100 000 / 5 years remaining)</i>	20 000	20 000
Plant: accumulated depreciation and impairment losses	(20 000)	(20 000)
<i>Depreciation: 100 000 / 5 years remaining (31/12/20X1)</i>		

20X2:

Plant: accumulated depreciation and impairment losses	20 000	N/A
Plant: cost	(20 000)	N/A

NRVM: set-off of accumulated depreciation before revaluing asset (1/1/20X2)

Plant: cost	10 000	N/A
Revaluation surplus	(10 000)	N/A

NRVM: revaluation of asset: (1/1/20X2)

Plant: cost <i>(112 500 - 100 000)</i>	N/A	12 500
Plant: accum. depr and imp. loss <i>(22 500 - 20 000)</i>	N/A	(2 500)
Revaluation surplus <i>(90 000 - 80 000)</i>	N/A	(10 000)

GRVM: revaluation of asset: (1/1/20X2)

Depreciation <i>90 000 / 4 years remaining</i>	22 500	22 500
Plant: accumulated depreciation and impairment losses	(22 500)	(22 500)

Depreciation: (31/12/20X2)

Revaluation surplus <i>(10 000 / 4 years remaining)</i>	2 500	2 500
Retained earnings	(2 500)	(2 500)

Artificial decrease in profits reversed: (31/12/20X2) Alternative calculation: (22 500 revalued depreciation – 20 000 historic depreciation)

Example 8: revaluation model - decrease in value, reversing the revaluation surplus and creating a revaluation expense:

Assume the same information as that in the last example with the following information:

Value at 1/1/20X3: C54 000 calculated as follows:

Gross replacement value	90 000
Accumulated depreciation	36 000
Net replacement value (fair value)	54 000

Required:

Show the journals using the:

- A net replacement value method (NRVM)
- B gross replacement value method (GRVM)

Solution to example 8: revaluation model - decrease in value, reversing the revaluation surplus and creating a revaluation expense :

Workings applicable to both (A) and (B)

W1: Historical carrying amount at 1/1/20X3:

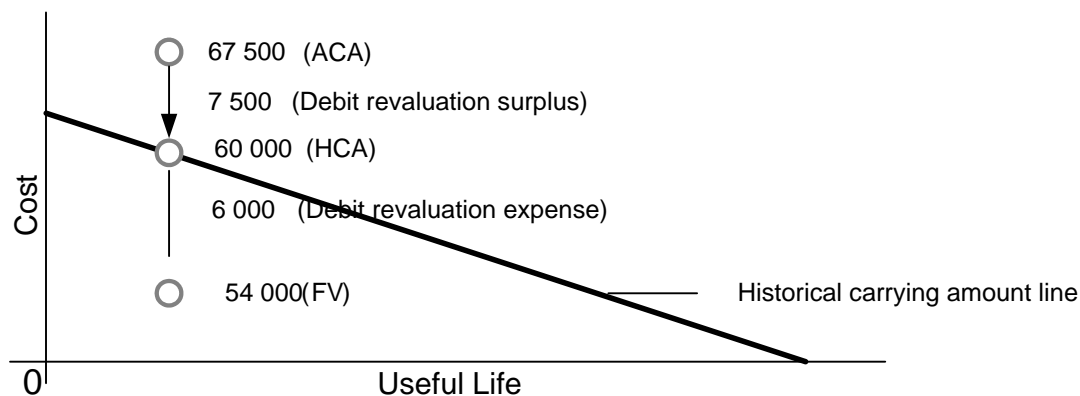
	C
Cost	100 000
Accumulated depreciation (100 000 x 20% x 2 yr)	(40 000)
	<u>60 000</u>

W2: Actual carrying amount at 1/1/20X3:

	C
Carrying amount at 1/1/20X2 after revaluation	90 000
Depreciation in 20X2 (90 000/ 4yrs) or (112 500/ 5 yrs)	(22 500)
	<u>67 500</u>

W3: Devaluation required at 1/1/20X3:

	C
Fair value	54 000
Actual carrying amount	(67 500)
	<u>(13 500)</u>
- reverse revaluation surplus (down to HCA: ACA: 67 500 – HCA: 60 000)	7 500
- revaluation expense (below HCA: HCA: 60 000 – NRV: 54 000)	6 000

Graph depicting both (A) and (B): 1/1/20X3

Journals:**Devaluation journals 1/1/20X3:**

		(A) NRVM dr/ (cr)	(B) GRVM dr/ (cr)
Plant: accumulated depreciation		22 500	N/A
Plant: cost		(22 500)	N/A
<i>Set off of accumulated depreciation against cost (NRVM)</i>			
Revaluation surplus	(the balance in this account)	7 500	N/A
Revaluation expense	(further decrease expensed: 13 500 – 7 500)	6 000	N/A
Plant: cost	(CA: 67 500 – FV: 54 000)	(13 500)	N/A
<i>Reversal of balance in RS (7 500) with excess (13 500 – 7 500) expensed</i>			
Revaluation surplus	(the balance in this account)	N/A	7 500
Revaluation expense	(further decrease expensed: 13 500 – 7 500)	N/A	6 000
Plant: cost	(90 000 – 112 500)	N/A	(22 500)
Plant: accum. depreciation	(36 000 – 45 000)	N/A	9 000
<i>Restatement of cost and accumulated depreciation accounts: the first adjustment reduces the revaluation surplus and any excess thereafter is debited to impairment loss (p.s. the cost account is now reduced below historical cost of 100 000)</i>			

Depreciation and related journals: 31/12/20X3:

Depreciation – plant	(54 000 / 3 years remaining)	18 000	18 000
Plant: accum. depreciation		(18 000)	(18 000)
<i>Depreciation for 20X2</i>			

Comment:

Please note that the difference between the journals using the NRVM and the GRVM are purely for disclosure purposes. The essence of the above adjustments can be more clearly seen in the following simplified journal:

	NRVM and GRVM	
	Debit	Credit
Revaluation surplus	7 500	
Revaluation expense	6 000	
Plant at net carrying amount		13 500

The only difference in the journals is the setting-off of the accumulated depreciation and cost account in the case of the NRVM.

The NRVM requires that these two accounts are set-off against each other and then that the cost account is adjusted to the new carrying amount (fair value).

The GRVM does not set-off these two accounts but adjusts each of them so that the net thereof would equal the new carrying amount (fair value).

Example 9: revaluation model - increase in value, reversing a previous revaluation expense and creating a revaluation surplus

Assume the same information as that given in the previous example as well as the following:

Fair value at 1/1/20X4: C44 000 calculated as follows:

Gross replacement value	110 000
Accumulated depreciation	66 000
Net replacement value	44 000

Required:

Show the journals using

- net replacement value method (NRVM)
- gross replacement value method (GRVM)

Solution to example 9: revaluation model - increase in value, reversing a previous revaluation expense and creating a revaluation surplus
Workings applicable to both (A) and (B)
W1: Historical carrying amount at 1/1/20X4:

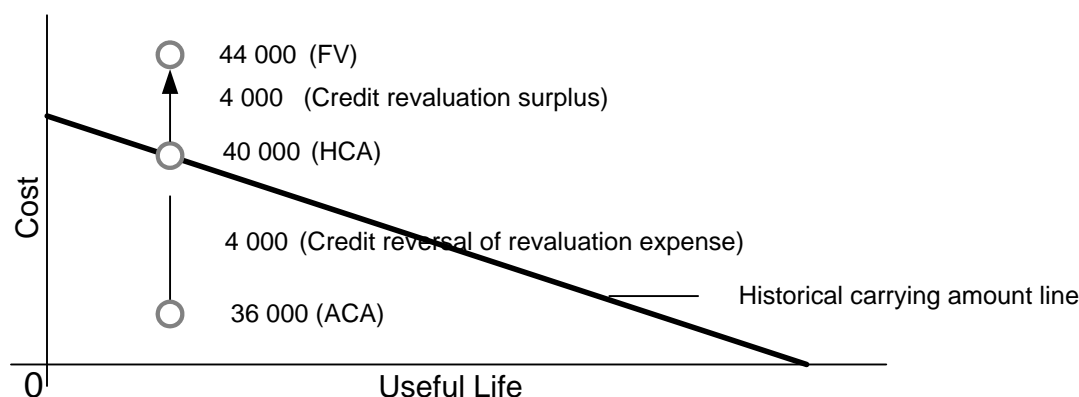
Cost		C
		100 000
Accumulated depreciation	(100 000 x 20% x 3yrs)	(60 000)
		<u>40 000</u>

W2: Actual carrying amount at 1/1/20X4:

Carrying amount at 1/1/20X3 after impairment loss		C
		54 000
Depreciation in 20X3	(54 000/ 3yrs) or (90 000/ 5 yrs)	(18 000)
		<u>36 000</u>

W3: Increase in value required at 1/1/20X4:

Fair value		C
		44 000
Actual carrying amount		<u>(36 000)</u>
		8 000
- revaluation income	(up to HCA: 36 000 – 40 000)	4 000
- revaluation surplus	(above HCA: 40 000 – 44 000)	4 000

Graph depicting both (A) and (B): 1/1/20X4

Journals
Revaluation journals 1/1/20X4:

	(A) NRVM dr/ (cr)	(B) GRVM dr/ (cr)
Plant: accumulated depreciation	18 000	N/A
Plant: cost (18 000 + 6 000)	(18 000)	N/A
<i>NRVM: Set off of accumulated depreciation against cost</i>		
Plant: cost (44 000 – 36 000)	8 000	N/A
Revaluation income (36 000 – 40 000)	(4 000)	N/A
Revaluation surplus (40 000 – 44 000)	(4 000)	N/A
<i>NRVM: Reversal of previous revaluation expense (4 000) with excess (8 000 - 4 000) credited to equity</i>		
Plant: cost (110 000 – 90 000)	N/A	20 000
Plant: accum depreciation (66 000 – 54 000)	N/A	(12 000)
Revaluation income	N/A	(4 000)
Revaluation surplus	N/A	(4 000)
<i>GRVM: Increase in value apportioned between cost and accumulated depreciation</i>		

Journals continued ...**Depreciation and related journals 31/12/20X4:**

	(A) NRVM dr/ (cr)	(B) GRVM dr/ (cr)
Depreciation – plant (44 000 / 2yrs)	22 000	22 000
Plant: accum depreciation	(22 000)	(22 000)
<i>Depreciation for 20X4</i>		
Revaluation surplus (22 000 – 20 000) or (4 000/ 2yrs)	2 000	2 000
Retained earnings	(2 000)	(2 000)
<i>Excess depreciation for 20X4 transferred to retained earnings</i>		

Example 10: disclosure of a revalued asset – NRVM and GRVM compared

Assume the same information as in the previous three examples

- A Disclose the plant note using the net replacement value method (NRVM) for 20X1 – 20X4 years.
- B Disclose the plant note using the gross replacement value method (GRVM). Disclose all 3 years.

Solution to example 10A: disclosure of a revalued asset using NRVM**Company name****Notes to the financial statements****For the year ended 31 December 20X3 (extracts)**

	20X4 C	20X3 C	20X2 C	20X1 C
3. Plant (extracts)				
Net carrying amount: 1 January	36 000	67 500	80 000	0
Gross carrying amount: 1 January	54 000	90 000	100 000	0
Accum. depreciation and imp. losses: 1 January	(18 000)	(22 500)	(20 000)	(0)
Additions	0	0	0	100 000
Depreciation	(22 000)	(18 000)	(22 500)	(20 000)
Revaluation (expense) / income (profit)	4 000	(6 000)	0	0
Revaluation surplus increase / (decrease) (equity)	4 000	(7 500)	10 000	0
Net carrying amount: 31 December	22 000	36 000	67 500	80 000
Gross carrying amount: 31 December	44 000	54 000	90 000	100 000
Accum. depreciation and imp. losses: 31 Dec	(22 000)	(18 000)	(22 500)	(20 000)

The last revaluation was performed on 1/1/20X4 by an independent sworn appraiser to the fair value in use and the fair value adjustment was recorded on a *net* replacement value basis. Revaluations are performed annually. Had the cost model been adopted, the carrying amount would have been C20 000 (20X3: C40 000; 20X2: C60 000 and 20X1: C80 000).

Solution to example 10B: disclosure of a revalued asset using GRVM**Company name****Notes to the financial statements****For the year ended 31 December 20X3 (extracts)**

	20X4 C	20X3 C	20X2 C	20X1 C
3. Plant (extracts)				
Net carrying amount: 1 January	36 000	67 500	80 000	0
Gross carrying amount: 1 January	90 000	112 500	100 000	0
Accum. deprec. and imp. losses: 1 Jan	(54 000)	(45 000)	(20 000)	(0)
Additions	0	0	0	100 000
Depreciation	(22 000)	(18 000)	(22 500)	(20 000)
Revaluation (expense) / income (profits)	4 000	(6 000)	0	0
Revaluation surplus increase / (decrease) (equity)	4 000	(7 500)	10 000	0
Net carrying amount: 31 December	22 000	36 000	67 500	80 000
Gross carrying amount: 31 December	110 000	90 000	112 500	100 000
Accum. deprec. and imp. losses: 31 Dec	(88 000) 3	(54 000) 2	(45 000) 1	(20 000)

The last revaluation was performed on 1/1/20X4 by an independent sworn appraiser to the fair value in use and the fair value adjustment was recorded on a *gross* replacement value basis. Revaluations are performed annually. Had the cost model been adopted, the carrying amount would have been C20 000 (20X3: C40 000; 20X2: C60 000 and 20X1: C80 000).

Comment: Notice that the only difference between the disclosure of the two methods is the split between the amount classified as 'gross carrying amount' and the amount classified as 'accumulated depreciation and impairment losses'. The net carrying amounts (at the beginning and end of the year) and the movement during the year are not affected.

(1) $20\,000 + 2\,500 + 22\,500 = 45\,000$

(2) $45\,000 + 18\,000 - 9\,000 = 54\,000$

(3) $54\,000 + 12\,000 + 22\,000 = 88\,000$

4.5 Realisation of the revaluation surplus

Whether you are using the net method or the gross method to account for a revaluation, any revaluation surplus account that is created must be removed from the accounts by the time that the related asset no longer exists. The transfer is made directly to the retained earnings account, which means that the transfer is from one equity account to another equity account, thus having no effect on the statement of comprehensive income. This is not a reclassification adjustment and will therefore have no impact on the statement of comprehensive income, but will appear as a transfer between equity accounts in the statement of changes in equity.

	Debit	Credit
Revaluation surplus	xxx	
Retained earnings		xxx
<i>Transfer of the revaluation surplus to retained earnings</i>		

The transfer of the revaluation surplus to retained earnings effectively reverses the effect that the artificially increased depreciation has had on profits over the life of the asset. When the asset's depreciable amount is zero (the asset having been fully depreciated), the revaluation surplus account must also be zero.

The transfer may be done in a variety of ways:

- transfer it as one lump sum when the asset is retired (at the end of the asset's useful life);
- transfer it as one lump sum when the asset is sold or otherwise disposed of; or
- transfer it gradually as and when the asset is depreciated.

For local (Pakistan) legislation requirements regarding treatment of surplus arising out of revaluation see section 235 of the Companies Ordinance, 1984 and a notification of the Security Exchange Commission of Pakistan –SRO 45 (1)/2003, dated 13/01/2003

Example 11: removal of revaluation surplus

An asset with a cost of C100 (1/1/20X1) and a useful life of 4 years is revalued to fair value of C120 (1/1/20X2). It is retired from use at the end of its useful life (31/12/20X4) and is sold on 18/9/20X5. The residual value is zero and the straight-line method of depreciation is appropriate.

Required:

Ignoring the tax effect, show the journal entries reducing the revaluation surplus to zero assuming that:

- the transfer is done as the underlying asset is depreciated;
- the transfer is done at the end of the asset's useful life; and
- the transfer is done when the asset is disposed of.

Solution to example 11: removal of revaluation surplus

Workings		Asset carrying amount	Historic depreciation	Extra depreciation
Cost	1/1/20X1	100	100	
Depreciation - original	20X1: $(100 - 0)/4\text{yrs}$	(25)	(25)	
Carrying amount	31/12/20X1	75	75	
Revaluation surplus	120 - 75	45		
Revalued carrying amount		120	75	45
Depreciation - revised	20X2: $(120-0)/3\text{yrs}$	(40)	(25)	(15)
Depreciation - revised	20X3: $(120-0)/3\text{yrs}$	(40)	(25)	(15)
Depreciation - revised	20X4: $(120-0)/3\text{yrs}$	(40)	(25)	(15)
Carrying amount		0	0	0

a) Journals: posted at end of each year

31 December 20X2

	Debit	Credit
Revaluation surplus	15	
Retained earnings		15
<i>Transfer of revaluation surplus to retained earnings (45 / 3)</i>		

31 December 20X3

	Debit	Credit
Revaluation surplus	15	
Retained earnings		15
<i>Transfer of revaluation surplus to retained earnings (45 / 3)</i>		

31 December 20X4

	Debit	Credit
Revaluation surplus	15	
Retained earnings		15
<i>Transfer of revaluation surplus to retained earnings (45 / 3)</i>		

b) Journals: posted 31/12/20X4

	Debit	Credit
Revaluation surplus	45	

Retained earnings	45
<i>Transfer of revaluation surplus to retained earnings when asset is retired from use</i>	

c) Journals: posted 18/9/20X5	Debit	Credit
Revaluation surplus	45	
Retained earnings		45
<i>Transfer of revaluation surplus to retained earnings on disposal of asset</i>		

5. Disclosure

5.1 Overview

The disclosure of property, plant and equipment involves various aspects: accounting policies to be included in the notes to the financial statements, disclosure in the statement of comprehensive income, statement of financial position and the statement of changes in equity.

5.2 Accounting policies and estimates

For each class of property, plant and equipment (e.g. land, buildings, machinery, etc) the following should be disclosed:

- measurement bases used to determine the gross carrying amounts (e.g. cost model or revaluation model);
- depreciation methods used (e.g. straight-line method); and
- useful lives or depreciation rates used (e.g. 5 years or 20% per annum).

The nature and effect of a change in estimate must be disclosed in accordance with IAS 8 (the standard governing ‘accounting policies, changes in accounting estimates and errors’).

5.3 Statement of comprehensive income disclosure

The following income and expense items should be disclosed in the notes to the financial statements and should be shown per class of property, plant and equipment (a suggestion that generally helps to reduce time wastage in tests and exams is to include these items in a note that supports the ‘profit before tax’ line item in the statement of comprehensive income):

- depreciation expense (whether recognised in profit or loss or as part of the cost of another asset);
- impairment losses (and the line item of the statement of comprehensive income in which it is included) (i.e. when the recoverable amount is less than carrying amount and any revaluation surplus has already been written off);
- reversal of impairment losses (and the line item of the statement of comprehensive income in which it is included) (i.e. when the recoverable amount is greater than carrying amount, and to the extent that the increase in carrying amount up to historical carrying amount reverses a previous impairment loss); and
- revaluation expense (i.e. when the fair value is less than carrying amount and any revaluation surplus has already been written off)
- revaluation income (i.e. when the fair value is greater than carrying amount, and to the extent that the increase in carrying amount up to historical carrying amount reverses a previous revaluation expense);
- profits or losses on the realisation, scrapping or other disposal of a non-current asset
- a revaluation or devaluation that changes the balance in the revaluation surplus account will be recognised in other comprehensive income (and accumulated as equity): this amount may be shown gross with the tax thereon shown as a separate line item in other comprehensive income or this amount may be shown net of tax (the tax effect would then be shown in a note).

5.4 Statement of financial position disclosure

The following is the main information that should be disclosed in the note to the 'property, plant and equipment' line item in the statement of financial position.

This information must be disclosed separately for each class of property, plant and equipment (e.g. land, buildings, machinery, etc):

- 'gross carrying amount' and 'accumulated depreciation and impairment losses' at the beginning and end of each period;
- a reconciliation between the 'net carrying amount' at the beginning and end of the period separately disclosing each of the following where applicable:
 - additions;
 - acquisitions through business combinations;
 - disposals;
 - assets transferred to 'non-current assets held for sale' in accordance with IFRS 5;
 - depreciation;
 - impairment losses recognised in the statement of comprehensive income;
 - impairment losses reversed through the statement of comprehensive income;
 - increases through revaluation income;
 - increases in a related revaluation surplus;
 - decreases in a related revaluation surplus;
 - decreases through revaluation expense;
 - other movements (e.g. currency translation differences);
- the existence and amounts of restrictions on title;
- the existence and amounts of assets that have been pledged as security for a liability;
- the costs capitalised in respect of property, plant and equipment being constructed;
- the amount of any contractual commitments to acquire assets in the future;
- when the revaluation model is adopted, then disclose:
 - the effective date of the latest revaluation;
 - whether or not the valuer was independent;
 - the methods and significant assumptions applied in estimating the asset's fair values (the extent to which these fair values were determined in accordance with active markets, recent market transactions or using other valuation techniques);
 - the carrying amount of the property, plant and equipment had the cost model been adopted (per class of revalued property, plant and equipment); and
 - the revaluation surplus, its movements and any restrictions on the distribution thereof.

The standard also requires that the accumulated depreciation be disclosed (as opposed to the aggregate of the accumulated depreciation and accumulated impairment losses that is given in the reconciliation of the carrying amount of the asset) at the end of the period.

5.5 Statement of changes in equity disclosure

If the property, plant and equipment is revalued using the revaluation model, there may be a revaluation surplus which would need to be disclosed as follows:

- increase or decrease in revaluation surplus during the period (net of tax): this will be per the statement of comprehensive income;
- realisations of revaluation surplus (e.g. transfer to retained earnings as the asset is used up or on disposal); and
- any restrictions on the distribution of the surplus to shareholders.

5.6 Further encouraged disclosure

- the carrying amount of property, plant and equipment that is temporarily idle;
- the gross amount of property, plant and equipment that is still in use but that has been fully depreciated;
- the carrying amount of property, plant and equipment that is no longer used and is to be disposed of (but not yet classified as held for sale in accordance with IFRS 5); and

- the fair value of the asset in the event that the cost model is adopted and the difference between fair value and carrying amount is material.

5.7 Sample disclosure involving property, plant and equipment

ABC Ltd			
Statement of financial position			
As at 31 December 20X2 (extracts)			
ASSETS	Note	20X2 C	20X1 C
Non-current Assets			
Property, plant and equipment	4		

ABC Ltd			
Statement of changes in equity			
For the year ended 31 December 20X2 (extracts)			
	Revaluation surplus C	Retained earnings C	Total C
Balance at 1 January 20X1			
Total comprehensive income			
Realised portion transferred to retained earnings			
Balance at 31 Dec 20X1			
Total comprehensive income			
Realised portion transferred to retained earnings			
Balance at 31 December 20X2			

ABC Limited			
Notes to the financial statements			
For the year ended 31 December 20X2 (extracts)			

2. Accounting policies

Depreciation is not provided on land and buildings since it is considered to be an investment property. Depreciation is provided on all other property, plant and equipment over the expected economic useful life to expected residual values using the following rates and methods:

- Plant and vehicles at 10% per annum, reducing balance method.

Plant is revalued annually to fair values and is thus carried at fair value less accumulated depreciation and impairment losses. All other property, plant and equipment is shown at cost less accumulated depreciation and impairment losses.

3. Profit before tax

	20X2 C	20X1 C
Profit before tax is stated after taking the following into account:		
Depreciation on plant		
Depreciation on vehicles		
Revaluation income on plant		
Revaluation expense on vehicles		
Impairment losses on vehicles		
Impairment losses reversed on plant (income)		

4. Property, plant and equipment

	20X2 C	20X1 C
Total carrying amount:		
Land and buildings		
Plant		
Vehicles		

Land and buildings	20X2 C	20X1 C
Net carrying amount: 1 January		
<i>Gross carrying amount: 1 January</i>		
<i>Accumulated depreciation and impairment losses: 1 January</i>		
Additions		
Disposals		
Depreciation		
Revaluation increase/ (decrease) through equity		
Revaluation increase/ (decrease) through profit		
(Impairment loss)/ Impairment loss reversed		
Other		
Net carrying amount: 31 December		
<i>Gross carrying amount: 31 December</i>		
<i>Accumulated depreciation and impairment losses: 31 Dec</i>		

Land was revalued on 1/1/20X1 by Mr X (his qualification), an independent sworn appraiser, to the fair value determined with reference to an active market. The fair value adjustment was recorded on a net replacement value basis. Revaluations are performed annually. Had the cost model been adopted, the carrying amount would have been CXXX (20X0: CXXX). Land... (description of and its situation) acquired on... (date) for... (amount paid). Additions and improvements since date of acquisition have cost... (amount).

Plant

Net carrying amount: 1 January	
<i>Gross carrying amount: 1 January</i>	
<i>Accumulated depreciation and impairment losses: 1 January</i>	
Depreciation	
Revaluation increase/ (decrease) through equity	
Revaluation increase/ (decrease) through profit	
(Impairment loss)/ Impairment loss reversed	
Additions	
Disposals	
Other	
Net carrying amount: 31 December	
<i>Gross carrying amount: 31 December</i>	
<i>Accumulated depreciation and impairment losses: 31 Dec</i>	

Plant is provided as security for a loan (see the note 51: loans).

Vehicles

Net carrying amount: 1 January	
<i>Gross carrying amount: 1 January</i>	
<i>Accumulated depreciation and impairment losses: 1 January</i>	
Depreciation	
Revaluation increase/ (decrease) through equity	
Revaluation increase/ (decrease) through profit	
(Impairment loss)/ Impairment loss reversed	
Additions	
Disposals	
Other	
Net carrying amount: 31 December	
<i>Gross carrying amount: 31 December</i>	
<i>Accumulated depreciation and impairment losses: 31 Dec</i>	

Example 12: cost model disclosure

Cost of plant at 1/1/20X1: C100 000
 Depreciation: 25% straight-line per annum to a nil residual value

The company measures its assets under the cost model. The following recoverable amounts were calculated:

Recoverable amount at 31 December 20X1 is C60 000

Recoverable amount at 31 December 20X2 is C55 000

There are no other items of property, plant or equipment.

Required:

- A. Disclose the plant and all related information in the financial statements for the years ended 31 December 20X1, 20X2, 20X3 and 20X4 in accordance with the International Financial Reporting Standards, *ignoring* deferred tax;
- B. Show the journals and show all additional or revised related disclosure assuming that:
 - Deductible allowance (wear and tear) granted by the tax authorities 25% straight-line per year
 - Normal income tax rate 30%
 - The company intends to keep the plant. There are no other temporary differences other than those evident from the information provided.

Solution to example 12A: cost model disclosure**ABC Ltd****Statement of financial position****As at 31 December 20X4 (EXTRACTS)**

	Note	20X4 C	20X3 C	20X2 C	20X1 C
ASSETS					
Non-current Assets					
Property, plant and equipment	4	0	25 000	50 000	60 000

ABC Ltd**Notes to the financial statements****For the year ended 31 December 20X4**

	Note	20X4 C	20X3 C	20X1 C	20X0 C
--	------	-----------	-----------	-----------	-----------

2. Accounting policies**2.1 Property, plant and equipment**

Plant is measured using the cost model: cost less accumulated depreciation and impairment losses.

Depreciation is provided on all property, plant and equipment over the expected economic useful life to expected residual values using the following rates and methods:

Plant: 25% per annum, straight-line method.

3. Profit before tax

Profit before tax is stated after taking the following disclosable (income)/ expenses into account:

Depreciation on plant	25 000	25 000	20 000	25 000
Impairment loss	0	0	0	15 000
Impairment loss reversed	0	0	(10 000)	0

4. Property, plant and equipment (extracts)	20X4 C	20X3 C	20X1 C	20X0 C
Plant				
Net carrying amount: 1 January	25 000	50 000	60 000	0
Gross carrying amount:	100 000	100 000	100 000	0
Accumulated depreciation and imp losses:	(75 000)	(50 000)	(40 000)	0
Additions	0	0	0	100 000
Depreciation	(25 000)	(25 000)	(20 000)	(25 000)
Impairment loss	0	0	0	(15 000)
Impairment loss reversed	0	0	10 000	0
Net carrying amount: 31 December	0	25 000	50 000	60 000
Gross carrying amount:	100 000	100 000	100 000	100 000
Accumulated depreciation and imp losses:	(100 000)	(75 000)	(50 000)	(40 000)

Solution to example 12B: cost model disclosure - with deferred tax

Journals	Dr/ (Cr)
20X1:	
Plant: cost	100 000
Bank/ Liability	(100 000)
<i>Purchase of asset: (1/1/20X1)</i>	
Depreciation (100 000 / 4 years remaining)	25 000
Plant: accumulated depreciation and impairment losses	(25 000)
<i>Depreciation on plant</i>	
Impairment loss CA: (100 000 – 25 000) – RA: 60 000	15 000
Plant: accumulated depreciation and impairment losses	(15 000)
<i>Impairment loss</i>	
Deferred tax W1 or [(25 000 + 15 000) – (25 000)] x 30%	4 500
Tax expense	(4 500)
<i>Deferred tax caused by plant/ impairment loss</i>	
20X2:	
Depreciation (60 000 / 3 years remaining)	20 000
Plant: accumulated depreciation and impairment losses	(20 000)
<i>Depreciation on plant</i>	
Plant: accumulated depreciation and impairment losses	10 000
Impairment losses reversed CA: (60 000 – 20 000) – RA: 55 000, ltd to 50 000 cost	(10 000)
<i>Impairment loss reversed</i>	
Tax expense W1 or [(20 000 - 10 000) – (25 000)] x 30%	4 500
Deferred tax	(4 500)
<i>Deferred tax caused by plant/ impairment loss reversed & revised depreciation</i>	
20X3	
Depreciation (50 000 / 2 years remaining)	25 000
Plant: accumulated depreciation and impairment losses	(25 000)
<i>Depreciation on plant</i>	
20X4	
Depreciation (25 000 / 1 year remaining)	25 000
Plant: accumulated depreciation and impairment losses	(25 000)
<i>Depreciation on plant</i>	

ABC Ltd
Statement of financial position
As at 31 December 20X4 (EXTRACTS)

	Note	20X4 C	20X3 C	20X2 C	20X1 C
ASSETS					
Non-current Assets					
Property, plant and equipment	4	0	25 000	50 000	60 000
Deferred taxation	5	0	0	0	4 500

ABC Limited
Notes to the financial statements
For the year ended 31 December 20X4 (extracts)

	Note	20X4 C	20X3 C	20X2 C	20X1 C
5. Deferred taxation asset/ (liability)					
<i>The deferred taxation balance comprises:</i>					
Capital allowances (<i>the balances in W1</i>)		0	0	0	4 500
		0	0	0	4 500

6. Taxation expense/ (income)

Normal income tax

- current	X	X	X	X
- deferred (<i>the movement in W1</i>)	0	0	4 500	(4 500)

All other notes would remain the same.

W1: Deferred tax calculation:

Plant	Carrying amount	Tax base	Temporary difference	Deferred taxation	Details
Balance: 1/1/20X1	0	0	0	0	
Purchase	100 000	100 000			
Depreciation (100 000/ 4 years) (100 000 x 25%)	(25 000)	(25 000)		4 500	<i>Movement: Dr DT (FP) Cr TE (CI)</i>
Impairment loss	(15 000)	0			
Balance: 31/12/20X1	60 000	75 000	15 000	4 500	<i>Asset balance</i>
Depreciation (60 000/ 3 years) (100 000 x 25%)	(20 000)	(25 000)		(4 500)	<i>Movement: Cr DT (FP) Dr TE (CI)</i>
Impairment loss reversed	10 000	0			
Balance: 31/12/20X2	50 000	50 000	0	0	
Depreciation (50 000/ 2 years) (100 000 x 25%)	(25 000)	(25 000)			
Balance: 31/12/20X3	25 000	25 000	0	0	
Depreciation (25 000/ 1 year) (100 000 x 25%)	(25 000)	(25 000)			
Balance: 31/12/20X4	0	0	0	0	

Example 13: revaluation model disclosure

Cost of plant at 1/1/20X1: C100 000
 Depreciation: 20% straight-line per annum to a nil residual value

The company revalue its plant on an annual basis and records the fair value adjustments using the net replacement value basis. The following revaluations were performed:

Fair value at 1/1/20X2 is C90 000
 Fair value at 1/1/20X3 is C54 000
 Fair value at 1/1/20X4 is C44 000

There are no other items of property, plant or equipment.

Profit for each year is C100 000 (after tax).

There are no components of other comprehensive income other than that which is evident from the information provided.

Required:

- A. Disclose the plant and all related information in the financial statements for the years ended 31 December 20X1, 20X2, 20X3 and 20X4 in accordance with the International Financial Reporting Standards, *ignoring* deferred tax.
- B. Repeat the journals (using the net replacement value method) and show all additional or revised related disclosure assuming that:

Deductible allowance (wear and tear) granted by the tax authorities	20% straight-line per year
Normal income tax rate	30%

The company intends to keep the plant. There are no other temporary differences other than those evident from the information provided.

The company shows components of other comprehensive income *net of tax*.
- C. Assume the information given in B above except that the company presents the components of other comprehensive income *gross* with their tax effects shown as a separate line item. Present the statement of comprehensive income and the note on tax on other comprehensive income.

Solution to example 13A: revaluation model disclosure - no deferred tax

The journals for part A may be found under examples 7, 8 and 9.

ABC Ltd**Statement of comprehensive income (extracts)**

For the year ended 31 December 20X4

	Notes	20X4 C	20X3 C	20X2 C	20X1 C
Profit for the period		100 000	100 000	100 000	100 000
<i>Other comprehensive income net of tax</i>		4 000	(7 500)	10 000	0
Revaluation surplus / (devaluation)		4 000	(7 500)	10 000	0
Total comprehensive income		104 000	92 500	110 000	100 000

ABC Ltd**Statement of changes in equity (extracts)****For the year ended 31 December 20X4**

	Revaluation surplus	Retained earnings	Total
	C	C	C
Balance at 1 January 20X1	0	X	X
Total comprehensive income	0	100 000	100 000
Balance at 31 December 20X1	0	X	X
Total comprehensive income	10 000	100 000	110 000
Realised portion transferred to retained earnings	(2 500)	2 500	
Balance at 31 December 20X2	7 500	X	X
Total comprehensive income	(7 500)	100 000	92 500
Balance at 31 December 20X3	0	X	X
Total comprehensive income	4 000	100 000	104 000
Realised portion transferred to retained earnings	(2 000)	2 000	
Balance at 31 December 20X4	2 000	X	X

ABC Ltd**Statement of financial position (extracts)****As at 31 December 20X4**

	Note	20X4	20X3	20X2	20X1
		C	C	C	C
ASSETS					
Non-current Assets					
Property, plant and equipment	4	22 000	36 000	67 500	80 000
EQUITY AND LIABILITIES					
Revaluation surplus (from SOCIE)		2 000	0	7 500	0

ABC Limited**Notes to the financial statements****For the year ended 31 December 20X4 (extracts)**

	20X4	20X3	20X2	20X1
	C	C	C	C

2. Accounting policies**2.1 Property, plant and equipment**

Plant is revalued annually to fair values and is thus carried at fair value less accumulated depreciation and impairment losses.

Depreciation is provided on all property, plant and equipment over the expected economic useful life to expected residual values using the following rates and methods:

Plant: 20% per annum, straight-line method.

3. Profit before tax

Profit before tax is stated after taking the following disclosable (income)/ expenses into account:

Depreciation on plant	22 000	18 000	22 500	20 000
Revaluation expense	0	6 000	0	0
Revaluation income	(4 000)	0	0	0

ABC Limited**Notes to the financial statements****For the year ended 31 December 20X4 (extracts) continued ...**

	20X4 C	20X3 C	20X2 C	20X1 C
4. Property, plant and equipment (extracts)				
Plant				
Net carrying amount: 1 January	36 000	67 500	80 000	
Gross carrying amount:	54 000	90 000	100 000	0
Accumulated depreciation and impairment losses:	(18 000)	(22 500)	(20 000)	0
Additions	0	0	0	100 000
Depreciation	(22 000)	(18 000)	(22 500)	(20 000)
Revaluation surplus increase/ (decrease)	4 000	(7 500)	10 000	0
Revaluation income/ (expense)	4 000	(6 000)	0	0
Net carrying amount: 31 December	22 000	36 000	67 500	80 000
Gross carrying amount:	44 000	54 000	90 000	100 000
Accumulated depreciation and impairment losses:	(22 000)	(18 000)	(22 500)	(20 000)
The last revaluation was performed on 1/1/20X4 by an independent sworn appraiser to the fair value in use and the fair value adjustment was recorded on a <i>net</i> replacement value basis. Revaluations are performed annually.				
Carrying amount had the cost model been used instead:				
	80 000	20 000	40 000	60 000

Solution to example 13B revaluation model disclosure - with deferred tax**Journals****Dr/ (Cr)****1/1/20X1**

Plant: cost	100 000
Bank/ Liability	(100 000)
<i>Purchase of asset</i>	

31/12/20X1

Depreciation	(100 000 / 5 years remaining)	20 000
Plant: accumulated depreciation		(20 000)
<i>Depreciation</i>		

1/1/20X2:

Plant: accumulated depreciation		20 000
Plant: cost		(20 000)
<i>NRVM: set-off of accumulated depreciation before revaluing asset</i>		

Plant: cost	W1	10 000
Revaluation surplus		(10 000)
<i>NRVM: revaluation of asset</i>		

Revaluation surplus	W1	3 000
Deferred tax		(3 000)
<i>Deferred tax on revaluation of asset</i>		

31/12/20X2:

Depreciation	W1	22 500
Plant: accumulated depreciation		(22 500)
<i>Depreciation on plant</i>		

Journals continued ...

Dr/ (Cr)

31/12/20X2 continued ...

Revaluation surplus	(7 000 / 4 years remaining) or (22 500 revalued	1 750
Retained earnings	depreciation – 20 000 historic depreciation) x 70%	(1 750)
<i>Artificial decrease in after-tax profits reversed: (31/12/20X2)</i>		
Deferred tax	W1	750
Taxation		(750)
<i>Depreciation versus tax deductible allowance: (31/12/20X2)</i>		

1/1/20X3

Plant: accumulated depreciation		22 500
Plant: cost		(22 500)
<i>Set off of accumulated depreciation against cost (NRVM)</i>		
Revaluation surplus	W1: balance in revaluation surplus	7 500
Revaluation expense	W1: (13 500 - 7 500)	6 000
Plant: cost	67 500 - 54 000	(13 500)
<i>Devaluation of plant to fair value</i>		
Deferred tax	W1; or 7 500 x 30%	2 250
Revaluation surplus		(2 250)
<i>Deferred tax on reversal of equity:</i>		

31/12/20X3

Depreciation	W1	18 000
Plant: accumulated depreciation		(18 000)
<i>Depreciation on plant</i>		
Deferred tax	W1	1 200
Tax		(1 200)
<i>Depreciation & impairment loss versus tax deductible allowance</i>		

1/1/20X4

Plant: accumulated depreciation		18 000
Plant: cost		(18 000)
<i>Set off of accumulated depreciation against cost (NRVM)</i>		
Plant: cost	36 000 – 44 000	8 000
Revaluation income	W1: up to historical carrying amount	(4 000)
Revaluation surplus	W1: above historical carrying amount	(4 000)
<i>Revaluation to an increased fair value</i>		
Revaluation surplus	W1; or 4 000 x 30%	1 200
Deferred taxation		(1 200)
<i>Deferred tax on revaluation surplus</i>		

31/12/20X4

Depreciation	W1	22 000
Plant: accumulated depreciation		(22 000)
<i>Depreciation on plant</i>		
Revaluation surplus	(2 800) / 2 years; OR (22 000 revalued depreciation -	1 400
Retained earnings	20 000 historic depreciation) x 70%	(1 400)
<i>Artificial decrease in after-tax profits reversed</i>		
Tax	W1: 1 200 - 600	600
Deferred tax		(600)
<i>Depreciation & impairment loss reversed versus tax deductible allowance:</i>		

Disclosure:**ABC Ltd****Statement of comprehensive income (extracts)****For the year ended 31 December 20X4**

	Notes	20X4 C	20X3 C	20X2 C	20X1 C
Profit for the period		100 000	100 000	100 000	100 000
<i>Other comprehensive income (net of tax)</i>	7	2 800	(5 250)	7 000	0
Revaluation surplus / (devaluation)		2 800	(5 250)	7 000	0
Total comprehensive income		102 800	94 750	107 000	100 000

ABC Ltd**Statement of changes in equity****For the year ended 31 December 20X4 (EXTRACTS)**

	Revaluation surplus C	Retained earnings C	Total C
Balance at 1 January 20X1	0	X	X
Total comprehensive income	0	100 000	0
Balance at 31 December 20X1	0	X	X
Total comprehensive income	7 000	100 000	107 000
Realised portion transferred to retained earnings	(1 750)	1 750	0
Balance at 31 December 20X2	5 250	X	X
Total comprehensive income	(5 250)	100 000	94 750
Balance at 31 December 20X3	0	X	X
Total comprehensive income	2 800	100 000	102 800
Realised portion transferred to retained earnings	(1 400)	1 400	0
Balance at 31 December 20X4	1 400	X	X

ABC Ltd**Statement of financial position****As at 31 December 20X4 (EXTRACTS)**

	Note	20X4 C	20X3 C	20X2 C	20X1 C
ASSETS					
Non-current Assets					
Property, plant and equipment	3	22 000	36 000	67 500	80 000
Deferred taxation	4	0	1 200	0	0
EQUITY AND LIABILITIES					
Equity					
Revaluation surplus (from SOCIE)		1400	0	5250	0
Non-current liabilities					
Deferred taxation	4	600	0	2 250	0

ABC Limited**Notes to the financial statements****For the year ended 31 December 20X4 (extracts)**

	20X4 C	20X3 C	20X2 C	20X1 C
5. Deferred taxation asset/ (liability)				
<i>The deferred taxation balance comprises:</i>				
Property, plant and equipment	(600)	1 200	(2 250)	0
	(600)	1 200	(2 250)	0
<i>Reconciliation:</i>				
Opening balance	1 200	(2 250)	0	0
Deferred tax charge in the statement of comprehensive income	(600)	1 200	750	0
Deferred tax on revaluation/ devaluation	(1 200)	2 250	(3 000)	0
Closing balance	(600)	1 200	(2 250)	0
6. Taxation expense/ (income)				
<i>Normal income tax</i>				
- current	X	X	X	X
- deferred	600	(1 200)	(750)	0

W1: Deferred tax calculation:

Plant	Carrying amount	Tax base	Temp diff	Deferred taxation	Details	Revaluation surplus
Balance: 1/1/20X1	0	0	0	0		
Purchase	100 000	100 000	0	0		
Depreciation (100 000/ 5 years)	(20 000)	(20 000)	0	0		
Balance: 31/12/20X1	80 000	80 000	0	0		
Revaluation surplus (equity increase)	10 000	0	(10 000)	(3 000)	Cr DT (FP) Dr RS (FP)	(10 000) 3 000
Fair value	90 000	80 000				(7 000)
Depreciation (90 000/ 4 years)	(22 500)	(20 000)	2 500	750	Dr DT (FP) Cr TE (CI)	1 750
Balance: 31/12/20X2	67 500	60 000	(7 500)	(2 250)	Liability	(5 250)
Revaluation surplus (equity decrease)	(7 500)	0	7 500	2 250	Dr DT (FP) Cr RS (FP)	7 500 (2 250)
Historical carrying amount	60 000	60 000	0			0
Revaluation expense	(6 000)	0	6 000			
Fair value	54 000	60 000				
Depreciation (54 000/ 3 years)	(18 000)	(20 000)	(2 000)			
Balance: 31/12/20X3	36 000	40 000	4 000	1 200	Asset	0
Revaluation income	4 000	0	(4 000)	(1 200)	Cr DT (FP) Dr TE (CI)	
Historical carrying amount	40 000	40 000				
Revaluation surplus (equity increase)	4 000	0	(4 000)	(1 200)	Cr DT (FP) Dr RS (FP)	(4 000) 1 200
Fair value	44 000	40 000				2 800
Depreciation (44 000/ 2 years)	(22 000)	(20 000)	2 000	600	Dr DT (FP) Cr TE (CI)	(1 400)
Balance: 31/12/20X4	22 000	20 000	(2 000)	(600)	Liability	1 400

Solution to example 13C: revaluation model disclosure – with deferred tax

Comment: the only difference between Part C and Part B is that other comprehensive income is shown gross (i.e. before tax) rather than net of tax. This requires an additional note to reflect the tax thereon. The journals and workings for Part C are identical to those in Part B.

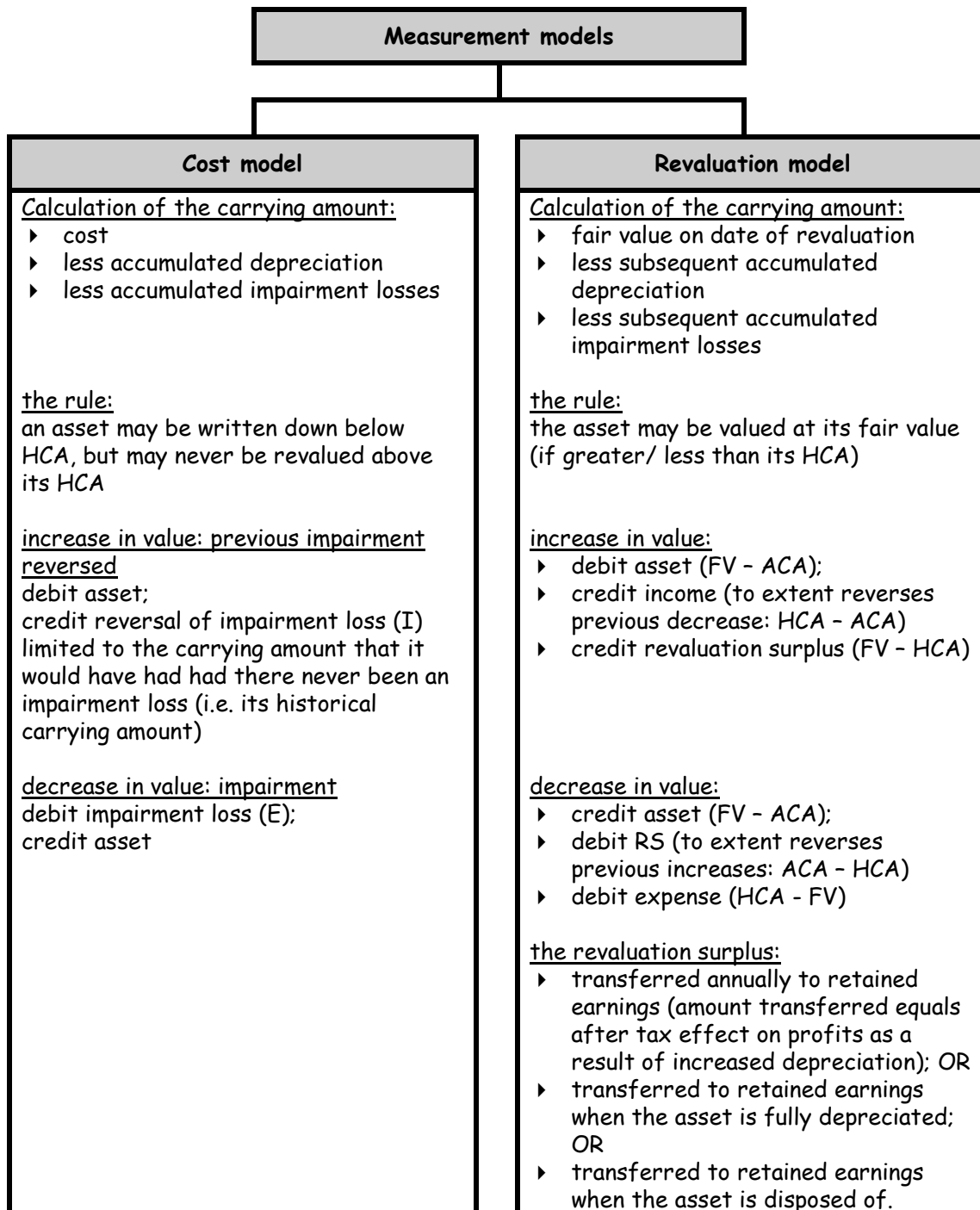
ABC Ltd**Statement of comprehensive income (extracts)****For the year ended 31 December 20X4**

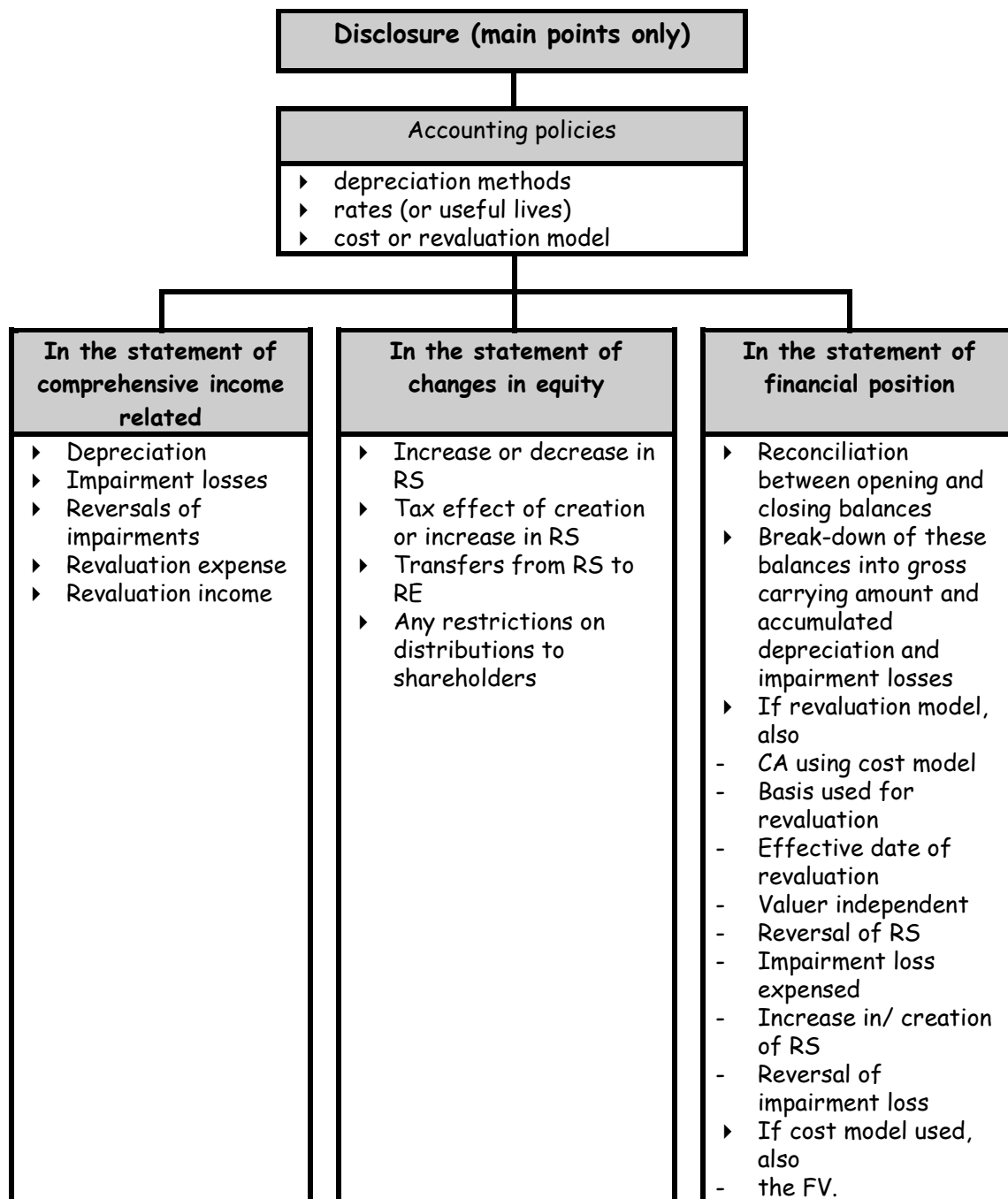
	Notes	20X4 C	20X3 C	20X2 C	20X1 C
Profit for the period		100 000	100 000	100 000	100 000
<i>Other comprehensive income net of tax</i>		2 800	(5 250)	7 000	0
Revaluation surplus / (devaluation) before tax		4 000	(7 500)	10 000	0
Taxation effect of other comprehensive income	7	(1 200)	2 250	(3 000)	0
Total comprehensive income		102 800	94 750	107 000	100 000

ABC Ltd**Notes to the financial statements (extracts)****For the year ended 31 December 20X4**

	Notes	20X4 C	20X3 C	20X2 C	20X1 C
7. Tax effects of components of other comprehensive income					
Revaluation surplus / (devaluation)					
Gross		4 000	(7 500)	10 000	0
Tax		(1 200)	2 250	(3 000)	0
Net		2 800	(5 250)	7 000	0

6. Summary





Chapter 7

Intangible Assets

Reference: IAS 38, SIC 32 and IFRS 3

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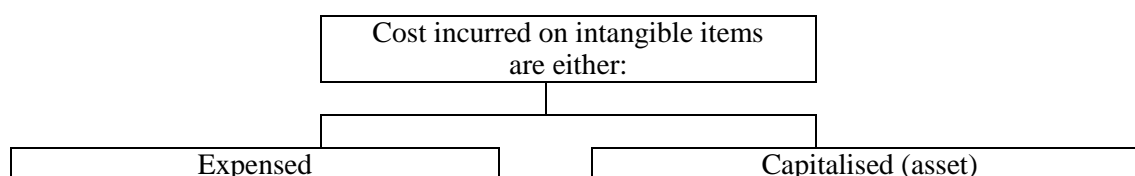
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1. Introduction

The standard on intangible assets (IAS 38) covers all intangible assets unless the asset:

- is covered by another accounting standard (e.g. inventories, deferred tax assets, leases, goodwill, employee benefits, non current assets held for sale and financial assets);
- relates to mineral rights and expenditure on the exploration for, or development and extraction of non-regenerative resources such as minerals and oils.

‘Intangible’ is defined in the Oxford dictionary as ‘unable to be touched’: this chapter is therefore dedicated to those assets that have no physical form. Examples of assets without physical substance include, inter alia, research and development costs, software, patents, trademarks, copyrights, brands, licences and training. These items, however, must meet the definition and recognition criteria provided in IAS 38 before they are recognised as an asset. If these are not fully met, it will result in an intangible item being expensed.



Some items, covered by other standards, are specifically excluded from this standard (IAS 38):

- deferred tax assets
- leases
- employee benefits; and
- goodwill from business combinations.

2. Definitions and recognition criteria (IAS 38 and the Framework)

The following definitions are provided in IAS 38 and/ or the Framework (some of these have been simplified so as to be easier to read):

Intangible asset:

- an identifiable
- non-monetary
- asset (refer below)
- without physical substance.

Asset (from the Framework):

- a resource
- controlled by an entity
- as a result of past events; *and*
- from which future economic benefits are expected to flow to the entity.

Recognition criteria (from IAS 38 and in the Framework):

- the future economic benefits expected must be probable; and
- the asset must have a cost that is reliably measurable.

Monetary assets are:

- money held and
- assets to be received in fixed or determinable amounts of money.

Amortisation:

- is the systematic allocation of the depreciable amount of an intangible asset
- over its useful life.

Depreciable Amount:

- is the cost of an asset, or other amount substituted for cost,
- less its residual value.

Cost:

- is the amount of cash or cash equivalents paid or
- the fair value of the other consideration
- given to acquire an asset
- at the time of its acquisition or construction', or
- when applicable, the amount attributable to that asset when initially recognised in accordance with the specific requirements of other IFRSs eg IFRS 2 Share-based payments.

Residual Value:

- of an intangible asset is
- the estimated amount that the entity would *currently* obtain from disposal of the asset,
- after deducting the estimated costs of disposal,
- if the asset were *already* of the age and in the condition expected at
- the *end* of its estimated useful life.

Useful Life:

- is the period of time over which an asset is expected to be available for use by the entity; or
- the number of production or similar units the entity expects to obtain from the asset.

Impairment Loss:

- is the amount by which
- the carrying amount of an asset
- exceeds its recoverable amount.

Carrying Amount:

- is the amount at which an asset is recognised in the statement of financial position
- after deducting any accumulated amortisation and accumulated impairment losses thereon.

Recoverable Amount (given in IAS 36 and repeated here for your convenience):

- of an asset or a cash-generating unit is
- the higher of
- its fair value less costs to sell and
- its value in use.

Fair Value:

- is the amount for which that asset could be exchanged
- between knowledgeable, willing parties in an arm's length transaction.

Active Market:

- is a market in which all the following conditions exist:
 - a) the items traded in the market are homogenous;
 - b) willing buyers and sellers can normally be found at any time; and
 - c) prices are available to the public.

Research:

- is original and planned investigation
- undertaken with the prospect of gaining new scientific or technical knowledge and understanding.

Development:

- is the application of research findings or other knowledge
- to a plan or design for the production
- of new or substantially improved materials, devices, products, processes, systems or services before the start of commercial production or use.

3. Recognition of an intangible asset (IAS 38.9 - .17)

Before an intangible item may be recognised as an intangible asset, it must meet the:

- definition of an intangible asset (and thus also the definition of an 'asset' per the Framework); *and*
- recognition criteria.

The most difficult aspects to meet regarding the definition of an *intangible* asset are generally the following:

- the asset must not have a physical form (this is not always that obvious);
- the asset must be 'identifiable'; and
- the asset must be controlled by the entity.

One of the most difficult aspects of the recognition criteria to meet is that

- the value thereof must be 'reliably measurable'.

This aspect is problematic where the intangible asset is made and is therefore not purchased as an individual asset. In such a case there would therefore not be a purchase price and therefore one would need to estimate a fair value.

3.1 The item must be without physical substance

Expenditure is frequently incurred on items that have both intangible and tangible elements. This requires assessing which element is *more significant*: the physical (tangible) or the non-physical (intangible) element. Depending on which element is more significant will determine which standard should be applied to the asset:

- the standard on Intangible Assets (IAS 38) or
- the standard on Property, Plant and Equipment (IAS 16) or another appropriate standard.

Example 1: recognition of a fishing licence

A company has acquired a fishing licence. The directors insist that it is a physical asset since it is written on a piece of paper. State and briefly explain whether or not you would recognise a fishing licence as an intangible asset.

Solution to example 1: recognition of a fishing licence

Although the fishing licence has a physical form, (the related legal documentation), the licence is considered intangible rather than tangible since the most significant aspect is the licenced 'ability' to fish rather than the physical proof thereof. Such a right (whether documented or not) is always considered to be intangible.

Example 2: recognition of software

State and briefly explain whether or not you would recognise software as an intangible asset if it is incorporated into a machine that is dependent on the software for its operation.

Solution to example 2: recognition of software

The most significant element would be considered to be the tangible machine, since the software is considered integral to the machine, and therefore the cost of the software would be recognised as part of the cost of the machine and therefore classified as property, plant and equipment (IAS 16). If the software was 'stand-alone' software rather than 'in the machine', it would have been classified as an intangible asset (IAS 38)

3.2 The item must be identifiable

Another important aspect of the definition of ‘intangible assets’ (per IAS 38) is that the asset must be identifiable (IAS 38.11). An asset is considered to be identifiable if it (IAS 38.12):

- is ‘separable’, i.e. is capable of being separated or divided from the entity and sold, transferred, licensed, rented or exchanged, either individually or together with a related contract, asset or liability; OR
- arises from contractual or other legal rights, regardless of whether those rights are transferable or separable from the entity or from other rights and obligations.

If one cannot prove that the asset is identifiable it may not be recognised as a separate asset. Examples of items that are not considered ‘identifiable’ include advertising and staff training since these costs are impossible to separate from the general running costs of a business and are therefore considered to be part of internally generated goodwill and are thus expensed.

If the asset is not separately identifiable and is acquired as part of a business combination, then the asset will form part of *goodwill*. Goodwill is not covered by the standard on ‘intangible assets’ but rather by the standard on ‘business combinations’ (IFRS 3). Since, however, goodwill is closely linked to intangible assets, it is discussed later in this chapter.

3.3 The item must be controllable

The definition of an ‘intangible asset’ includes reference to an asset and therefore the definition of an ‘asset’ (per the Framework) must also be met. This means that the intangible asset must be controlled by the entity as a result of a past event and must result in an expected inflow of future economic benefits (either through increased revenue or decreased costs).

Control over an intangible asset is difficult to prove. It may, however, be achieved if the entity has (IAS 38.13):

- the ability to restrict access to the asset and its related future economic benefits; *and*
- the power to obtain the related future economic benefits, (generally through legally enforceable rights e.g. copyright).

Legal rights are not necessary to prove control: it is just more difficult to prove controllability without them.

By way of example, an entity may be able to identify a team of skilled staff, a portfolio of customers, market share or technical knowledge that will give rise to future economic benefits. The lack of control, however, over the flow of future economic benefits means that these items seldom meet the definition of an intangible asset. Control over technical knowledge and market knowledge may be protected by legal rights such as copyrights and restraint of trade agreements, in which case these would meet the requirement of control.

Example 3: recognition of training costs

State and briefly explain whether or not you would recognise training costs as an intangible asset.

Solution to example 3: recognition of training costs

Although training may be considered to be expenditure on an identifiable, non-monetary item that is without physical substance (therefore ‘intangible’ per IAS 38), the definition of an asset is not met in terms of the Framework since the trained staff members may not necessarily be under sufficient control of the entity to be considered to be an ‘asset’.

4. Initial measurement (IAS 38.18 - .67)

4.1 Initial expenditure

The amount at which an intangible asset that meets both the definition and recognition criteria is initially recorded is its *cost* (in cash or its fair value) (IAS 38.24).

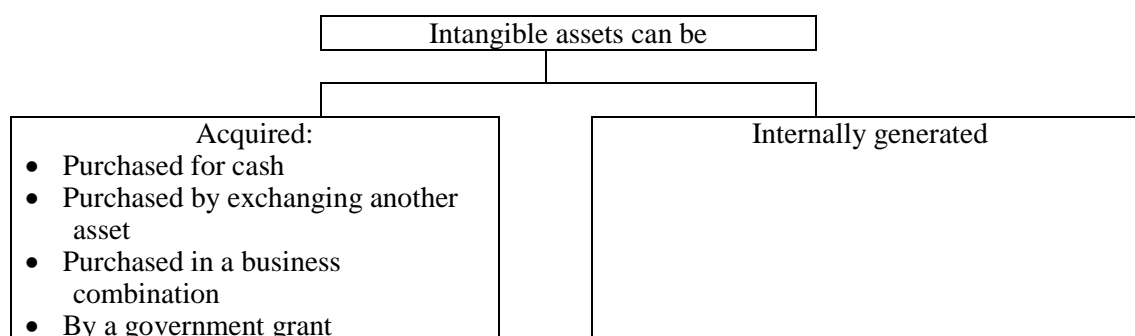
Costs should be capitalised only where they are incurred in bringing the asset to a *location* and *condition* that enables it to be used as *intended by management*. This means that income and expenses from *incidental operations* occurring before or during development or acquisition of an intangible asset are recognised in profit or loss, and not capitalised (cost would be expensed instead of recognised as assets).

Capitalisation of costs *ceases* once the asset is brought to a location and condition that enables it to be used as intended by management. This means that any costs incurred in using or redeploying the asset are not capitalised. 'Initial operating losses incurred while demand for the asset's output builds up' would also not be capitalised (since this occurs subsequent to the asset being brought into use). (IAS 38.30)

The calculation of the cost depends on how the intangible asset was acquired:

- acquired separately for cash
- acquired separately by way of an exchange of assets
- acquired as part of a business combination
- acquired by way of a government grant
- internally generated.

This can be summarised as follows:



Measurement of the cost may require the *fair value* to be determined, if the intangible asset was not acquired separately for cash.

This 'fair value' must be determined on the date of acquisition whether an active market exists or not:

- If an active market exists, the fair value will:
 - usually be the current bid price or, if unavailable, then the price of the most recent similar transaction (so long as there has not been a significant change in economic circumstances between the last transaction date and the date of acquisition of the intangible asset) (IAS 38.39);
- If an active market does not exist, the fair value will either be:
 - the amount that would have been paid for the asset at the date of acquisition, in an arm's length transaction between knowledgeable and willing parties; or
 - another method of calculating the estimated fair value (e.g. discounted cash flow projections) so long as a *reliable* estimate results (IAS 38.40).

It is interesting to note that, due to the unique nature of most intangible assets, a fair value is often impossible to determine with reference to an active market:

- there will be no current bid price since the assets traded are unique (as opposed to homogenous) and, as a result, sales thereof are generally negotiated as once-off private transactions (and therefore prices will also not be available to the public); and
- there will generally be no similar transaction to compare it to.

A prime example is that of brands: every brand in existence is unique by nature and therefore no active market for it could exist and neither could there be a similar transaction that could be used as an alternative guideline to its value.

4.1.1 Acquired separately for cash (IAS 38.25 - .32)

If the asset was acquired on an individual basis (i.e. not as part of a ‘bundle of assets’) for cash, the cost will be relatively easy to measure (as detailed above):

- its purchase price (net of trade discounts and rebates);
- import duties and non-refundable taxes; and
- any costs directly attributable to bringing the asset to a condition enabling it to be used.

4.1.2 Acquired separately by way of an exchange of assets (IAS 38.45 - .47)

In the case of the exchange of assets, the cost of the intangible asset acquired will be a fair value, determined as the:

- fair value of the asset given up;
- fair value of the acquired asset if this is more clearly evident; or the
- carrying amount of the asset given up if neither of the fair values are available or the transaction lacks commercial substance.

For examples on the exchange of assets, see the chapter on property, plant and equipment.

4.1.3 Acquired as part of a business combination (IAS 38.33 - .43 and .48)

When one entity, say A, acquires another entity, say B, it acquires the assets and liabilities of B, including any intangible assets previously belonging to B. The cost of each intangible asset acquired in a business combination is its fair value on date of acquisition.

The acquirer (A) must recognise each intangible asset acquired, whether or not it was previously recognised in the books of the acquiree (B), if:

- it meets the intangible asset definition and
- has a fair value that can be measured reliably (i.e. only one of the recognition criteria needs to be met).

If the fair value is reliably measurable, there is no need to prove that the future flow of future economic benefits is probable because it is accepted that the fair value is the market expectation of the probable flow of future economic benefits.

Internally generated goodwill is prohibited from being capitalised by the company that created it. This is because the costs of generating goodwill are inextricably mixed up with the expenses incurred in running a business i.e. there is no reliable way of separating the portion of the costs that relate to the creation of the goodwill from the general running costs (e.g. cost of advertising, training staff and pleasing customers). This mix up with the normal running expenses means that the intangible asset cannot meet the requirement of being ‘separable’.

When, however, an entity is purchased for a price that is more than the fair value of the net assets, this excess is goodwill, (an intangible asset), that is recognised in the acquirer’s books as ‘purchased goodwill’:

- Purchase price paid for entity – net asset value of entity = goodwill (purchased)

In other words, the company that *created* the goodwill may never recognise it as an asset in its own books, but if another company *buys* that company and pays a premium, this premium, being purchased goodwill, may be recognised as an asset in the *purchaser's* books. The logic behind this is that by buying a company at a premium over the fair value of its assets means that a reliable measure of its value has been established.

If one or more of the intangible assets *does not meet the definition or recognition criteria* in full (e.g. an active market does not exist and the cost is not able to be measured reliably in any other way), then its value is excluded from the 'net asset value of the entity' and the value of the intangible asset is effectively *incorporated into the purchased goodwill*.

Example 4: intangible asset acquired in a business combination

Company A acquires company B. The net assets and liabilities of B are as follows:

• property, plant and equipment	C500 000	Fair value
• patent	C100 000	See the required below
• liabilities	C200 000	Fair value

The price paid for company B is C700 000.

Required:

Journalise the acquisition of company B in the books of company A assuming:

- the fair value of the patent is reliably measurable at C100 000;
- the fair value of the patent is not reliably measurable and the value given above (C100 000) is therefore the carrying amount based on the depreciated cost to company B; and
- the purchase price of the company was C300 000 (not C700 000) and all values provided are fair values.

Solution to example 4A: intangible asset acquired in a business combination

	Calculations/ comments	Debit	Credit
Property, plant and equipment	Given	500 000	
Patent	Given: FV measured reliably at 100 000	100 000	
Liabilities	Given		200 000
Bank	Given		700 000
Goodwill (Asset)	Balancing	300 000	
<i>Acquisition of company B</i>			

Solution to example 4B: intangible asset acquired in a business combination

	Calculations/ comments	Debit	Credit
Property, plant and equipment	Given	500 000	
Liabilities	Given		200 000
Bank	Given		700 000
Goodwill (Asset)	Balancing	400 000	
<i>Acquisition of company B</i>			

Notice that the patent is not recognised (because its fair value of 100 000 was not measured reliably).

Also notice how this results in the increase in the goodwill amount (from C300 000, in the solution to part 4A, to C400 000).

Solution to example 4C: intangible asset acquired in a business combination

	Calculations/ comments	Debit	Credit
Property, plant and equipment	Given	500 000	
Patent	Given: fair value measured reliably	100 000	
Liabilities	Given		200 000
Bank	Given: revised in part C to 300 000		300 000
Goodwill (Income)	Balancing		100 000
<i>Acquisition of company B</i>			

Notice that the goodwill is credited: this is commonly referred to as **negative goodwill** but is officially termed **excess of acquirer's interest in the net fair value of acquiree's identifiable assets, liabilities and contingent liabilities over cost**.

Also notice that negative goodwill is recognised immediately as income (rather than as an asset as in part A and B of this example). This is recognised as income because the company paid less for the company than its net asset value and therefore it effectively made a profit on the acquisition.

4.1.4 Acquired by way of a government grant (IAS 38.44)

On occasion, the government may grant an entity an intangible asset, such as a broadcasting licence to the South African Broadcasting Corporation. This asset may be granted either at no charge or at a nominal amount.

The value at which such an intangible asset is initially recorded may either be:

- the fair value of the asset acquired, or
- the nominal amount plus any expenditure necessarily incurred in order to bring the asset to the location and condition necessary for its intended use.

For further information on intangible assets acquired by way of a government grant, please see the chapter entitled Government Grants.

4.1.5 Internally generated intangible assets (IAS 38.48 - .67)

A company may expend resources on the internal creation of intangible items. Examples of such internal items include patents, trademarks, customer loyalty and market share. Some of these intangible items contribute towards the entity's goodwill. These items will be referred to as 'internally generated goodwill' and the balance, for ease of reference, will be referred to as 'internally generated intangible assets other than goodwill'.

4.1.5.1 Internally generated goodwill (IAS 38.48-50)

Not all expenditure incurred on creating an intangible item may be capitalised as an intangible asset. Examples of such expenditure include the costs involved in developing customer loyalty, market share and other items that generally lead to the development of the business as a whole. These items are defined as internally generated goodwill and are always expensed.

Internally generated goodwill is never recognised as an asset and is always expensed. Although this goodwill is expected to render future economic benefits, it may not be capitalised because it does not completely meet the asset definition and recognition criteria:

- it is not an identifiable resource (i.e. it is not separable from the costs of running a business and it does not arise from any contractual or legal right);
- it may not be possible to control items such as customer loyalty; and more importantly
- it is impossible to reliably measure the value thereof.

It is interesting to contrast the expensing of *internally generated goodwill* with the capitalisation of *purchased goodwill* (covered in IFRS 3):

- Purchase price of entity - net asset value of entity = goodwill (purchased)

Although it may seem that the above equation could be adapted to measure *internally generated goodwill* by replacing ‘purchase price’ with ‘market value’ of the entity, this would not be acceptable because:

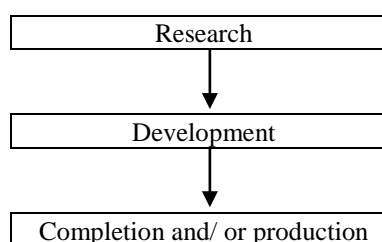
- the market value is as a result of a wide range of factors (including, for instance, the economic state of the country), not all of which relate to the customer loyalty or other items forming part of internally generated goodwill; and
- there is no control over any of these factors, for example, the economic state of the country or customer loyalty.

4.1.5.2 Internally generated intangible assets other than goodwill (IAS 38.51-67)

A company may have an intangible item that has been internally generated. There are three distinct phases that need to be discussed:

- research (IAS 38.54);
- development (IAS 38.57); and
- production.

Once the *research* phase is successfully completed, the *development* phase may begin, the successful completion of which then leads to the start of the *production* phase (or when the intangible asset begins to be used in some or other way).



The following *internally generated items* must never be capitalised: (IAS 38.63)

- goodwill;
- brands;
- mastheads;
- publishing titles;
- customer lists; and
- other similar items.

The reason for this is that these items form part of the general costs of creating a business (i.e. they are *not separately identifiable* from developing the business as a whole) and should therefore be expensed (IAS 38.64).

Once the item meets the definitions and recognition criteria, the next step is to determine which of the costs may be capitalised. Costs that may be capitalised are only those that are:

- directly attributable
- to preparing the asset for its intended use.

Some *costs* may be excluded on the grounds that they are:

- costs not *directly* associated with preparing the asset for its intended use: for example, selling costs and general overheads are generally not directly attributable to the asset and are therefore normally not capitalised;
- costs incurred *after* the asset was brought to a condition that enabled it to be used as intended by management, (unless these costs meet the recognition criteria): for example costs of moving an asset to another location; costs incurred while an asset, capable of being used, remains idle and initial operating losses;
- costs of training staff to operate the asset; and
- costs that were expensed in a previous financial period due to all criteria for capitalisation not being met, even if all criteria are subsequently met.

Since the internally generated item must meet the recognition criteria, the accounting treatment of each phase (research, development and production) will differ based on the abilities to prove that future economic benefits are probable. This is now discussed further.

4.1.5.2.1 The research phase:

Research is defined as:

- original and planned *investigation*
- undertaken with the prospect of gaining
- new scientific or technical knowledge and understanding.

By definition, this is the very early stage of the creation of the intangible item, where research is merely a project to investigate whether there are possible future economic benefits. There is therefore no guarantee at this stage that the future economic benefits are expected (definition) or probable (recognition criteria). Research costs are therefore *always expensed* (IAS 38.54).

Examples of research activities include (IAS 38.56):

- activities aimed at obtaining new knowledge;
- the search for, evaluation and final selection of applications of research findings or other knowledge;
- the search for alternatives for materials, devices, products, processes, systems or services;
- the formulation, design, evaluation and final selection of possible alternatives for new or improved materials, devices, products, processes, systems or services.

4.1.5.2.2 The development phase:

Development is defined as:

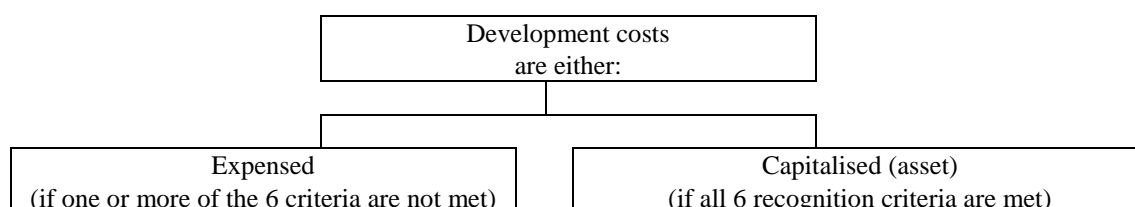
- the *application*
- of research findings or other knowledge
- to a plan or design for the production
- of new or substantially improved materials, devices, products, processes, systems or services
- prior to the commencement of commercial production or use.

Since development is the second, and therefore more advanced stage of creation, it may be possible to prove that the item is expected to generate future economic benefits. In order for this to be proved, *all* of the following criteria need to be demonstrated (i.e. proved) (IAS 38.57):

- the technical feasibility of completing the asset;
- the intention to complete the asset and to either use or sell it;
- the ability to use or sell the asset;
- how the asset will generate future economic benefits, through, for instance, demonstrating that there is a market to sell to, or if the asset is to be used internally, then its usefulness;
- the adequate availability of necessary resources (technical, financial or otherwise) to complete the development and to sell or use the asset; and
- the ability to reliably measure the cost of the development of the asset.

If just one of these criteria is not demonstrable, then the related costs *must be expensed*.

Once all these criteria are met, however, it can be said that future economic benefits are probable and that there is a cost that is reliably measurable. Assuming the two definitions (asset and intangible asset) are also met, the item *must be capitalised*.



Examples of development activities include (IAS 38.59):

- the design, construction and testing of pre-production or pre-use prototypes and models;
- the design of tools, jigs, moulds and dies involving new technology;
- the design, construction and operation of a pilot plant that is not of a scale economically feasible for commercial production; and
- the design, construction and testing of a chosen alternative for new or improved materials, devices, products, processes, systems or services.

4.1.5.2.3 The production phase:

Once the development phase is complete, the economic benefits from the use of the development asset can start to flow into the entity. In order to achieve a better reflection of the diminishing value of the asset as a result of usage, the development asset should be amortised.

The amortisation of the development asset must begin as soon as it is ready for use (i.e. when development is complete). It therefore does not matter when we actually start production.

If when production starts, the development asset is used in the production of another item that will first have to be used or sold before economic benefits are earned, then the amortisation should be capitalised to the cost of this item/s. This amortisation will eventually be expensed when this item is used or sold (e.g. development costs incurred in relation to inventory will be expensed as cost of sales when the inventory is sold).

Example 5: research and development

A company entered into a research and development project, the costs of which are as follows (all costs are incurred evenly over the year):

	C
20X1:	120 000
20X2:	100 000
20X3:	100 000

On 1 September 20X1, the recognition criteria for capitalisation of development costs are met.

The recoverable amounts are as follows:

	C
31 December 20X1	90 000
31 December 20X2	110 000
31 December 20X3	250 000

Required:

- Show all journals related to the costs incurred for each of the years ended 31 December.
- Disclose the development asset in the statement of financial position for 20X1 to 20X3.

Solution to example 5A: research and development

Summary: cost of development asset account	20X1	20X2	20X3
Opening balance	0	40 000	110 000
Current year's cost incurred and capitalised (20X1: $C120\,000 \times 4/12$, from 1 September 20X1, when all 6 criteria met)	40 000	100 000	100 000
Subtotal	40 000	140 000	210 000
Compared with recoverable amount (given)	90 000	110 000	250 000
(Impairment loss)/ impairment loss reversed (20X1: $RA > CA$) (20X2: CA of 140 000 – RA of 110 000) (20X3: RA of 250 000 limited to original costs capitalised of 240 000 – CA of 210 000 = 30 000)	N/A	(30 000)	⁽¹⁾ 30 000
Closing balance	40 000	110 000	240 000

Note 1: The impairment loss reversed is not C40 000 but C30 000 because it is limited to the impairment loss originally recognised. If an impairment loss reversed were to be measured at C40 000, the balance on the development asset at 31 December 20X3 would land up at C250 000 (instead of C240 000) and yet only C240 000 development costs were incurred:

Actual development costs	C
20X1 (C120 000 x 4/12)	40 000
20X2 (given)	100 000
20X3 (given)	100 000
	<u>240 000</u>

20X1	Debit	Credit
Research (E)	80 000	
Development: cost (A)	40 000	
Bank/ liability		120 000
<i>Research and development costs incurred (capitalisation began from 1 September 20X1, being the date on which all six criteria were met (costs expensed before this date))</i>		

20X2		
Development: cost (A)	100 000	
Bank/ liability		100 000
<i>Development costs incurred</i>		

Impairment loss: development (E)	CA: 140 000 – RA: 110 000	30 000	
Development: accumulated impairment loss: (-'ve A)			30 000
<i>Impairment loss recognised (six criteria still met)</i>			

20X3		
Development (A)	100 000	
Bank/ liability		100 000
<i>Development costs incurred</i>		

Development: accumulated impairment loss: (-'ve A)	30 000	
Impairment loss reversed: development (I)		30 000
<i>Impairment loss reversed (CA of 210 000 increased to RA of 250 000, limited to historical carrying amount costs 240 000 (costs capitalised: 40 000 + 100 000 + 100 000 – amortisation: 0))</i>		

Solution to example 5B: research and development

ABC Ltd

Statement of financial position

At 31 December 20X3 (extracts)

ASSETS	Note	20X3	20X2	20X1
Non-current Assets		C	C	C
Development	3	240 000	110 000	40 000

4.1.5.2.4 Web site costs (SIC 32):

The costs incurred on a business web-site can be categorised into five basic stages:

- Stage 1: Planning stage
- Stage 2: Application and infrastructure stage
- Stage 3: The graphical design stage
- Stage 4: Content development stage
- Stage 5: Operating stage.

Stage 1: Costs incurred in the planning stage of the web-site (e.g. undertaking feasibility studies, defining hardware and software specifications) are expensed as *research*.

Stage 2 – 4: The costs incurred during stages 2 – 4 could potentially be capitalised as development costs. The same intangible asset definition and six recognition criteria would, however, first need to be met before the costs could be capitalised as development costs. Stage 2, being the application and infrastructure development stage involves, for example, obtaining a domain name, developing server software. Stage 3, being the graphical design stage involves, for example, designing the layout and colours on the website. Stage 4, being the content development stage involves, for example, writing information about the entity and including pictures of products sold. If a link can be established between the cost incurred during any of these stages (stage 2 – 4) and the inflow of future economic benefits, the cost could potentially be capitalised (if the definitions and recognition criteria are met). This means that if the cost incurred on the website simply results in electronic advertising, then the cost must be expensed. Consider for example, the content development stage:

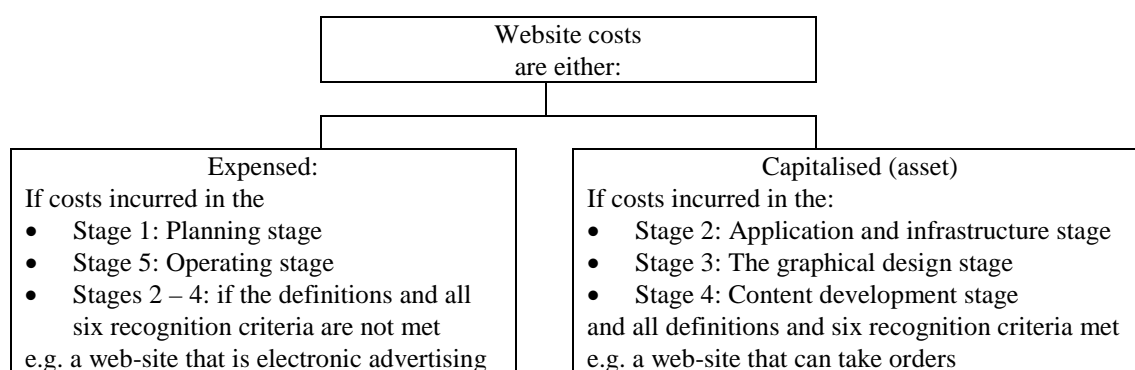
- the cost of photographing products available for sale would be a cost of advertising and would therefore be expensed; whereas
- the cost that is a fee for acquiring a licence to reproduce certain information, may be a cost that could be capitalised (if the definitions and six recognition criteria are met).

Stage 5: The operating stage occurs once the web-site is ready for use. Capitalisation of any website-related costs must cease during this stage unless they meet the requirements for capitalisation of subsequent costs (i.e. the definitions and just the two basic recognition criteria per the Framework are met).

If the company's web-site is primarily involved in *advertising* products, then the cost of the web-site should be *expensed* as advertising (since it would be impossible to reliably measure the future economic benefits from the use of the web-site). If the web-site is, on the other hand, able to take *orders*, for example, then it may be possible to prove and measure the future economic benefits expected from the use thereof, in which case it may be possible to capitalise the associated costs.

Where an entity incurs web-site costs involved in the creation of content other than for advertising and promotional purposes and this directly attributable cost results in a separately identifiable asset (e.g. a licence or copyright) this asset should be included in the 'web-site development asset' and should not be separately recognised.

The web-site should be amortised, as the useful life is considered to be finite. The useful life selected should be short.



4.1.5.2.5 In-process research and development: (IAS 38.34 and .42 - .43)

Whereas many companies *do* their own research and development, it is possible for a company to buy another company's research and development. If a company buys (either separately or as part of a business combination) another company's 'in-process research and development' project, the fair value of the *initial* acquisition costs will be capitalised if it:

- meets the definition of an asset (the basic asset definition provided in the Framework);
- is identifiable (i.e. is separable or arises from contractual or other legal rights); and
- its fair value can be measured reliably.

The entire purchase price is capitalised if the above criteria are met, regardless of the portion of the fair value that relates to purchased research.

Any *subsequent* expenditure on this purchased 'in-process research and development' project will, however, be analysed and recognised in the normal way:

- costs that relate to research must be expensed;
- costs that relate to development:
 - must be expensed if all recognition criteria are not met; and
 - capitalised if all recognition criteria are met.

Example 6: in-process research and development acquired

A company bought an incomplete research and development project from another company for C400 000 (considered to be a fair value) on 1 January 20X1. The purchase price has been analysed as follows:

	C
Research	100 000
Development	300 000

Subsequent expenditure has been incurred on this project as follows:

Research	Further research into possible markets was considered necessary	200 000
Development	Incurred evenly throughout the year. All recognition criteria for capitalisation as a development asset were met on 1 June 20X1.	480 000

Required:

Show all journals related to the in-process research and development for 20X1.

Solution to example 6: in-process research and development acquired

20X1	Debit	Credit
Development (A)	400 000	
Bank/ liability		400 000
<i>In-process research and development purchased (no differentiation between research and development is made) when the project was acquired as 'in-process R&D' (IAS 38.34)</i>		
Research (E)	200 000	
Development (E) [480 000 x 5/12]	200 000	
Development (A) [480 000 x 7/12]	280 000	
Bank/ liability		680 000
<i>Subsequent expenditure on an in-process research and development project recognised as usually done: research is expensed and development costs capitalised only if all criteria for capitalisation of development costs are met</i>		

4.2 Subsequent expenditure (IAS 38.20 and .42 - .43)

The same criteria are applied to subsequent expenditure and initial expenditure, that is to say, the costs are capitalised if the following criteria are met:

- The definition of an intangible asset is met and
- It has a value that is reliably measurable and
- It is probable that future economic benefits will flow to the entity.

Due to the nature of intangible assets, it is frequently so difficult to prove that subsequent expenditure is attributable to a specific intangible asset rather than to the general operation of the business, that subsequent expenditure on intangible assets is seldom capitalised.

5. Measurement models (IAS 38.72 - .106)

As with tangible assets covered by the statement on property, plant and equipment (IAS 16), there are two measurement models allowed:

- the cost model; and
- the revaluation model.

5.1 Cost model (IAS 38.74)

The intangible asset is shown at its cost less any accumulated amortisation and any accumulated impairment losses. Most intangible assets are measured under the cost model because the fair value needed for the revaluation model is not easily determinable.

5.2 Revaluation model (IAS 38.75 - 87)

If the intangible asset is measured under the revaluation model it is shown at its:

- fair value at date of revaluation (the initial recognition of the asset must, however, always be at cost, never at a revalued fair value)
- less any subsequent accumulated amortisation and any accumulated impairment losses.

The revaluation must be performed with sufficient regularity that the intangible asset's carrying amount does not differ significantly from its fair value. The frequency of the revaluations is dependant on the:

- volatility of the market prices of the asset; and
- the materiality of the expected difference between the carrying amount and fair value.

A downside to adopting this model is that if an asset is to be revalued, all assets in that same class must be revalued at the same time. This makes it a costly alternative to the cost model.

The mechanisms used in applying the revaluation model to intangible assets are just the same as those used to apply the revaluation model to property, plant and equipment, with the one exception being that the *fair value of an intangible asset* must be determined with reference to an active market ((there was no such limitation in IAS 16: *Property, plant and equipment*). As mentioned already, there is often no active market for the intangible asset due to its uniqueness and therefore, although the revaluation model is allowed, it is often not possible to apply in practice. It should be noted that where a fair value has to be estimated on *initial acquisition* of an intangible asset, this may be determined in any manner (i.e. with reference to an active market or by using a calculation).

The following intangible assets do not have active markets due to their uniqueness, with the result that the revaluation model may never be applied to them:

- brands;
- mastheads;
- music and film publishing rights;
- patents; and
- trademarks.

If, within a class of assets measured at fair value, there is an intangible asset that does not have a reliably measurable fair value, then that asset will continue to be carried at cost less accumulated depreciation and impairment losses.

If the revaluation model is used but at a later stage the fair value is no longer able to be reliably determined (i.e. there is no longer an active market), the asset should continue to be carried at the amount determined at the date of the last revaluation less any subsequent accumulated amortisation and impairment losses.

It should be stressed, however, that if an active market ceases to exist, the possibility of an impairment in value must also be considered and adjusted for where necessary.

5.2.1 Accounting for a revaluation (IAS 38.80 and .85 - .87)

The revaluation of an intangible asset is accounted for in the same way as that of a tangible asset (covered by the standard on property, plant and equipment). In summary, two methods of journalising the adjustment are allowed:

- the gross replacement method; and
- the net replacement method.

The two methods allowed have no impact on the net carrying amount, but do have an impact on the components thereof: the 'gross carrying amount' and the 'accumulated amortisation' accounts. This will obviously impact on the note disclosure.

For a detailed discussion of the use of the cost and revaluation models and comprehensive examples involving both models, please see the chapter on property, plant and equipment.

6. Amortisation and impairment testing (IAS 38.88 - .110)

6.1 Overview

An intangible asset may either be assessed as having:

- a finite useful life; or
- an indefinite useful life.

Assets that have finite lives are amortised whereas those that have indefinite useful lives are not amortised.

If an asset is assessed as having an indefinite useful life, it does not mean that the asset has an infinite useful life but rather that 'there is no foreseeable limit over which the asset is expected to generate net cash inflows for the entity'. The factors to consider when assessing the useful life as finite or indefinite are listed in IAS 38.90.

Examples of some of these factors are:

- possible obsolescence expected as a result of technological changes;
- the stability of the industry in which the asset operates;
- the stability of the market demand for the asset's output;
- expected actions by competitors;
- the level of maintenance required to be assured of obtaining the expected future economic benefits and managements intent and ability to provide such maintenance.

The impairment testing of intangible assets is *generally* the same as that of an item of property, plant and equipment. Impairment testing of both types of asset is covered in IAS 36: impairment of assets.

6.2 Impairment testing (IAS 36.111 and IAS 38)

Intangible assets that have *finite useful lives* are tested in the same way as property, plant and equipment are tested for impairment:

- Impairment test is first performed to identify whether there is a possible impairment;
- then, if there appears to be a material impairment, and this is not considered to be due to a shortage of amortisation in the past, the recoverable amount is calculated and compared to the carrying amount.

The impairment testing is, however, slightly different in the case of:

- goodwill;
- intangible assets not yet available for use; and
- intangible assets with indefinite useful lives.

In the case of all three above, the recoverable amount must be estimated every year irrespective of whether there is any indications that suggests a possible impairment (in other words, it is not necessary to perform an impairment test).

In the case of *goodwill*, the recoverable amount must be calculated:

- annually and
- whenever there is an indication of a possible impairment (IFRS 3.55 and IAS 36.96); but
- Specific exceptions may allow the entity to use a recent detailed calculation of recoverable amount for a cash-generating unit to which goodwill has been allocated (i.e. instead of performing an entirely new calculation). These exceptions are found in IAS 36.99 and are covered in more depth in the chapter on impairment of assets.
- An impairment of goodwill may never be reversed (IAS 36.124 and 90).

In the case of intangible assets that are *not yet available for use*, the recoverable amount must be calculated:

- annually; and
- whenever there is an indication of a possible impairment.

In the case of intangible assets with *indefinite useful lives* the recoverable amount must be calculated:

- annually *and*
- whenever there is an indication of a possible impairment; but
- if there is a recent detailed estimate made in a preceding year this may be used instead:
 - if this intangible asset is part of a cash-generating unit, where the change in the values of the assets and liabilities within the cash-generating unit are insignificant;
 - if the most recent detailed estimate of the recoverable amount was substantially greater than the carrying amount at the time; *and*
 - if events and circumstances subsequent to the calculation of the previous recoverable amount suggest that there is only a *remote* chance that the current recoverable amount would now be less than the carrying amount (IAS 36:24).

6.3 Amortisation (IAS 38.97 - .106)

Only intangible assets with finite lives are amortised (IAS 38.97). There are three variables to amortisation (just as there are to depreciation):

- Residual value (used in determining the depreciable amount);
- Period of amortisation; and
- Method of amortisation.

6.3.1 Depreciable amount and the residual value (IAS 36.100 - .103)

The depreciable amount is:

- the cost (or other substituted amount) of the asset
- less its residual value.

The residual value is determined (just as with property, plant and equipment) as:

- the expected proceeds on disposal of the asset
- less expected costs of disposal
- imagining the asset to already be at the end of its useful life (i.e. current values are used).

In the case of intangible assets, the residual value is zero unless:

- a third party has committed to purchasing the asset at the end of its useful life; or
- there is an active market for that asset *and*
 - it is possible to determine the residual value using such market *and*
 - it is probable that the market will still exist at the end of the asset's useful life.

6.3.2 Period of amortisation (IAS 36.97 - .99)

Amortisation of the intangible asset should *begin* from the date on which it becomes available for use (i.e. *not* from when the entity actually starts to use the asset).

Amortisation should *cease* when the asset is derecognised or if and when it is reclassified as a non-current asset held for sale, whichever comes first.

The amortisation *period* should be the *shorter* of:

- the asset's expected economic useful life; and
- its legal life.

The asset's *expected economic useful life* could be determined as the:

- expected number of years that it will be used; or
- the number of expected units of production.

Where the asset has a limited *legal life* (i.e. where related future economic benefits are controlled via legal rights granted for a finite period), the expected economic useful life will be limited to the period of the legal rights, if this is shorter, *unless*:

- the legal rights are renewable by the entity; *and*
- there is evidence to suggest that the rights will be renewed; *and*
- the costs of renewal are not significant.

Example 7: renewable rights

Ace Ltd purchased a 5 year fishing licence for C100 000. The company expects to renew the licence at the end of the 5 year period for a further 5 years. The government has indicated that they will re-grant the licence to Ace Ltd.

Required:

Discuss the number of years over which the licence should be amortised, assuming that the costs associated with the renewal is:

- A. C100; or
- B. C99 000.

Solution to example 7A: renewable rights – insignificant cost

As the costs associated with the renewal are insignificant, the asset must be amortised over the 10 year useful life. The entity intends to renew the licence and the government intends to re-issue the licence to Ace Ltd, and therefore it must be treated as an asset with a 10 year useful life.

Solution to example 7B: renewable rights – significant cost

As the costs associated with the renewal are significant, and almost equaling the initial cost of the licence, the asset must be amortised over the 5 year useful life. Although the entity intends to renew the licence, the renewed licence, when it is acquired, must be treated a separate asset and amortised over a useful life of 5 years.

6.3.3 Method of amortisation (IAS 38.97 - .98)

The method used should be a systematic one that reflects the pattern in which the entity expects to use the asset. The methods possible include:

- straight-line
- reducing balance
- unit of production method.

If the pattern cannot be reliably estimated, then the straight-line method should be used. In fact, IAS 38 suggests that there is rarely a justifiable situation in which the method used 'results in a lower amount of accumulated amortisation' than had the straight-line method been used instead.

6.4 Annual review (IAS 38.102 and .104 and IAS 36)

At the end of each financial period, the following should be reviewed in respect of intangible assets with finite useful lives:

- amortisation period;
- amortisation method;
- residual value; and
- recoverable amount (if the annual test of impairment suggest an impairment: IAS 36).

If either the amortisation period or method is to be changed, the change should be treated as a change in estimate (IAS 8).

If the residual value is to change, adjustments must be made either in terms of an impairment loss (IAS 36), or if this is not applicable, in terms of a change in estimate instead (IAS 8).

6.5 Intangible assets with indefinite useful lives (IAS 38.107 - .110)

Although already mentioned above under the separate headings of amortisation and impairment testing, it is useful to summarise the situation relating to intangible assets that have indefinite useful lives. An intangible asset with an indefinite useful life is:

- not amortised; but is
- tested every year for impairment.

Impairment testing of these intangible assets are done annually:

- where the recoverable amount must be calculated irrespective of whether the impairment test suggests an impairment; although
- the most recent detailed calculation of the recoverable amount may be used instead, if certain criteria are met (IAS 36:24) (see the chapter on impairment of assets for more information).

The status of the intangible asset as one that has an indefinite useful life must be:

- re-assessed every year to confirm that the assessment of its useful life as indefinite is still appropriate. If circumstances have changed and the useful life is now thought to be finite:
 - adjust the amortisation as a change in estimate (IAS 8);
 - check for a possible impairment and record an impairment loss if necessary (IAS 36).

6.6 Intangible assets not yet available for use (IAS 38.97 and IAS 36)

Similarly, although already mentioned above under the separate headings of amortisation and impairment testing, it is useful to summarise the situation relating to intangible assets that are not yet available for use.

An intangible asset that is still not yet available for use is:

- not amortised; but is
- tested every year for impairment
 - at any time but at the *same* time each year
 - where the recoverable amount must be calculated even if the test of impairment does not suggest an impairment.

7. Disclosure (IAS 38.118 - .128)

7.1 In general

Information should be provided for each class of intangible asset, distinguishing between intangible assets that have been:

- internally generated and
- acquired in another manner.

The following information is required for *all intangible assets*:

- whether the asset has an indefinite or finite useful life;
- if the asset has an indefinite useful life:
 - the carrying amount of the asset; and
 - the reasons (and significant factors supporting these reasons) for assessing the life as indefinite;
- if the asset has a finite useful life, disclose:
 - the methods of amortisation;
 - the period of amortisation or the rate of amortisation;
 - the line item in the statement of comprehensive income in which amortisation is included;
- ‘Gross carrying amount’ and ‘accumulated amortisation and impairment losses’ at the beginning and end of each period;
- A reconciliation between the ‘net carrying amount’ at the beginning and end of the period separately disclosing each of the following where applicable:
 - additions (separately identifying those acquired through internal development, acquired separately and acquired through a business combination);
 - retirements and disposals;
 - amortisation;
 - impairment losses recognised in the statement of comprehensive income;
 - impairment losses reversed through the statement of comprehensive income;
 - increases in a related revaluation surplus;
 - decreases in a related revaluation surplus;
 - foreign exchange differences; and
 - other movements.

Assets classified as held for sale or included in a disposal group classified as held for sale in accordance with IFRS and other disposal

The following information is *required* but need not be categorised into ‘internally generated’ and ‘acquired in another manner’:

- The existence and carrying amounts of intangible assets:
 - where there are restrictions on title; or
 - that have been pledged as security for a liability;
- Where an intangible asset is *material* to the entity’s financial statements, the nature, carrying amount and the remaining amortisation period thereof must be disclosed;
- Where intangible assets are carried under the *revaluation model*, the following should be disclosed by class of asset (unless otherwise indicated):
 - the effective date of the revaluation;
 - the carrying amount of the intangible asset;
 - the carrying amount that would have been recognised in the financial statements had the cost model been applied;

- a reconciliation between the opening balance and closing balance of that portion of the revaluation surplus relating to intangible assets, indicating the movement for the period together with any restrictions on the distribution of the balance to the shareholders; and
- the methods used and significant assumptions made when estimating fair values.
- Information relating to impaired intangible assets: should be disclosed in accordance with the standard on impairment of assets.
- Information relating to changes in estimates: should be disclosed in accordance with the standard on accounting policies, estimates and errors.
- Research and development costs expensed during the period must be disclosed in aggregate.
- Where there are contractual commitments for the acquisition of intangible assets, the amount thereof must be disclosed.
- Where the intangible asset was acquired by way of government grant and initially recorded at fair value rather than at its nominal value, then its initial fair value, its carrying amount and whether the cost or revaluation model is being applied thereto must be disclosed.

Since the following information is considered to be useful to the users, the disclosure thereof is encouraged, but it is not required:

- A description of: fully amortised intangible assets that are still being used; and
- A description of: significant intangible assets that are controlled by the entity but which were not allowed to be recognised as assets.

7.2 Sample disclosure involving intangible assets (excluding goodwill)

Company name			
Statement of comprehensive income (extracts)			
For the year ended 31 December 20X2			
	Notes	20X2 C	20X1 C
Profit for the period		xxx	xxx
<i>Other comprehensive income(net of tax)</i>	7	xxx	(xxx)
Revaluation surplus / (devaluation)		xxx	(xxx)
Total comprehensive income		xxx	xxx

Company name			
Statement of changes in equity (extracts)			
For the year ended 31 December 20X2			
	Revaluation surplus C	Retained earnings C	Total C
Balance at 1 January 20X1	xxx	xxx	xxx
Total comprehensive income	(xxx)	xxx	xxx
Realised portion transferred to retained earnings	(xxx)	xxx	0
Balance at 31 December 20X1	xxx	xxx	xxx
Total comprehensive income	xxx	xxx	xxx
Realised portion transferred to retained earnings	(xxx)	xxx	0
Balance at 31 December 20X2	xxx	xxx	xxx

Company name
Statement of financial position
At 31 December 20X2 (extracts)

	Note	20X2	20X1
		C	C
ASSETS			
Non-current Assets			
Property, plant and equipment		xxx	xxx
Intangible assets	4	xxx	xxx

Company name
Notes to the financial statements
For the year ended 31 December 20X2 (extracts)

2. Accounting policies

2.3 Intangible assets

Amortisation is provided on all intangible assets over the expected economic useful life to expected residual values of zero unless the intangible asset has no foreseeable limit to the period over which future economic benefits will be generated.

The following rates and methods have been used:

Patent (purchased):	20% per annum, straight-line method
Development (internally generated):	10% per annum, straight-line method
Fishing licence (purchased):	indefinite

The fishing licence is considered to have an indefinite life since the period of the licence is not limited in any way other than the meeting of certain prescribed targets that have been more than adequately met in the past and are expected to continue to be met in the future.

The fishing licence is revalued annually to fair values and is thus carried at fair value less accumulated impairment losses. The fair value of the fishing licence is determined by way of a discounted cash flow projection where a discount factor of 10% was considered appropriate.

All other intangible assets are carried at historic cost less accumulated depreciation and impairment losses.

At the end of each reporting period the company reviews the carrying amount of the intangible assets to determine whether there is any indication that those assets have suffered an impairment loss. If any such indication exists, the recoverable amount of the assets is estimated in order to determine the extent of the impairment loss.

4. Intangible assets

	20X2	20X1
	C	C
Patent	xxx	xxx
Development	xxx	xxx
Fishing licence	xxx	xxx
	xxx	xxx
Patent		
Net carrying amount - opening balance	xxx	xxx
Gross carrying amount	xxx	xxx
Accumulated amortisation and impairment losses	(xxx)	(xxx)
Additions		
– through separate acquisition	xxx	xxx
– through internal development	xxx	xxx
– through business combination	xxx	xxx
Less retirements and disposals	(xxx)	(xxx)
Add reversal of previous impairment loss/ less impairment loss (recognised in the statement of comprehensive income)	xxx	(xxx)
Less amortisation for the period	(xxx)	(xxx)

Net exchange differences on translation into presentation currency	xxx	(xxx)
Other movements	(xxx)	xxx
Net carrying amount - closing balance	xxx	xxx
<i>Gross carrying amount</i>	xxx	xxx
<i>Accumulated amortisation and impairment losses</i>	(xxx)	(xxx)
The amortisation of the patent is included in cost of sales.		
The patent has been offered as security for the loan liability (see note ...).		

Company name**Notes to the financial statements****For the year ended 31 December 20X2 (extracts) continued ...****Development**

Net carrying amount - opening balance	xxx	xxx
<i>Gross carrying amount</i>	xxx	xxx
<i>Accumulated amortisation and impairment losses</i>	(xxx)	(xxx)
Additions		
– through separate acquisition	xxx	xxx
– through internal development	xxx	xxx
– through business combination		
Less retirements and disposals	(xxx)	(xxx)
Add reversal of previous impairment loss/ less impairment loss (recognised in the statement of comprehensive income)	xxx	(xxx)
Less amortisation for the period	(xxx)	(xxx)
Net exchange differences on translation into presentation currency	xxx	(xxx)
Other movements	(xxx)	xxx
Net carrying amount - closing balance	xxx	xxx
<i>Gross carrying amount</i>	xxx	xxx
<i>Accumulated amortisation and impairment losses</i>	(xxx)	(xxx)

The amortisation of the development asset is included in cost of sales.

The development asset is material to the entity. The following information is relevant:

Carrying amount	Detailed above
Nature	Design, construction and testing of a new product
Remaining amortisation period	7 years

Fishing licence

Net carrying amount: 1 January	xxx	xxx
<i>Gross carrying amount:</i>	xxx	xxx
<i>Accumulated amortisation and impairment losses:</i>	(xxx)	(xxx)
Additions		
– through separate acquisition	xxx	xxx
– through internal development	xxx	xxx
– through business combination		
Add revaluation/ less devaluation: credited/ debited to revaluation surplus	xxx	(xxx)
Impairment loss/ Impairment loss reversed	xxx	xxx
Less retirements and disposals	(xxx)	(xxx)
Net exchange differences on translation into presentation currency	xxx	(xxx)
Net carrying amount: 31 December	xxx	xxx
<i>Gross carrying amount:</i>	xxx	xxx
<i>Accumulated amortisation and impairment losses:</i>	(xxx)	(xxx)

The amortisation of the fishing licence is included in cost of sales.

The last revaluation was performed on 1/1/20X2 by an independent sworn appraiser to the fair value estimated using discounted cash flow projection and assuming a discount rate of 10%. The fair value adjustment was recorded on a *net* replacement value basis. Revaluations are performed annually.

Carrying amount had the cost model been used instead: xxx xxx

Company name

Notes to the financial statements

For the year ended 31 December 20X2 (extracts) continued ...

	20X2	20X1
	C	C
7. Tax effects of components of other comprehensive income		
Revaluation surplus / (devaluation)		
– Gross	xxx	(xxx)
– Tax	(xxx)	xxx
– Net	xxx	(xxx)
22. Profit before tax	20X2	20X1
	C	C
Profit before tax is stated after taking the following disclosable (income)/ expenses into account:		
– Research and development	xxx	xxx
– Impairment losses	xxx	xxx
– Reversals of previous impairment losses	(xxx)	(xxx)

35. Contractual commitments

The company is contractually committed to purchase Cxxx of fishing licences.

8. Goodwill

8.1 Overview

Goodwill is described as the synergy between the identifiable assets or individual assets that could not be recognised as assets. There are two distinct types of goodwill:

- purchased goodwill (covered by IFRS 3); and
- internally generated goodwill (covered by IAS 38).

8.2 Internally generated goodwill

Internally generated goodwill is never capitalised since:

- it is not identifiable (i.e. is neither separable from the business nor does it arise from contractual rights);
- it simply cannot be measured reliably; and
- it is not controllable (e.g. can't control customer loyalty) (IAS 38.49).

8.3 Purchased goodwill

Purchased goodwill arises on the acquisition of another entity. It is measured as follows:

Amount paid for the entity - net asset value of the entity

Purchased goodwill may be divided into two separate categories:

- goodwill (where the purchase price exceeds the net asset value); and
- excess of acquirer's interest in the net fair value of acquiree's identifiable assets, liabilities and contingent liabilities over cost (where the net asset value exceeds the purchase price): this is often referred to as negative goodwill.

8.3.1 Positive goodwill

Goodwill occurs when the amount paid for the assets exceeds the value of the assets. This goodwill is:

- always capitalised;
- never amortised;
- tested annually for impairment.

With regard to the testing of goodwill for impairment:

- the test may occur any time so long as it is done at the same time every year;
- the recoverable amount must always be calculated even if the test of impairment does not suggest a possible impairment;
- any impairment loss written off against goodwill may never be reversed.

Purchased positive goodwill is therefore held as an asset in the statement of comprehensive income at its carrying amount, being 'cost less accumulated impairment losses'.

Example 8: positive purchased goodwill

	C
Purchase price of business	100 000
Net asset value of business	80 000

Required:

Journalise the acquisition (ignore any tax effects).

Solution to example 8: positive purchased goodwill

	Debit	Credit
Goodwill (asset)	20 000	
Net assets	80 000	
Bank		100 000
<i>Acquisition of a business worth C80 000 for an amount of C100 000</i>		

The recoverable amount of this goodwill must be assessed at year-end and if found to be less than C20 000, this goodwill will need to be impaired.

8.3.2 Negative goodwill

When the value of the assets acquired exceeds the amount paid for these assets we have what is referred to as *the excess of acquirer's interest in the net fair value of acquiree's identifiable assets, liabilities and contingent liabilities over cost*. This is just an incredibly clumsy way of saying we have purchased negative goodwill.

Purchased negative goodwill is recognised as income immediately.

Negative goodwill sounds like a 'bad thing' and yet it is treated as income. It will make more sense if you consider some of the situations in which negative goodwill arises (the first two situations are obviously 'win situations' for the purchaser and should help to understand why it is considered to be income):

- The seller made a mistake and set the price too low
- The selling price is simply a bargain price
- The entity that is purchased is expecting to make losses in the future.

In the third situation above, the negative income is recognised as income in anticipation of the future losses (i.e. over a period of time, the negative goodwill income will effectively be set-off against the future losses).

Example 9: negative purchased goodwill

Purchase price of business	C100 000
Net asset value of business	C750 000

Required:

Journalise the acquisition of this business (ignore any tax effects).

Solution to example 9: negative purchased goodwill

	Debit	Credit
Net assets	750 000	
Bank		100 000
Negative goodwill (income)		650 000
<i>Acquisition of a business worth C750 000 for an amount of C100 000</i>		

8.3.3 Initial recognition determined provisionally

When the fair value of certain assets or liabilities acquired in a business combination can only be provisionally estimated at the date of acquisition, these assets and liabilities must be measured at the provisional fair values and the goodwill accounted for as the difference between the purchase price and these provisional fair values.

The provisional fair values must, however, be finalised within twelve months from acquisition date. When the 'provisional' values are finalised, the comparatives must be restated from the acquisition date, as if the asset value was known with certainty at the purchase date (IFRS 3.61-62 and IFRS 3 illustrative example 7).

Example 10: provisional accounting of fair values

Doc Limited purchased Nurse Limited on the 30 November 20X5 for C80 000. The fair value of Nurse Limited's plant (its only asset) could not be determined by the independent appraiser in time for the 31 December 20X5 year end. The fair value of the plant was provisionally determined as C36 000. The useful life of the plant was estimated on date of acquisition to be 10 years (with a nil residual value expected).

On the 30 September 20X6 the valuation of the plant was estimated provisionally to be C42 000.

Required:

Discuss how the acquisition should be accounted for in the financial statements of Doc Limited for the years ended 31 December 20X5 and 20X6.
Provide journal entries where this will aid in your explanation.

Solution to example 10: provisional accounting of fair values

In the 20X5 *financial statements* the plant must be recognised at the provisional valuation of C36 000, and the goodwill at 44 000. One month depreciation would be recorded at C300, calculated at C36 000/10years x 1/12 months.

30 November 20X5		Debit	Credit
Plant: cost	<i>Given</i>	36 000	
Goodwill	<i>Balancing</i>	44 000	
Bank	<i>Given</i>		80 000
<i>Acquisition of Nurse Limited at provisional fair values</i>			

31 December 20X5

		Debit	Credit
Depreciation – plant	$36\,000 / 10 \times 1 / 12$	300	
Plant: accumulated depreciation	<i>Given</i>		300
<i>Depreciation of plant (acquired through acquisition of Nurse Limited)</i>			

The 20X5 financial statements would therefore have included the following:

Goodwill	44 000
Plant	35 700 ($36\,000 - 300$ depreciation)
Depreciation	300

During September 20X6 the valuation was finalised and thus the asset must be accounted for as if we knew the true fair values at acquisition date. The following adjustments would therefore need to be processed in 20X6:

30 September 20X6

		Debit	Credit
Plant: cost	$42\,000 - 36\,000$	6 000	
Goodwill			6 000
<i>Adjustment to fair values of the assets acquired through acquisition of Nurse Limited</i>			

31 December 20X6

Retained earnings ⁽¹⁾	$6\,000 / 10 \times 1 / 12$	50	
Plant: accumulated depreciation	<i>Given</i>		50
<i>Adjustment to 20X5 depreciation of plant</i>			

(1) Notice that retained earnings are debited (not depreciation expense: this is because the adjustment is retroactive and is not to affect this year's profit (i.e. it must not affect the 20X6 profit).

The comparative 20X5 financial statements would therefore be restated as follows:

Goodwill	38 000	($44\,000$ estimate – $6\,000$ adjustment)
Plant	41 650	($36\,000 + 6\,000$ adjustment – 300 depreciation – 50 adjustment)
Depreciation	350	($42\,000 / 10 \times 1 / 12$)

Plant is depreciated in 20X6. The following journal would therefore be processed:

31 December 20X6

		Debit	Credit
Depreciation – plant	$42\,000 / 10$ years; or $(42\,000 - 350) / (120 - 1) \times 12$ months	4 200	
Plant: accumulated depreciation	<i>Given</i>		4 200
<i>Depreciation of plant (acquired through acquisition of Nurse Limited)</i>			

The 20X6 financial statements would therefore reflect the following:

Goodwill	38 000	(assuming no impairment necessary)
Plant	37 450	($41\,650 - 4\,200$)
Depreciation	4 200	

8.3.4 Adjustment in the initial accounting

Except for the possible need to re-estimate fair values on date of acquisition (explained above), the only other subsequent adjustments to the fair values of the acquisition of assets, liabilities and goodwill acquired in a business combination would be the correction of any errors (IFRS 3.63). The correction of such an error would need to be adjusted for retrospectively and disclosed in accordance with the standard on accounting policies, estimates and errors (IAS 8). See IFRS 3's illustrative examples 8 and 9 for more on this.

8.4 Disclosure of goodwill

8.4.1 Disclosure: positive goodwill

The following information should be disclosed for goodwill:

- a reconciliation between the opening and closing balances of goodwill (separately disclosing gross carrying amount and accumulated impairment losses), additions, disposals, adjustments relating to changes to the net asset value of the acquired entity, impairment losses, net exchange differences arising during the year and any other movement during the period.

8.4.2 Disclosure: negative goodwill

The following disclosure only applies to any excess of acquirer's interest in the net fair value of acquiree's identifiable assets, liabilities and contingent liabilities over cost:

- a breakdown of the line item in the statement of comprehensive income in which the negative goodwill is recognised as income.

The negative goodwill income in the statement of comprehensive income should be disclosed separately in the profit before tax note in the notes to the financial statements

8.4.3 Sample disclosure involving goodwill

Company name			
Statement of financial position			
At 31 December 20X2 (extracts)			
ASSETS	Note	20X2	20X1
Non-current Assets		C	C
Property, plant and equipment		xxx	xxx
Goodwill	3	xxx	xxx
Intangible assets	4	xxx	xxx

Company name			
Notes to the financial statements			
For the year ended 31 December 20X2 (extracts)			

2. Accounting policies

2.5 Goodwill

Goodwill arising from the acquisition of a subsidiary/Joint venture represents the excess of the cost of the acquisition over the group's interest in the net fair value of the assets, liabilities and contingent liabilities of the acquiree.

Goodwill is measured at the cost less accumulated impairment.

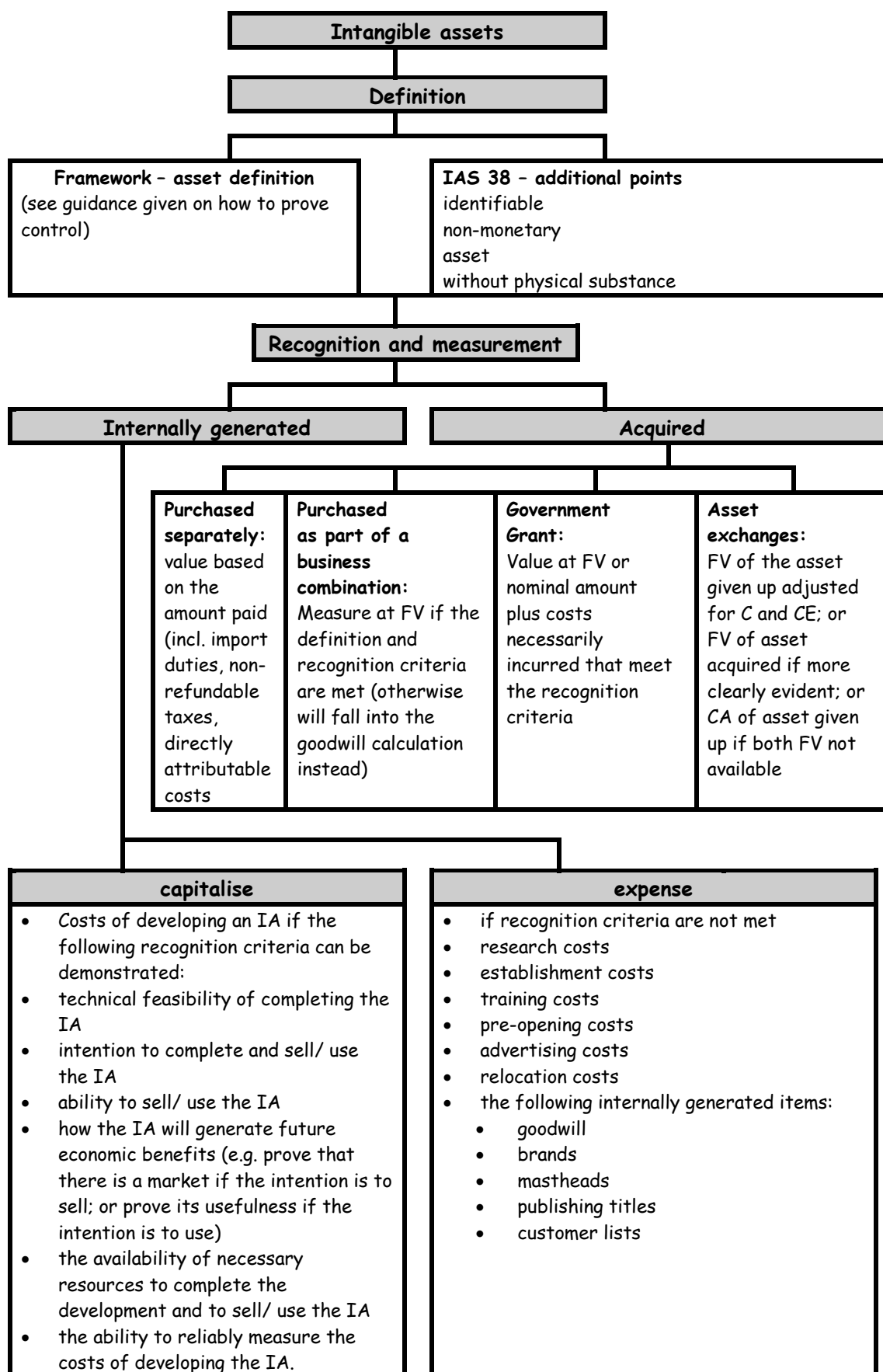
2. Profit before tax	20X2	20X1
	C	C
Profit before tax is stated after taking the following disclosable (income)/ expenses into account:		
Negative goodwill	(xxx)	(xxx)
Impairment loss on goodwill	xxx	xxx

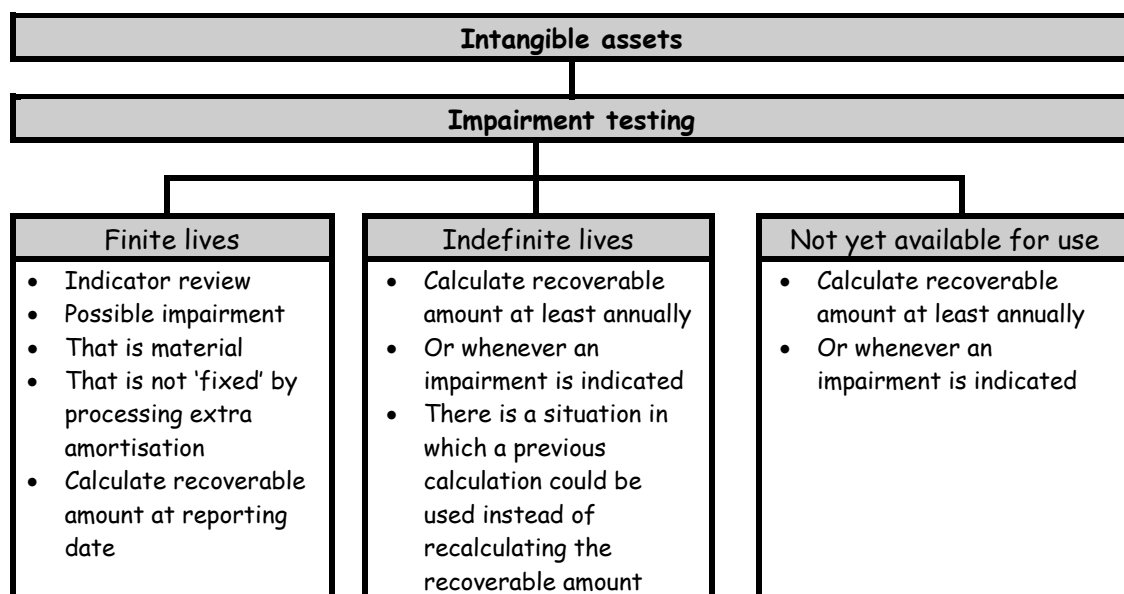
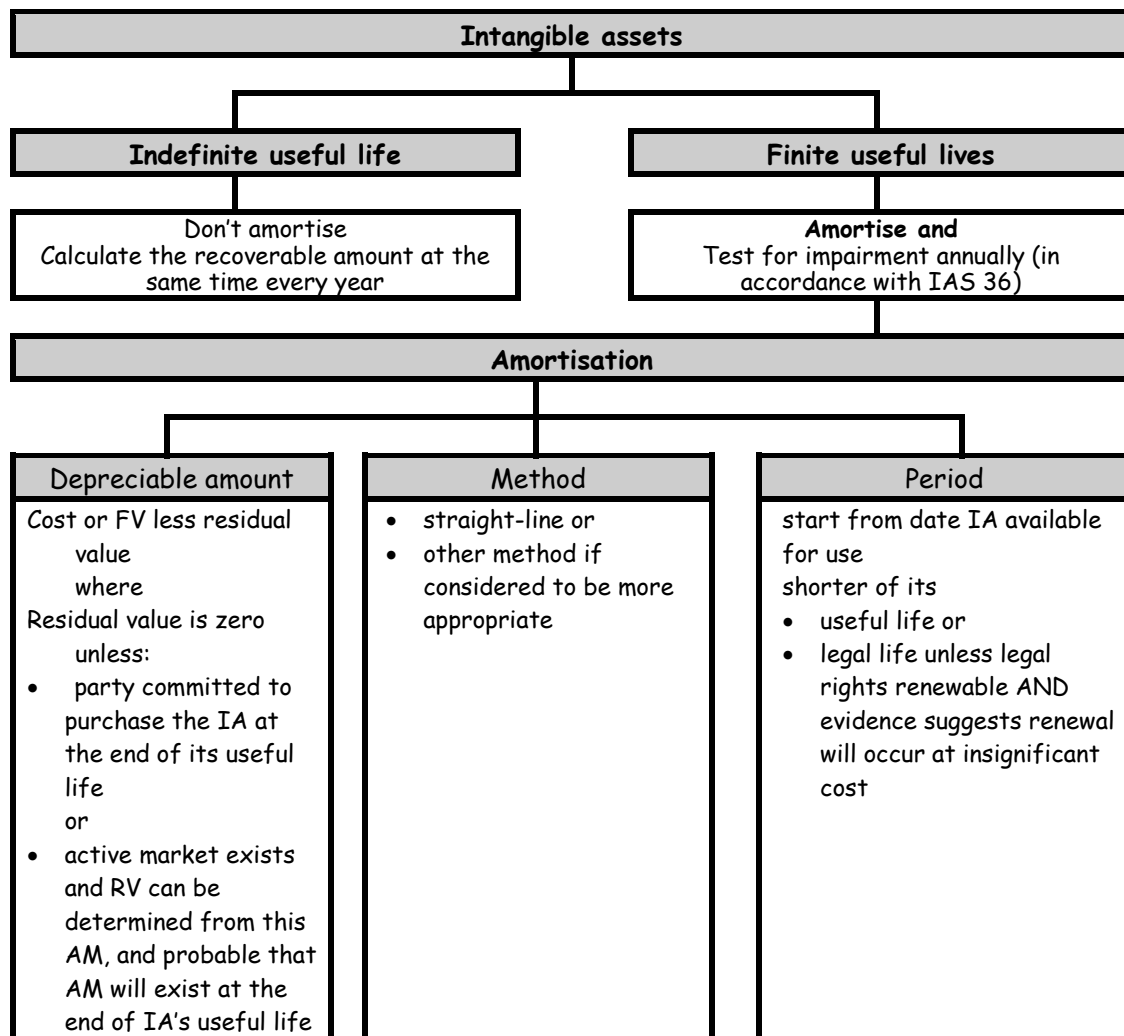
Company name
Notes to the financial statements**For the year ended 31 December 20X2 (extracts) continued ...**

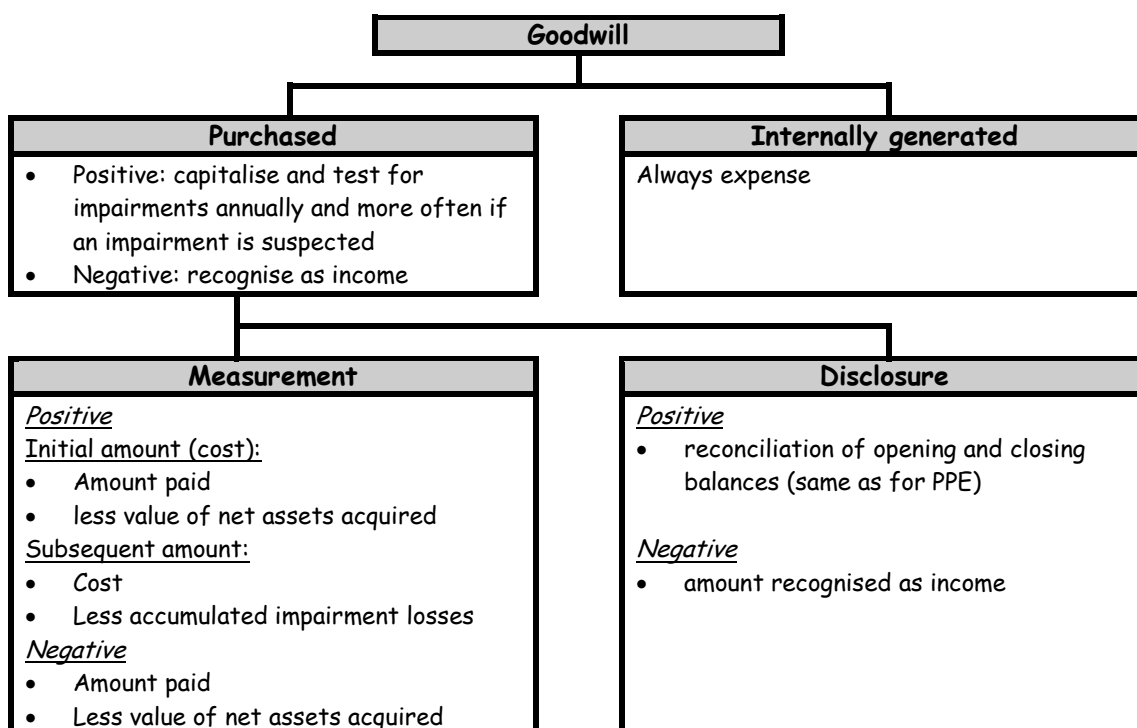
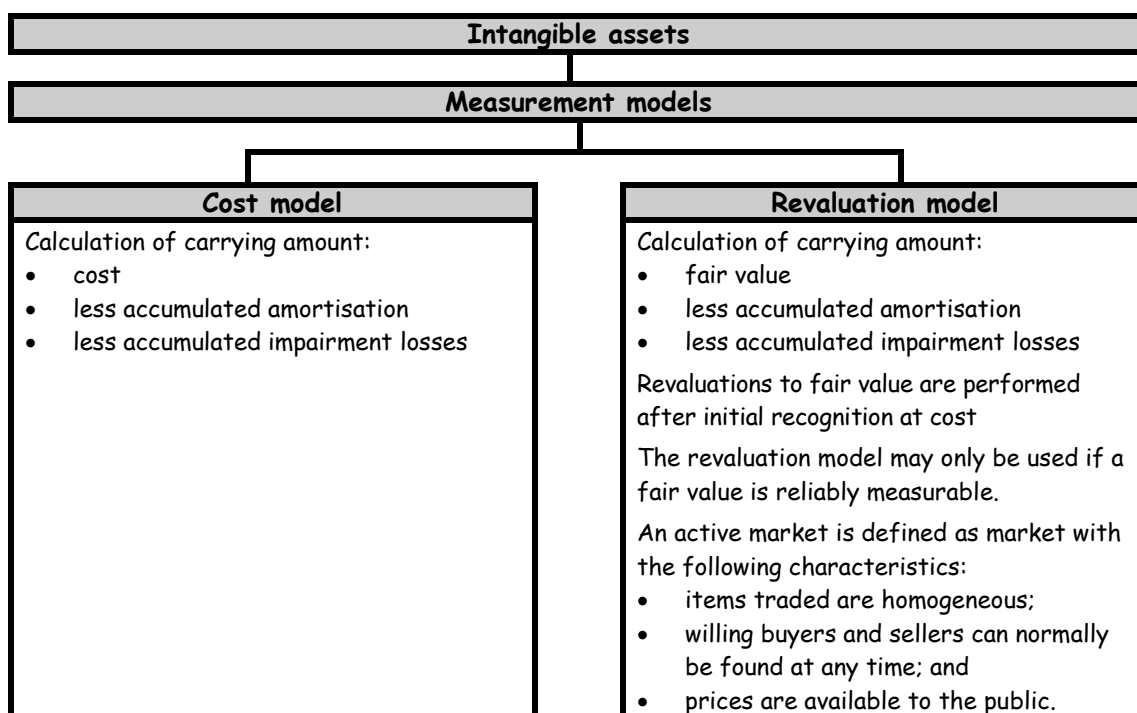
3. Goodwill

	20X2	20X1
	C	C
Net carrying amount - opening balance	xxx	xxx
<i>Gross carrying amount - opening balance</i>	xxx	xxx
<i>Accumulated amortisation and impairment losses - opening balance</i>	(xxx)	(xxx)
Additions		
– through business combination	xxx	xxx
Less: disposals of subsidiary	(xxx)	(xxx)
Less: Impairment or Add impairments reversed	(xxx)	(xxx)
Net carrying amount - closing balance	xxx	xxx
<i>Gross carrying amount - closing balance</i>	xxx	xxx
<i>Accumulated amortisation and impairment losses - closing balance</i>	(xxx)	(xxx)

9. Summary





**Clue to abbreviations:**

FV = fair value

C and CE = cash and cash equivalents

CA = carrying amount

IA = intangible asset

RV = residual value

AM = active market

PPE = property, plant and equipment

Chapter 8

Investment Property

Reference: IAS 40

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1. Introduction

In this chapter you are introduced to the topic Investment Property. The international accounting standard, *IAS 40: Investment Property*, requires that the entity differentiate between owner-occupied properties and Investment Property. This differentiation is so as to improve the usefulness of the financial statements. Note that the definition of *property* includes both land and buildings.

2. Definitions

The following definitions have been summarised to an extent and incorporate comment from IAS 40.8 and IAS 40.9. The full definitions are found in IAS 40.5.

Carrying amount: the amount at which the asset is recognised in the statement of financial position.

Cost: the amount for which the asset was purchased. It includes:

- cash or cash equivalents paid or the fair value of any other considerations given;
- at the time of acquisition or construction; or
- the amount recognised as the cost of the asset in terms of another IFRS.

Investment property:

- land or buildings (or both, or part thereof)
- held by an owner or by a lessee under a finance lease
- to earn rentals or for capital appreciation or both.

Owner-occupied property:

- is land or buildings (or both)
- held by an owner or by a lessee under a finance lease
- used in the production or supply of goods and services or for administrative use.

3. Initial recognition and measurement (IAS 40.16 - .29)

3.1 Overview

Investment property is an asset and must therefore meet the definition and recognition criteria relevant to assets as set out in the Framework *before* it may be recognised.

Investment property is initially recognised in the financial statements at cost. Cost includes:

- the purchase price;
- any construction costs if self developed up to the stage of completion (but *excluding* abnormal wastage, start up costs and initial operating losses);
- any transaction costs or duties; and
- directly attributable expenses (for example lawyer's fees, transfers costs and taxes).

The following are examples of property that *would be* classified as investment property:

- property held for long-term capital appreciation;
- property leased out under an operating lease;
- vacant property held for the purpose of leasing in the future; and
- land and buildings held for an undetermined use.

The following are examples of property that *would not be* classified as investment property:

- property that is leased out to an entity under a finance lease;
- property held for sale in the ordinary course of business (this is inventory: IAS 2);
- property that is owner-occupied ^(note 2);
- property in the process of being constructed or developed ^(note 1) (this is property, plant and equipment: IAS 16).

- Note 1 Where construction is occurring on your property, remember that IAS 40 will apply if your property is an *existing* investment property that is being *re-developed* for continued use as an investment property (i.e. it will not apply to the development of a new property).
- Note 2 The following are examples of owner-occupied property:
- administration buildings;
 - factory buildings or shops;
 - employee housing.
 - Property being constructed or developed on behalf of third parties

Example 1: intentions

Pillow Limited was in the process of constructing a building when, due to financial difficulties, it could not complete the construction thereof. It has the following options:

- Sell the building as is, (Pillow Limited does, on occasion, sell buildings);
- Hold the building 'as is' for capital appreciation; or
- Borrow from the bank and complete the building, then lease this building out to a tenant.

Required:

Explain how Pillow Limited should account for the building under the three options above.

Solution to example 1: intentions

Comment: this example explains how the entity's intentions regarding the building determine the method of accounting.

- If the intention is to sell the building in the ordinary course of business activities, it must be accounted for as inventory. It should therefore be measured at the lower of cost and net realisable value in terms of IAS 2: Inventories.
- If the intention is to keep the building for capital appreciation, the building will be classified as investment property. Pillow Limited has the option to account for this building under the fair value model (preferred by IAS 40) or the cost model.
- If the intention is to borrow from the bank and complete the building, the building would be classified as property, plant and equipment. Buildings under construction, which will be leased out in the future as investment property, must be accounted for under the cost model, as per IAS 16. Borrowing costs must be capitalised if the building is a qualifying asset. If it is not a qualifying asset, the borrowing costs must be expensed. When the building is complete, it may then be transferred to Investment Property if Pillow Ltd intends to keep it for capital appreciation.

3.2 Partly owner-occupied and partly leased out (IAS 40.10)

It sometimes happens that land and buildings are partly owner-occupied and partly leased out (joint use properties). These two components *may* need to be recognised separately:

- the owner-occupied component as *property, plant and equipment*; and
- the leased out component as *investment property*.

We would have an:

- investment portion if a portion of the property is used to earn capital appreciation and/ or rental income (an investment property); and
- an owner-occupied portion if a portion of the property is used in the production or supply of goods or services and/ or for administration purposes (an owner-occupied property).

Whether to recognise each portion separately is determined as follows:

- if each portion *can be sold or leased out separately* (under a finance lease), then each portion is recognised separately (one as an investment property and the other as an owner-occupied property);
- if each portion *cannot be sold or leased out separately*, then the entire property is recognised as an investment property if the owner-occupied portion is insignificant in relation to the whole property (otherwise the entire property is recognised as property, plant and equipment).

Judgement is required to determine whether a property qualifies as investment property. An entity must thus develop criteria so that it can exercise its judgement consistently.

Example 2: joint use properties

How should Stunning Ltd account for the following property in its financial statements:

- A Stunning Ltd owns two freestanding buildings on two separate sites in Durban, South Africa. The first building is used by Stunning Ltd for administration purposes and the second building is leased out to Runodamill Ltd.
- B Stunning Ltd owns a building in Cape Town, South Africa, which it uses for administration purposes. The top floor of the 20-storey building is leased to Unpleasant Ltd.
- C Stunning Limited owns a 20-storey building in Port Elizabeth. It leases out 19 floors and uses the top floor for the administration of the building.

Solution to example 2: joint use properties

Comment: This example explains how to treat land and buildings that are partly owner-occupied and partly leased out (IAS 40.10).

- A. There are two distinct and separate components: owner-occupied and leased out. Since the two components are on two separate sites, it is assumed that they can be sold separately. The owner-occupied portion must be disclosed as property, plant and equipment as it is used for administrative purposes. The leased out portion must be disclosed as investment property.
- B. There are two components: owner-occupied and leased out. Since these two components are within one building, it is assumed that they may not be sold separately. Nineteen of the twenty floors is owner-occupied and is therefore the significant component. Stunning Ltd must therefore report the entire building as owner-occupied (i.e. as property, plant and equipment).
- C. There are two components: owner-occupied and leased out. Since these two components are within one building, it is assumed that they may not be sold separately. Nineteen of the twenty floors are leased out and the investment portion is therefore the significant component. Stunning Ltd must therefore report the entire building as investment property.

3.3 Properties held under operating leases (IAS 40.6)

If the entity holds a property under an operating lease (leasing it from someone else), the entity may choose to recognise the property as an investment property if:

- the property meets the definition of an investment property (discussed above); and
- the entity uses the fair value model to account for all its investment property.

This option is allowed for properties held under operating leases on a property-by-property basis, but once it is adopted for one property, all other Investment Property must be valued using the fair value model.

If a property held under a lease is classified as an investment property, the lease is treated as a finance lease (not as an operating lease!) with the property then measured in the financial statements at the lower of the fair value of the property and the present value of the minimum lease payments (see the leasing chapter).

3.4 Investment Property and leases in a group context (IAS 40.15)

If a subsidiary (the lessee) leases property from its parent company (the lessor), or vice versa, then the property must be classified as follows:

- in the lessor's financial statements: as investment property;
- in the lessee's financial statements: as an operating lease or as investment property if all criteria are met (see above); and
- in the group financial statements: as property, plant and equipment (since, from a group perspective, it is owner-occupied).

Example 3: group Investment Property

Big Limited leases a building from Small Limited, a subsidiary of Big Limited, under an operating lease. The following applies:

- Small Limited purchased the building for C20 million on 1 January 20X5.
- Small Limited's accounting policy for Investment Property is the fair value model.
- The fair value as at 31 December 20X5 was C20 million.
- The useful life of the building is expected to be 20 years.
- Big Limited does not revalue property, plant and equipment.
- Big Limited uses the fair value model to value its Investment Property.
- Big Limited uses the building for its administration department.

Required:

Explain how the building should be accounted for in the financial statements of:

- A. Small Limited's company financial statements.
- B. Big Limited's company financial statements.
- C. Big Limited's group financial statements.

Solution to example 3: group Investment Property

- A. In Small Limited's financial statements as at 31 December 20X5: the building must be recognised as investment property. It meets the definition of investment property as it is earning rentals and is not owner-occupied. It should be measured at fair value as the accounting policy of Small Limited is to use the fair value model.
- B. In Big Limited's financial statements as at 31 December 20X5: although Big Limited uses the fair value model for its Investment Property, it can not choose to recognise the leased building as an investment property because it is occupied by Big Limited for administrative use and thus does not meet the definition of an investment property. Since the building is not an investment property and is held under an operating lease, it will not be recognised as an asset at all. Big Limited will recognise only the lease rental expense.
- C. In Big Limited's group financial statements as at 31 December 20X5: the building must be shown as property, plant and equipment, because, from a group perspective, it is owner-occupied as per IAS 40. It must thus be measured at depreciated historic cost of C19 million, and depreciated over the 20 year useful life.

3.5 Ancillary services (IAS 40.11 - .13)

An entity may provide ancillary services to the occupants of its property (such as maintenance of the building). In such a case, the property may only be treated as an investment property if these services are insignificant to the arrangement as a whole.

As with partly leased out properties, the entity must develop criteria for classification purposes so that it can exercise its judgement consistently.

Example 4: ancillary services

Clumsy Limited owns two properties:

- An office building which it leases out to another company under an operating lease. Clumsy Limited provides security services to the lessee who occupy this building.
- A hotel: Clumsy Limited occupies and manages the hotel itself.

Required:

How should Clumsy Limited account for each of its properties?

Solution to example 4: ancillary services

Comment: this example explains how the provision of ancillary services affect the accounting treatment of a property.

- The office building is recognised as an investment property because the security services are insignificant to the rental arrangement as a whole.
- The hotel is recognised as owner-occupied property (i.e. in terms of IAS 16: Property, plant and equipment) because the services provided to the guests are significant to the property.

4. Measurement (IAS 40.30 - .56)**4.1 Overview**

IAS 40 allows the entity a choice of two measurement models, but states that once the choice has been made it must be applied to all of its investment properties. The two methods allowed are the:

- cost model; or
- fair value model.

Although there is a free choice, IAS 40 (paragraph 31) expresses preference for the fair value model as it increases the relevance of the financial statements to the user by giving a better reflection of the true value of the property.

4.2 The cost model (IAS 40.56)

The cost model requires the entity to report the property at depreciated historic cost. This is the same as the cost model used for *property, plant and equipment* (IAS 16).

4.3 The fair value model (IAS 40.33 - .55)

The entity must report the property at its fair value at the end of the reporting period. Any changes in the carrying amount between one year and the next are recognised as a profit or loss in the statement of comprehensive income for the year.

The fair value of a property is the value that the property could be sold for in an arm's length transaction between knowledgeable, willing parties, without deducting transaction costs. This value must take into account the:

- actual and potential uses;
- market conditions at the end of the reporting period;
- rental incomes; and
- future market conditions.

The standard recommends, but does not require, that this fair value be determined by an independent and suitably qualified valuer.

The fair value must be determined by finding the current price in an active market for a similar property (similar in terms of location, condition etc). If there is no active market for the property then IAS 40 states that the following may be used instead:

- current prices in active markets for properties with a different nature, location or condition with adjustments made to the value for these differences;
- recent prices from less active markets with adjustments for the changes in economic conditions from that date to the end of the reporting period;
- the present value of future cash flows from the expected rental income.

4.3.1 Inability to determine the fair value (IAS 40.53 - .55)

If there is clear evidence when the entity first acquires an investment property that the fair value will not be reliably determinable on a continuing basis, then the entity must measure the property using the cost model. The residual value must be assumed to be zero.

This inability to reliably determine the fair value occurs when comparable market transactions are infrequent and alternative reliable estimates of fair value are not available.

If, on the other hand, fair values were initially available but are no longer available or reliably measurable, the entity must continue to use the fair value model, where the last known fair value remains its carrying amount until a revised fair value becomes available (if ever).

Example 5: fair value cannot be measured

On 31 March 20X5 Clueless Limited purchased a building which it intended to hold for capital appreciation for C1 million. On the purchase date it was unclear what the fair value of the building was. By 31 March 20X6, due to a boom in the property industry, the fair value of the building was estimated to be C15 million.

Required:

Calculate the carrying amount of the investment property on the 31 March 20X5 and 20X6; assuming the following:

- The company's accounting policy is to carry investment property at fair value;
- Buildings are depreciated over a useful life of 20 years.

Solution to example 5: fair value cannot be measured

As the fair value of the building could not be established at purchase date, IAS 40 requires that the building be carried at depreciated historic cost throughout its life. Even though the fair value can be determined at the next financial year end, the building must remain at depreciated historic cost and must not be revalued to fair value. The year-end carrying amounts of the investment property are:

31 December 20X5	$1\,000\,000 - (1\,000\,000 / 20 \text{ years} \times 1 \text{ year})$	C950 000
31 December 20X6	$1\,000\,000 - (1\,000\,000 / 20 \text{ years} \times 2 \text{ year})$	C900 000

5. Subsequent expenditure (IAS 40.73 and IAS 40 B40 – B42)

The rules for the capitalisation of subsequent expenditure for investment property are identical to the rules in *IAS 16: Property, plant and equipment*. Subsequent expenditure can only be added to the cost of the asset if it meets the two recognition criteria which are:

- it is probable that future economic benefits will flow to the entity; and
- the costs can be measured reliably.

Day to day servicing of the asset, including repairs, may not be added to the asset's carrying amount. These must be expensed in the statement of comprehensive income in the period in which they were incurred. If a part is replaced due to damage, the part that was damaged must be impaired and derecognised. The cost of the replacement part must be capitalised to the asset if recognized criteria are met.

Example 6: subsequent expenditure

During the current year Flower Ltd spent the following amounts on its shopping complex, an investment property:

- C5 000 on building parking bays for the tenants of a shopping complex. The tenants agreed to pay C500 extra each month for the new parking bays.
- C2 000 on rates on the shopping complex
- The roof of the shopping complex was damaged in a hail storm and Flower Ltd had to pay C25 000 to replace it. A section of the roof, with a carrying amount of C10 000, was scrapped.

Required:

Explain how Flower Ltd should account for the amounts it spent and show the journal entries.

Solution to example 6: subsequent expenditure

The C5 000 can be added to the cost of the asset, as:

- *there is an additional C500 revenue (future economic benefits will flow to Flower) per month; and*
- *the cost is reliably measurable: C5 000.*

	Debit	Credit
Shopping complex (asset: investment property)	5 000	
Bank/ liability		5 000
<i>Cost of parking bays</i>		

The rates paid do not increase the earning ability of the property and must therefore be expensed through the statement of comprehensive income.

	Debit	Credit
Rates (expense)	2 000	
Bank/ liability		2 000
<i>Payment of rates</i>		

The roof that was destroyed must be impaired to zero as it was scrapped for a nil return. The new roof must be capitalised because:

- *the roof will lead to future economic benefits; and*
- *the C25 000 is measurable.*

	Debit	Credit
Roof written off (expense)	10 000	
Shopping complex: roof (asset: investment property)		10 000
<i>Write-off of roof</i>		
Shopping complex: roof (asset: investment property)	25 000	
Bank/ liability		25 000
<i>Cost of replacement part capitalized</i>		

6. Change in use (IAS 40.57 - .65)

6.1 Overview

The entity may, during the current reporting period, change the use of the property. How a change in use will be reflected in the financial statements depends on whether the entity used the cost or fair value model to measure its investment property.

The following possible changes are envisaged by IAS 40:

<i>From</i>	<i>To</i>
Owner-occupied property (IAS 16)	Investment property
Property under construction (IAS 16)	Investment property
Inventories (IAS 2)	Investment property
Investment property	Owner-occupied property (IAS 16)
Investment property	Inventories (IAS 2)

6.2 If the entity uses the cost model

If the entity uses the cost model, a change in use will not change the carrying amount of the property because (a) investment property, (b) property plant and equipment and (c) inventory are all carried at their cost.

6.3 If the entity uses the fair value model

If the entity uses the fair value model then there may be measurement implications.

6.3.1 Change from owner-occupied property to investment property

The entity must first revalue the property, plant and equipment to its fair value and the resultant increase or decrease is recognised in accordance with the standard on property, plant and equipment (IAS 16):

- An increase is:
 - first credited to income (only where it reverses a previous impairment loss); and
 - then credited to equity (revaluation surplus, as in IAS 16);
- A decrease is:
 - first debited to the revaluation surplus (if the revaluation surplus account has a balance in it from a prior revaluation); and
 - the excess is then debited to expense (impairment loss).

Example 7: change from owner-occupied to investment property

Fantastic Limited had its head office located in De Rust, South Africa. During a 'freak' landslide on 30 June 20X5, a building nearby, which it was renting to Unfortunate Limited, was destroyed. As Unfortunate Limited was a valued customer, Fantastic Limited decided to lease 80% of the head office to them as a 'replacement':

- The head office was purchased on the 1 January 20X5 for C600 000 (total useful life: 10 years)
- On the 30 June 20X5, the fair value of the head office was C800 000. There was no change in fair value at 31 December 20X5.

Fantastic Ltd uses:

- the fair value model to measure its Investment Property; and
- the cost model to measure its property, plant and equipment.

Required:

Provide the journal entries in the books of Fantastic Ltd for the year ended 31 December 20X5.

Use a single account to record movements in the head office's carrying amount.

Ignore tax..

Solution to example 7: change from owner-occupied to investment property

Comment: this example explains which accounts are affected by a change in use when an owner-occupied property (IAS 16) becomes an investment property (IAS 40).

1 January 20X5	Debit	Credit
Head-office building: carrying amount (PPE)	600 000	
Bank/ liability		600 000
<i>Purchase of head-office building(owner-occupied)</i>		
30 June 20X5		
Depreciation	30 000	
Head-office building: carrying amount (PPE)		30 000
<i>Depreciation to date of change in use (600 000 / 10 x 6 / 12 months)</i>		
30 June 20X5 continued ...	Debit	Credit
Head-office building: carrying amount (PPE)	230 000	
Revaluation surplus		230 000
<i>Revaluation of head office to fair value on date of change in use (800 000 – (600 000 – 30 000))</i>		
Investment property	800 000	
Head-office building: carrying amount (PPE)		800 000
<i>Revaluation of head office to fair value on date of change in use</i>		

6.3.2 Change from property under construction or inventories to investment property

Property that is in the process of construction is carried at cost in accordance with *IAS 16: Property, plant and equipment*. When the property is completed it will be transferred to investment property at cost and then revalued to fair value, with any difference going to the *statement of comprehensive income*. The same principle applies when classifying a property as investment property that was previously classified as inventory.

Example 8: completion of self constructed building

Marvelous Limited constructed a building that it intended to lease out to earn rentals. Construction was completed on the 28 February 20X5 when the fair value was C250 000. The *total* cost of construction to Marvelous Limited was C45 000, of which C25 000, being the final costs to complete construction (all other costs having been incurred in 20X4), were incurred on the 28 February 20X5.

Required:

Provide the journal entries for the year ended 31 December 20X5.

Solution to example 8: completion of self constructed building

Comment: this example explains which accounts are affected by a change in use when an asset recognised as property, plant and equipment (IAS 16) becomes an investment property (IAS 40).

28 February 20X5	Debit	Credit
Property under construction (asset: PPE)	25 000	
Bank/ liability		25 000
<i>Construction costs incurred in 20X5</i>		
Investment property (asset: PPE)	45 000	
Property under construction (asset: PPE)		45 000
<i>Self-constructed building transferred to investment property</i>		
Investment property (asset: PPE) (250 000 – 45 000)	205 000	
Fair value adjustment of investment property (income)		205 000
<i>Investment property revalued to fair value on date of completion</i>		

6.3.3 Change from investment property to owner-occupied property or inventories

The entity must first adjust the property's carrying amount to fair value on the date of change. The resultant change must be taken to the *statement of comprehensive income* as a gain or loss caused by a fair value adjustment. The fair value on date of transfer, determined in accordance with IAS 40, will then be deemed to be the cost of the owner-occupied property or inventory. If the investment property is classified as owner-occupied, it will then be depreciated over the remaining useful life and measured in terms of IAS 16: *Property, plant and equipment*. If the investment property is classified as inventory, it will then be measured in terms of IAS 2: *Inventories* with its cost equaling the fair value on the date of transfer.

Example 9: change from investment property to owner occupied property

Super Limited owned and leased out a building in Pretoria (South Africa), which was correctly classified as an investment property on 31 December 20X4.

During a 'freak' earthquake the head office of Super Limited was destroyed, with the result that Super Ltd had to relocate its head office into the Pretoria Building. The tenants of this building were forced to move out as of 30 June 20X5.

The fair value of the building on 31 December 20X4 was C200 000.

On the 30 June 20X5 the buildings

- fair value was C260 000 and
- had a remaining useful life of 10 years.

Required:

Provide the journal entries in Super Limited's records for the year ended 31 December 20X5.

Solution to example 9: change from investment property to owner occupied property

Comment: this example explains which accounts are affected by a change in use when an investment property (IAS 40) becomes an owner-occupied property (IAS 16).

30 June 20X5	Debit	Credit
Investment property (asset)	60 000	
Fair value adjustment of investment property (income)		60 000
<i>Investment property revalued to fair value on date of transfer</i> <i>(260 000 – 200 000)</i>		
Office building (asset: PPE)	260 000	
Investment property (asset)		260 000
<i>Transfer of investment property to property plant an equipment</i>		
Depreciation	13 000	
Office building: accumulated depreciation (asset)		13 000
<i>Depreciation for the year (260 000 / 10 x 6/12)</i>		

7. Disposal (IAS 40.66 - .73)

An investment property must be derecognised (eliminated from the statement of financial position) on disposal or when it is permanently withdrawn from use and no future economic benefits are expected from its disposal.

The difference between the net proceeds on disposal and the carrying amount of the property shall be recognised as a gain or loss in profit or loss (unless IAS 17 requires otherwise in terms of a sale and leaseback) in the period of the retirement or disposal.

Example 10: disposal

Ashley Limited sells an investment property, with a fair value of C75 000, for C100 000. Ashley Limited uses the fair value model.

Required:

Show the journal entries for the disposal.

Solution to example 10: disposal

	Debit	Credit
Bank/ debtor	100 000	
Investment property (asset)		75 000
Profit on sale of investment property (income)	100 000 – 75 000	25 000
<i>Sale of investment property</i>		

8. Deferred tax

If the cost model is used, the deferred tax implications are similar to those arising from property, plant and equipment measured in terms of the cost model (IAS 16).

If the fair value model is used, the carrying amount of the investment property changes each time it is fair valued, but the tax base doesn't change for these adjustments. This results in additional temporary differences.

Deferred tax is measured in terms of how management intends to recover the carrying amount of the asset (i.e. through the use or disposal of the property).

Example 11: deferred tax: intention to keep and use

Cadman Limited owns a building which it leases out under an operating lease.

- The fair value of the building was C3 000 000 on 1 January 20X6 and is C3 600 000 on 31 December 20X6).
- It originally cost C1 500 000 (1 January 20X2).
- The total useful life of the building is 10 years and the tax authorities allow the deduction of an annual building allowance equal to 5% of the cost of the building.

The normal income tax rate is 30%.

The company uses the fair value model to account for Investment Property and has always intended to keep the building.

Required:

Calculate the deferred tax balance as at 31 December 20X6 and show the deferred tax adjusting journal for the year ended 31 December 20X6.

Solution to example 11: deferred tax: intention to keep and use**W1: Deferred tax calculation**

Investment property	Carrying amount	Tax base	Temporary difference	Deferred taxation	
Opening balance	⁽¹⁾ 3 000 000 ⁽³⁾	1 200 000	(1 800 000)	(540 000)	<i>Liability</i>
Movement	600 000	(75 000)	(675 000)	(202 500)	<i>Cr DT Dr TE</i>
Closing balance	⁽¹⁾ 3 600 000 ⁽²⁾	1 125 000	(2 475 000)	(742 500)	<i>Liability</i>

(1) *Fair value*

(2) $(1\,500\,000 - 1\,500\,000 \times 5\% \times 5 \text{ years})$

(3) $(1\,500\,000 - 1\,500\,000 \times 5\% \times 4 \text{ years})$

31 December 20X6

	Debit	Credit
Tax expense: normal tax $(742\,500 - 540\,000)$	202 500	
Deferred tax: normal tax		202 500
<i>Deferred tax on investment property (W1)</i>		

9. Disclosure (IAS 40.74 - .79)**9.1 Overview**

If the entity uses the *cost model* then the following additional information must be disclosed:

- the accounting policy for the following:
 - investment property valuation; and
 - depreciation method and rates or useful life.
- the gross carrying amount and accumulated depreciation at the beginning and end of the period
- depreciation and impairments for the current year in the reconciliation and in the statement of comprehensive income.
- the reconciliation of the carrying amount of the investment property at the beginning and end of the period.
- the fair values of the property unless, in exceptional circumstances, these cannot be determined, (in which case the reasons why the fair value was considered to be indeterminable must be disclosed) as well as a description of the investment property and possible range of estimates.

If the entity chooses to use the *fair value model*, IAS 40 requires the following disclosures:

- an accounting policy note stating that the company is using the fair value model;
- the criteria used to classify property leased by the entity under an operating lease as investment property;
- the criteria that the entity used to determine whether a property was an investment property or owner-occupied (this is only necessary where classification was difficult);
- if and under what circumstances property leased by the entity under an operating lease is classified as investment property;
- a note for investment property that shows the opening balance of the property reconciled to the closing balance including all:
 - additions;
 - additions resulting from business combinations

- transfers to and from inventories and property, plant and equipment;
 - fair value adjustments;
 - capitalised expenditure; and
 - exchange differences.
 - assets classified as held for sale
- the following must be included in the note in narrative form:
 - the methods and significant assumptions used in determining the fair value;
 - a statement as to whether or not there is an active market;
 - if there is no active market, a reconciliation from the actual price used and disclosure of all the adjustments made;
 - whether an independent and suitably qualified valuator was used; and
 - any securities on the property.
 - in a note to the statement of comprehensive income (the *profit before tax* note is a perfect place) :
 - rental income earned; and
 - direct operating expenses related to the property, split into those that earned rental income and those that did not.
 - Accumulative change in fair value recognized in profit and loss
 - if a specific property is carried at depreciated historic cost because the fair value could not be determined then the following must be disclosed in relation to that property:
 - a description of the property;
 - a separate reconciliation from opening balance to closing balance;
 - an explanation as to why the fair value could not be determined;
 - a range of estimated fair values within which the fair value of the property could possibly lie.
 - on disposal of investment property not carried at fair value.

9.2 Sample disclosure involving Investment Property

Company Name			
Statement of financial position			
As at 31 December 20X5 (extracts)			
ASSETS		20X5	20X4
<i>Non-current assets</i>	Note	C	C
Investment property	27		
EQUITY AND LIABILITIES			
Revaluation surplus	25		

Company Name	
Notes to the financial statements	
For the year ended 31 December 20X5 (extracts)	

1. Statement of compliance ...

2. Accounting policies

2.1 Investment property:

Investment Property are land and buildings held by the group to earn rentals and/or for capital appreciation. Properties held for resale or that are owner-occupied are not included in Investment Property. Where investment property is occupied by another company in the group, it is classified as owner-occupied.

Trendy Limited Group uses the following criteria to identify Investment Property:

-

The following assumptions were made in determining the fair value:

- ...

Investment Property are valued at each year-end using the fair value model.

3. Profit before tax**20X5****20X4**

Profit before tax is stated after:

C**C***Income:*

Income from Investment Property:

- Fair value adjustments

Expenses:

Investment property expenses:

- Unoccupied property

- Properties earning rentals

25 Revaluation surplus

Opening balance

Revaluation of owner-occupied property that became investment property

Closing balance

27 Investment property

Opening balance

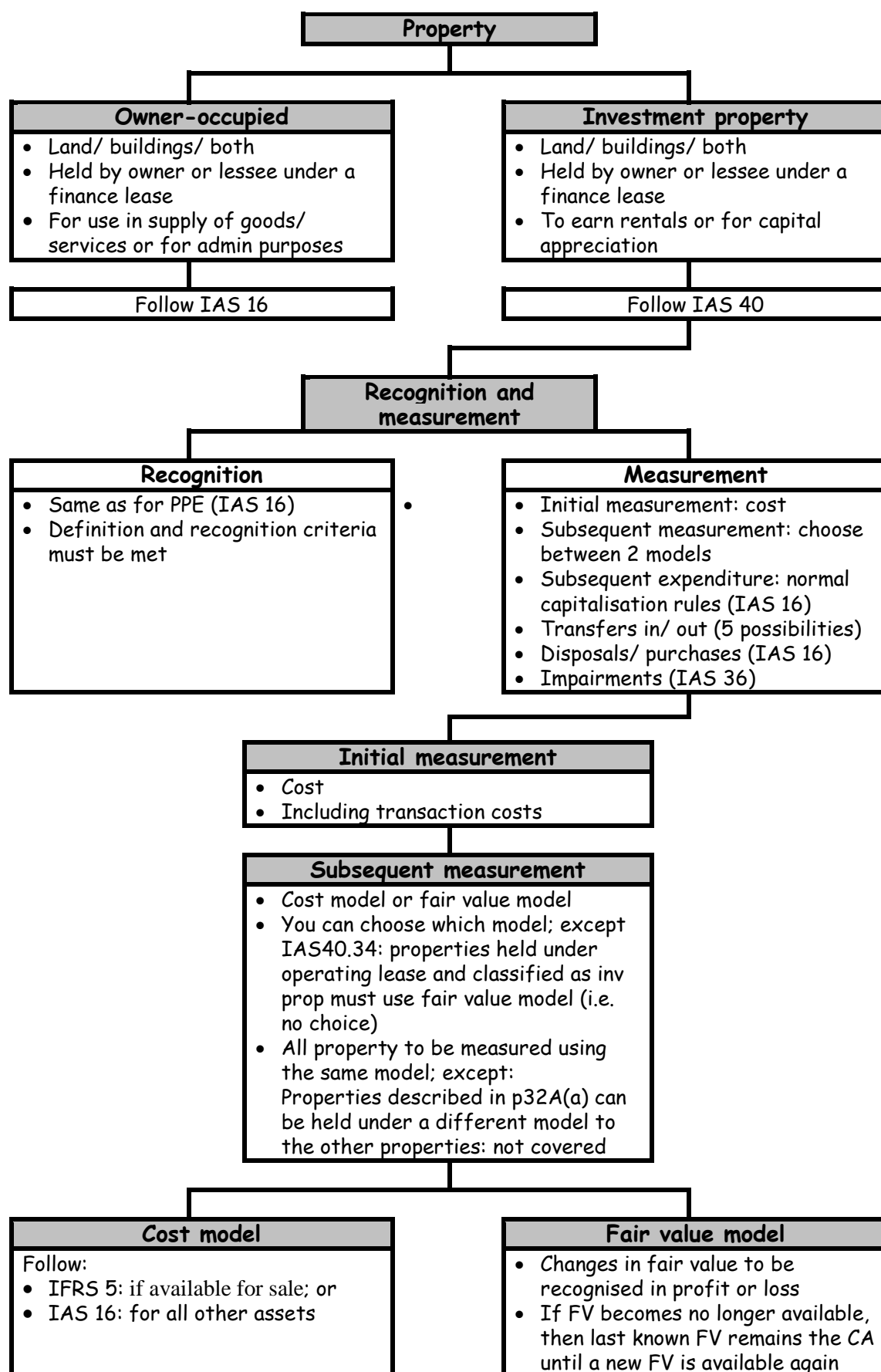
- Addition from business combination
- Capitalised subsequent expenditure
- Transfer from / (to):
- from property, plant and equipment after construction complete
- from property, plant and equipment as no longer owner-occupied
- to property, plant and equipment as it became owner-occupied
- to inventory as the property is being re-developed for resale
- to (or from) non-current assets held for sale

Closing balance

There is an active market for the investment property.

Included in the above is a property carried at ... that has been offered as security for a loan (see note ... Loan obligations)

10. Summary



Chapter 9

Non-current Assets Held for Sale and Discontinued Operations

Reference: IFRS 5

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1. Introduction

As its name suggests, this IFRS covers two areas, namely:

- non-current assets held for sale; and
- discontinued operations.

With regard to ‘non-current assets’, this IFRS essentially suggests that there needs to be a further classification in the statement of financial position: ‘non-current assets held for sale’. In addition, it specifies that ‘held for sale assets’ are not to be depreciated.

This IFRS does not apply to the following assets since these assets are covered by their own specific standards:

- Deferred tax assets (IAS 12)
- Assets relating to employee benefits (IAS 19)
- Financial assets (IAS 39)
- Investment property measured under the fair value model (IAS 40)
- Non-current assets measured at fair value less point-of-sale costs (IAS 41: Agriculture)
- Contractual rights under insurance contracts (IFRS 4)

2. Definitions

Definitions included in Appendix A of the IFRS include the following:

- **Current asset:** an asset
 - that is expected to be realised within 12 months after the end of the reporting period;
 - that is expected to be sold, used or realised (converted into cash) as part of the normal operating cycle;
 - that is held mainly for the purpose of being traded; or
 - that is a cash or cash equivalents that is not restricted in use within the 12 month period after the end of the reporting period.
- **non-current asset:** an asset that does not meet the definition of a current asset
- **discontinued operation:** a component of an entity that either has been disposed of or is classified as held for sale and:
 - a) represents a separate major line of business or geographical area of operations,
 - b) is part of a single co-ordinated plan to dispose of a separate major line of business or geographical area of operations; or
 - c) is a subsidiary acquired exclusively with view to resale.
- **component of an entity:** operations and cash flows that can be clearly distinguished, operationally and for financial reporting purposes, from the rest of the entity.
- **disposal group:** a group of assets to be disposed of, by sale or otherwise, together as a group in a single transaction, and liabilities directly associated with those assets that will be transferred in the transaction. The group includes goodwill acquired in a business combination if the group is a cash-generating unit to which goodwill has been allocated in accordance with the requirements of paragraphs 80-87 of IAS 36 Impairment of Assets (as revised in 2004) or if it is an operation within a cash-generating unit.
- **firm purchase commitment:** an agreement with an unrelated party, binding on both parties and usually legally enforceable, that:
 - a) specifies all significant terms, including the price and timing of the transactions; and
 - b) includes a disincentive for non-performance that is sufficiently large to make performance highly probable.
- **highly probable:** significantly more likely than probable.
- **probable:** more likely than not.

3. Non-current assets held for sale: identification (IFRS 5.6 - .12)

3.1 Overview

The main thrust of IFRS 5 is that non-current assets that are ‘held for sale’ must be classified separately in the statement of financial position (i.e. a machine that is held for sale will no longer be included as part of property, plant and equipment). Certain criteria must first be met before a non-current asset is classified as a ‘non-current asset held for sale’.

3.2 Criteria to be met before a non-current asset is classified as ‘held for sale’

3.2.1 General criteria

A non-current asset (or disposal group) must be classified as held for sale if its carrying amount will be recovered mainly through a *sale* transaction than through continuing *use*.

Non-current assets that meet *all* the following criteria may be separately classified as ‘non-current assets held for sale’:

- Is the asset available for sale immediately and at normal terms? The asset (or disposal group) must be available for immediate sale in its present condition subject only to terms that are usual and customary for sales of such assets (or disposal groups);
- Has management committed itself to a sales plan? Management, with the necessary authority to approve the action, must have committed itself to a plan to sell;
- Has an active programme to sell begun? The active programme must be to both locate a buyer and to complete the plan to sell the asset (or disposal group);
- Is the sale expected to happen within one year? The sale must be expected to qualify for recognition as a completed sale within one year from the date of classification as held for sale, except as permitted by paragraph 9 and appendix B;
- Is the expected selling price reasonable? The asset (or disposal group) must be actively marketed at a price that is reasonable in relation to its current fair value; and
- Is it unlikely that significant changes to the plan will be made? The actions required to complete the plan must indicate that it is unlikely that significant changes to the plan will be made or that the plan will be withdrawn.

This means that assets that are to be abandoned should *not* be classified and measured as ‘held for sale’ since their carrying amount will be recovered principally through continuing use (until date of abandonment) rather than through a sale. This means that depreciation on assets that are to be abandoned should not cease.

3.2.2 Criteria where a completed sale is not expected within one year (Appendix B)

There may be occasions where the asset would still be ‘held for sale’ even though the sale may not be completed and recognised as a sale within one year. This happens when:

- At the date that the entity commits itself to a plan to sell a non-current asset (or disposal group), it reasonably expects that others (not a buyer) *will impose conditions* on the transfer of the asset (or disposal group) that will extend the period required to complete the sale, and:
 - actions necessary to respond to those conditions cannot be initiated until after a firm purchase commitment is obtained, and
 - a firm purchase commitment is highly probable within one year.
- An entity obtains a firm purchase commitment and, as a result, a buyer or others *unexpectedly impose conditions* on the transfer of a non-current asset (or disposal group) previously classified as held for sale that will extend the period required to complete the sale, and:
 - timely actions necessary to respond to the conditions have been taken, and
 - a favourable resolution of the delaying factors is expected.

- During the initial one-year period, *circumstances arise that were previously considered unlikely* and, as a result, a non-current asset (or disposal group) previously classified as held for sale is not sold by the end of the period, and:
 - during the initial one-year period the entity took action necessary to respond to the change in circumstances,
 - the non-current asset (or disposal group) is being actively marketed at a price that is reasonable, given the change in circumstances, and
 - the criteria in paragraph 7 (that sets out that the asset must be available for immediate sale) and paragraph 8 (that sets out that the sale must be highly probable) are met.

3.2.3 Criteria where the asset is acquired with the intention to sell (IFRS 5.11)

It may happen that an entity acquires a non-current asset (or disposal group) *exclusively* with the view to its subsequent disposal. In this case, the non-current asset must be classified as 'held for sale' immediately on acquisition date, on condition that:

- the one-year requirement is met (unless a longer period is allowed by paragraph 9 and the related appendix B); and
- it is highly probable that any other criteria given in para 7 and para 8 that are not met immediately on the date of acquisition, will be met within a short period (usually three months) after acquisition.

4. Non-current assets held for sale: measurement (IFRS 5.15 - .25)

4.1 General measurement principles

An entity shall measure a non-current asset (or disposal group) classified as held for sale at the lower of its carrying amount and fair value less costs to sell.

If a newly acquired asset (or disposal group) meets the criteria to be classified as held for sale, applying paragraph 15 will result in the asset being measured on initial recognition at the lower of its carrying amount had it not been so classified (e.g. cost) and fair value less costs to sell. Since the asset is newly acquired, its cost will equal its fair value. Therefore, an asset acquired as part of a business combination, shall initially be measured at fair value (its cost) less costs to sell.

For all other assets (other than newly acquired assets) that are classified as non-current assets held for sale, there are two distinct phases of its life:

- Before it was classified as held for sale; and
- Once it is classified as held for sale.

Before an asset is classified as held for sale, it is measured in terms of its own relevant IFRS. If, for example, the asset is an item of property, plant and equipment, the asset will have been measured in terms of IAS 16, which will mean that:

- on initial acquisition, the asset will have been recorded at cost; and
- subsequently, the asset will have been depreciated, revalued (if the revaluation model was used to measure the asset) and reviewed for impairments annually (whether the cost or revaluation model were used).

If this asset is then to be reclassified as 'held for sale', it will be measured as follows:

- In terms of its previous relevant IFRS:
Immediately before reclassifying the asset as 'held for sale', the asset must be re-measured using its previous measurement model; for example if the asset was previously an item of property, plant and equipment that was measured using the:
 - Cost model: depreciate to date of reclassification and then check for impairments; or
 - Revaluation model: depreciate to date of reclassification, revalue if appropriate and check for impairments; *then*

- In terms of IFRS 5:
On reclassifying the asset as 'held for sale',
 - re-measure to the lower of 'carrying amount' and 'fair value less costs to sell'; and
 - stop depreciating it.

If, in the unusual instance a sale is not expected to occur within one year, it may be necessary (depending on materiality) to measure the 'costs to sell' at their present value.

4.2 Measurement principles specific to the cost model

4.2.1 The basic principles when the cost model was used

If an asset measured under the *cost model* is re-classified as 'held for sale':

- immediately before reclassifying the asset as 'held for sale', the asset must be re-measured using its previous measurement model (i.e. the cost model per IAS 16, if the item was previously property, plant and equipment);
- then, in terms of IFRS 5:
 - re-measure it to the lower of 'carrying amount' and 'fair value less costs to sell';
 - stop depreciating it; and
 - re-measure to 'fair value less costs to sell' whenever appropriate: any impairment loss will be expensed in the statement of comprehensive income whereas impairment losses reversed are recognised as income but are limited to the asset's accumulated impairment losses.

You may have noticed that, when using the cost model, there can be no *initial* increase in the carrying amount on classification as 'held for sale' because the non-current asset must initially be measured at the **lower** of its 'carrying amount' and 'fair value less costs to sell'. For example, an asset with a 'carrying amount' of 80 000 and 'fair value less costs to sell' of 90 000 will not be adjusted because the lower of the two is the current carrying amount of 80 000.

Example 1: reclassification of an asset measured using the cost model

An item of plant, measured using the cost model, has a carrying amount of C80 000 (cost: 100 000 and accumulated depreciation: 20 000) on 1 January 20X3 on which date all criteria for separate classification as a 'non-current asset held for sale' are met.

Required:

Show the journal entries relating to the reclassification of the plant assuming that:

- the fair value is C70 000 and the expected costs to sell are C5 000 on 1 January 20X3;
- on 30 June 20X3 (6-months later), the fair value is C70 000 and expected costs to sell are C2 000;
- on 30 June 20X3 (6-months later), the fair value is C90 000 and expected costs to sell are C5 000.

Solution to example 1: reclassification of an asset using the cost model

Comment: this example explains the limit to the reversal of the impairment loss.

A. If carrying amount > 'fair value less costs to sell': recognise an 'impairment loss' (expense)

Workings:

		C
Carrying amount	given	80 000
Fair value less costs to sell:	70 000 – 5 000	(65 000)
Decrease in value (impairment loss)	80 000 – 65 000	15 000

Journal: 1 January 20X3

	Debit	Credit
Impairment loss (expense)	15 000	
- Plant: accumulated impairment loss		15 000
<i>Impairment loss before initial classification as 'held for sale'</i>		

Note: There is no depreciation on this asset.

B. If 'fair value less costs to sell' subsequently increases: recognise a 'reversal of impairment loss' (income) – limited to accumulated impairment losses

Workings:		C
New fair value less costs to sell:	70 000 – 2 000	68 000
Prior fair value less costs to sell:	100 000 cost – 20 000 accum depreciation – 15 000 impairment loss	(65 000)
Impairment loss reversed*:	68 000 – 65 000	3 000

* *Note: the 'accumulated impairment loss' is 15 000 before the reversal, thus the reversal of 3 000 is not limited (the previous accumulated impairment loss is bigger: 15 000 is bigger than 3 000).*

Journal: 30 June 20X3

	Debit	Credit
Plant: accumulated impairment loss	3 000	
- Impairment loss reversed (income)		3 000
<i>Reversal of impairment loss: on re-measurement of 'NCA held for sale'</i>		

Note: There is no depreciation on this asset. The impairment to date is C12 000 (15 000 – 3 000)

C. If 'fair value less costs to sell' subsequently increases: recognise a 'reversal of impairment loss' (income) – limited to accumulated impairment losses

Workings:		C
New fair value less costs to sell:	90 000 – 5 000	85 000
Prior fair value less costs to sell	100 000 – 20 000 accum depreciation – 15 000 impairment loss	(65 000)
Increase in value		20 000
Limited to prior cumulative impairment losses		15 000
Impairment loss reversed*:	85 000 – 65 000 = 20 000 limited to 15 000	15 000

* *Note: the difference between the latest 'fair value less costs to sell' (85 000) and the prior 'fair value less costs to sell' (65 000) of 20 000 is limited to the previous 'accumulated impairment loss' of 15 000.*

Journal: 30 June 20X3

	Debit	Credit
Plant: accumulated impairment loss	15 000	
- Impairment loss reversed (income)		15 000
<i>Reversal of impairment loss on re-measurement of 'non-current asset held for sale'</i>		

Note: There is no depreciation on this asset. The impairment to date is C0 (15 000 – 15 000)

Example 2: reclassification of an asset measured using the cost model

An item of plant, measured using the cost model (i.e. at historical carrying amount), has a carrying amount of 80 000 (cost 100 000) on 1 January 20X3 on which date all criteria for separate classification as a 'non-current asset held for sale' are met. This asset had previously been impaired by 3 000 (i.e. this is the balance on the accumulated impairment loss account).

Required:

Show the journal entries relating to the reclassification of the plant assuming:

- the fair value is 70 000 and the expected costs to sell are 5 000 on 1 January 20X3;
- 6 months later, on 30 June 20X3, the fair value is 70 000 and the expected costs to sell are 2 000;
- 6 months later, on 30 June 20X3, the fair value is 90 000 and the expected costs to sell are 5 000.

Solution to example 2: reclassification of an asset measured using the cost model

Comment: this example explains the limit to the reversal of the impairment loss. It differs from the previous example in that this asset had previously been impaired before it was reclassified as a non-current asset held for sale.

A. If carrying amount > 'fair value less costs to sell': recognise an 'impairment loss' (expense)**Workings:**

		C
Carrying amount	given	80 000
Fair value less costs to sell:	70 000 – 5 000	(65 000)
Decrease in value (impairment loss)	80 000 – 65 000	15 000

Journal: 1 January 20X3

	Debit	Credit
Impairment loss (expense)	15 000	
- Plant: accumulated impairment loss		15 000

Impairment loss on initial classification of NCA as 'held for sale'

Note: There is no depreciation on this asset. The impairment to date is now C18 000 (3 000 + 15 000)

B. If 'fair value less costs to sell' subsequently increases: recognise a 'reversal of impairment loss' (income) – limited to accumulated impairment losses**Workings:**

		C
New fair value less costs to sell	70 000 – 2 000	68 000
Prior fair value less costs to sell	70 000 – 5 000	(65 000)
Increase in value (impairment loss reversed*)	68 000 – 65 000	3 000

* Note: the 'accumulated impairment loss' is 18 000 before this reversal (15 000 + 3 000), therefore the impairment loss reversal of 3 000 is not limited (the previous accumulated impairment loss is bigger: 18 000 is bigger than 3 000).

Journal: 30 June 20X3

	Debit	Credit
Plant: accumulated impairment loss	3 000	
- Impairment loss reversed (income)		3 000

Reversal of impairment loss on re-measurement of 'asset held for sale'

Note: There is no depreciation on this asset. The impairment to date is now C15 000 (18 000 - 3 000)

C. If 'fair value less costs to sell' subsequently increases: recognise a 'reversal of impairment loss' (income) – limited to accumulated impairment losses

Workings:

		C
New fair value less costs to sell:	90 000 – 5 000	85 000
Prior fair value less costs to sell	70 000 – 5 000	(65 000)
Increase in value		20 000
Limited to prior cumulative impairment losses	15 000 + 3 000	18 000
Impairment loss reversed*:	85 000 – 65 000 = 20 000 limited to 15 000	18 000

* **Note:** The difference between the latest 'fair value less costs to sell' and the prior 'fair value less costs to sell' of 20 000 is limited to the 'cumulative impairment loss' recognised of 18 000, calculated as follows:

		C
Impairment loss:		18 000
- before reclassification	given	3 000
- on reclassification	80 000 – 65 000	15 000

Journal: 30 June 20X3

	Debit	Credit
Plant: accumulated impairment loss	18 000	
- Impairment loss reversed (income)		18 000

Reversal of impairment loss on re-measurement of 'asset held for sale'

Note: There is no depreciation on this asset. The impairment to date is now C0 (18 000 - 18 000)

4.2.2 The tax effect when the cost model was used

As soon as an asset is classified as held for sale, depreciation thereon ceases. The tax authorities, however, do not stop deducting tax allowances (where tax allowances were due in terms of the tax legislation) simply because you have decided to sell the asset. The difference between the nil depreciation and the tax allowance (if appropriate) causes deferred tax. The principles affecting the current tax payable and deferred tax balances are therefore exactly the same as for any other non-current asset.

Example 3: tax effect of reclassification and the cost model

An item of plant, measured using the cost model (i.e. at historical carrying amount), has a carrying amount of C70 000 (cost 100 000) and a tax base of C90 000 on 1 January 20X3 on which date all criteria for separate classification as a 'non-current asset held for sale' are met. The fair value less costs to sell on this date are C65 000. This asset had not previously been impaired. The tax authorities allow a deduction of 10% on the cost of this asset. The tax rate is 30%. The profit before tax is correctly calculated to be C200 000. There are no temporary or permanent differences other than those evident from the information provided.

Required:

- Calculate the current normal tax payable and the deferred tax balance at 31 December 20X3.
- Journalise the current normal tax and the deferred tax for the year ended 31 December 20X3.

Solution to example 3: tax effect of reclassification and the cost model**A: Calculations**

Current normal income tax	Calculations	C
Profit before tax		200 000
Add back depreciation	<i>Assets held for sale are not depreciated</i>	0
Add back impairment	<i>Impairment on re-classification as 'held for sale'</i>	5 000
Less tax allowance	$100\,000 \times 10\%$	(10 000)
Taxable profits		195 000
Current tax	$195\,000 \times 30\%$	58 500

Deferred tax: Non-current asset held for sale	Carrying amount	Tax base	Temporary difference	Deferred tax	
Balance – 1 January 20X3	70 000	90 000	20 000	6 000	<i>Asset</i>
Less impairment to 'fair value – costs to sell' (70 000 – 65 000)	(5 000)	0		(1 500)	<i>Cr DT, Dr TE</i>
Depreciation/ tax allowance	0	(10 000)			
Balance – 31 December 20X3	65 000	80 000	15 000	4 500	<i>Asset</i>

B: Journals

31 December 20X3	Debit	Credit
Tax expense	58 500	
Current tax payable (liability)		58 500
<i>Current normal tax payable (estimated)</i>		
Tax expense	1 500	
Deferred tax (liability)		1 500
<i>Deferred tax adjustment</i>		

4.3 Measurement principles specific to the revaluation model**4.3.1 The principles when the revaluation model was used**

If an asset measured under the *revaluation model* is reclassified as 'held for sale':

- immediately before reclassifying the asset as 'held for sale', the asset must be re-measured using its previous measurement model (i.e. the revaluation model per IAS 16);
- then, in terms of IFRS 5:
 - re-measure it to the lower of 'carrying amount' and 'fair value less costs to sell';
 - stop depreciating it; and
 - then re-measure it to 'fair value less costs to sell' whenever appropriate: any further impairment loss (e.g. the selling costs) is expensed (even if there is a revaluation surplus) whereas an impairment loss reversed is recognised as income but is limited to the asset's accumulated impairment losses.

Example 4: reclassification of an asset measured using the revaluation model

An item of plant, revalued to fair value using the revaluation model, met all criteria for classification as 'held for sale' on 1 January 20X4. The following information is relevant:

Cost: 100 000 (purchased 1 January 20X1)

Depreciation: 10% per annum straight-line to nil residual values.

Fair value: 120 000 (revalued 1 January 20X3).

Revaluations are performed using the net replacement value method

Required:

Show all journal entries relating to the reclassification as 'held for sale' assuming that:

- The fair value is C100 000 and the expected selling costs are C9 000 on 1 January 20X4;
- The fair value is C150 000 and the expected selling costs are C20 000 on 1 January 20X4.
- The fair value is C60 000 and the expected selling costs are C20 000 on 1 January 20X4.

Solution to example 4: reclassification of an asset measured using the revaluation model

- A. If the actual carrying amount > historical carrying amount (i.e. there is already a revaluation surplus) and the fair value decreases on date of reclassification (although not entirely removing the revaluation surplus balance) and there are costs to sell:** reverse revaluation surplus due to drop in fair value and recognise selling costs as an 'impairment loss' (expense)

Workings:

		C
Fair value (1 January 20X3)		120 000
Accumulated depreciation (31 December 20X3: since the revaluation on 1 January 20X3)	<i>120 000 / 8 remaining years</i>	(15 000)
Actual carrying amount (1 January 20X4):	<i>120 000 – 15 000</i>	105 000
Fair value	<i>Given</i>	(100 000)
Decrease in value (all through revaluation surplus)	<i>See below for calculation of RS balance</i>	5 000
Actual carrying amount (1 January 20X4):	<i>120 000 – 15 000 (above)</i>	105 000
Historical carrying amount (1 January 20X4)	<i>100 000 / 10 years x 7 years</i>	(70 000)
Balance on the revaluation surplus (1 January 20X4):	<i>Proof: (120 000 – 80 000) / 8 x 7 years</i>	35 000
Decrease in value (above)		(5 000)
Balance on the revaluation surplus (1 January 20X4):	<i>Further balance against which further devaluation would be processed (IAS16)</i>	30 000

Journals: 1 January 20X4

	Debit	Credit
Plant: accumulated depreciation and impairment losses	15 000	
- Plant: cost		15 000
<i>NRVM: Accumulated depreciation set-off against cost</i>		
Revaluation surplus <i>FV: C100 000 – Carrying amount: C105 000</i>	5 000	
- Plant: cost		5 000
<i>Re-measurement to FV before reclassification</i>		
Impairment loss (selling costs) (expense)	9 000	
- Plant: accumulated depreciation and impairment losses		9 000
<i>Re-measurement to lower of CA or FV less costs to sell on reclassification:</i>		
<i>CA: 100 000 – FV less Costs to Sell: (100 000 – 9 000)</i>		

Note: There is no further depreciation on this asset.

- B. If the actual carrying amount > historical carrying amount (i.e. there is already a revaluation surplus) and fair value increases and there are expected costs to sell:** increase revaluation surplus due to increase in fair value and recognise the expected selling costs as an 'impairment loss' (expense)

Workings:**C**

Fair value		120 000
Accumulated depreciation (31 December 20X3: since the revaluation on 1 January 20X3)	$120\,000 / 8 \text{ remaining years}$	(15 000)
Actual carrying amount (1 January 20X4):	$120\,000 - 15\,000$	105 000
Fair value	given	150 000
Increase in value (all through revaluation surplus)	Through revaluation surplus because carrying amount is already above the HCA: $100\,000 / 10 \times 7$	(45 000)

Journals: 1 January 20X4

	Debit	Credit
Plant: accumulated depreciation and impairment losses	15 000	
- Plant: cost		15 000
<i>NRVM: Accumulated depreciation set-off against cost: $120\,000 / 8 \text{ years}$ remaining on date of revaluation</i>		
Plant: cost	45 000	
- Revaluation surplus		45 000
<i>Re-measurement to FV before reclassification: FV: $150\,000 - \text{Carrying amount: } 105\,000$</i>		
Impairment loss (selling costs) (expense)	20 000	
- Plant: accumulated depreciation and impairment losses		20 000
<i>Re-measurement to lower of CA or FV less costs to sell on reclassification: Carrying amount: $150\,000 - \text{FV less costs to sell: } (150\,000 - 20\,000)$</i>		

Note: There is no further depreciation on this asset.

- C. If the actual carrying amount > historical carrying amount (i.e. there is already a revaluation surplus) and fair value decreases removing the entire balance on the revaluation surplus and there are expected costs to sell:** reverse revaluation surplus due to decrease in fair value and recognise the expected selling costs as an 'impairment loss' (expense)

Workings:**C**

Fair value		120 000
Accumulated depreciation (31 December 20X3: since the revaluation on 1 January 20X3)	$120\,000 / 8 \text{ years}$	(15 000)
Actual carrying amount (1 January 20X4):	$120\,000 - 15\,000$	105 000
Fair value	given	(60 000)
Decrease in value (all through revaluation surplus)	See below for calculation of RS bal	45 000
Actual carrying amount (1 January 20X4):	$120\,000 - 15\,000$	105 000
Historical carrying amount (1 January 20X4)	$100\,000 / 10 \text{ years} \times 7 \text{ years}$	(70 000)
Balance on the revaluation surplus (1 January 20X4):	$(120\,000 - 80\,000) / 8 \times 7 \text{ years}$	35 000
Decrease in value (above)		45 000
Reversal: revaluation surplus balance	Balance in this account (above)	35 000
Impairment loss (balancing figure)	$45\,000 - 35\,000$	10 000

Journals: 1 January 20X4

	Debit	Credit
Plant: accumulated depreciation and impairment losses	15 000	
- Plant: cost		15 000
<i>NRVM: Accumulated depreciation set-off against cost: 120 000/ 8 years remaining on date of revaluation</i>		
Revaluation surplus (ACA: 105 000 – HCA: 70 000)	35 000	
Impairment loss (HCA: 70 000 – FV: 60 000)	10 000	
- Plant: cost		35 000
- Plant: accumulated depreciation and impairment losses		10 000
<i>Re-measurement to FV before reclassification: FV: 60 000 – CA: 105 000</i>		
Impairment loss (selling costs) (expense)	20 000	
- Plant: accumulated depreciation and impairment losses		20 000
<i>Re-measurement to lower of CA or FV less costs to sell on reclassification: CA: 60 000 – FV less costs to sell (60 000 – 20 000)</i>		

Note: There is no further depreciation on this asset.

Example 5: re-measurement of an asset held for sale using the revaluation model

An item of plant, revalued to fair value using the revaluation model, met all criteria for classification as ‘held for sale’ on 1 January 20X4. The following information is relevant:

Cost: 100 000 (purchased 1 January 20X1)

Depreciation: 10% per annum straight-line to nil residual values.

Fair value: 120 000 (revalued 1 January 20X3).

Revaluations are performed using the net replacement value method

The ‘fair value less costs to sell’ on 1 January 20X4 was as follows:

- Fair value (1 January 20X4): 100 000; and
- Expected selling costs (1 January 20X4): 9 000.

Required:

Show all journal entries relating to the *re-measurement* of the ‘non-current asset held for sale’ on 30 June 20X4 assuming that on the 30 June 20X4:

- The fair value is 110 000 and the expected selling costs are 15 000;
- The fair value is C110 000 and the expected selling costs are C3 000;
- The fair value is 90 000 and the expected selling costs are 3 000.

Solution to example 5: re-measurement of an asset held for sale: the revaluation model

Comment: this example explains the limit on the impairment loss that may be reversed.

- A. If the new fair value less costs to sell > previous fair value less costs to sell:**
reverse the impairment loss limited to prior cumulative impairment losses

Workings:

		C
New fair value less costs to sell (30 June 20X4)	110 000 (FV) – 15 000 (cost to sell)	95 000
Prior fair value less costs to sell (1 January 20X4)	100 000 (FV) – 9 000 (costs to sell)	(91 000)
Increase in value		4 000
Limited to prior cumulative impairment losses	100 000 (FV before reclassification) – 91 000 (FV – costs to sell)	9 000
Therefore: impairment loss reversed	Maximum that may be reversed is 9 000; thus there is no limitation to the reversal in this case	4 000

Journals: 30 June 20X4

	Debit	Credit
Plant: accumulated depreciation and impairment losses	4 000	
- Impairment loss reversed (income)		4 000
<i>Re-measurement of non-current asset held for sale: increase in fair value less costs to sell</i>		

B. If the new fair value less costs to sell > previous fair value less costs to sell:

reverse the impairment loss limited to prior cumulative impairment losses

Workings:

		C
New fair value less costs to sell (30 June 20X4)	110 000 (FV) – 3 000 (cost to sell)	107 000
Prior fair value less costs to sell (1 January 20X4)	100 000 (FV) – 9 000 (costs to sell)	(91 000)
Increase in value		16 000
Limited to prior cumulative impairment losses	100 000 (FV before reclassification) – 91 000 (FV – costs to sell)	9 000
Therefore: reversal of impairment loss		9 000

Journals: 30 June 20X4

	Debit	Credit
Plant: accumulated impairment loss	9 000	
- Reversal of impairment loss (income)		9 000
<i>Re-measurement of non-current asset held for sale: increase in fair value less costs to sell (limited to 9 000)</i>		

C. If the new fair value less costs to sell < previous fair value less costs to sell:

recognise a further impairment loss

Workings:

		C
New fair value less costs to sell (30 June 20X4)	90 000 (FV) – 3 000 (cost to sell)	87 000
Prior fair value less costs to sell (1 January 20X4)	100 000 (FV) – 9 000 (costs to sell)	91 000
Decrease in value (impairment loss)		4 000

Journals: 30 June 20X4

	Debit	Credit
Impairment loss (expense)	4 000	
- Plant: accumulated depreciation and impairment losses		4 000
<i>Re-measurement of non-current asset held for sale: decrease in fair value less costs to sell</i>		

4.4 Reversal of classification as 'held for sale' (IFRS 5.26 - .29)

If a non-current asset that was previously classified as 'held for sale' no longer meets the criteria necessary for such a classification, the asset must immediately cease to be classified as 'held for sale' and must be re-measured to the lower of:

- its carrying amount had the non-current asset never been classified as 'held for sale' (adjusted for any depreciation, amortisation and/ or revaluations that would have been recognised had the asset not been classified as held for sale); and
- its recoverable amount.

Example 6: re-measurement of assets no longer classified as ‘held for sale’

Plant, with a cost of C100 000 (1 January 20X1) and accumulated depreciation of C20 000 on 31 December 20X2 (10% straight-line for 2 years), was reclassified as ‘held for sale’ on 31 December 20X2 and immediately impaired to its ‘fair value less costs to sell’ of C65 000. On 30 June 20X3 (six months later), it ceased to meet all criteria necessary for classification as ‘held for sale’. On this date its recoverable amount is determined to be C85 000.

Required:

Show all journal entries relating to the re-measurement of plant previously held as a ‘non-current asset held for sale’.

Solution to example 6: re-measurement of assets no longer classified as ‘held for sale’**Workings:**

New carrying amount (30 June 20X3) to be lower of:

- Carrying amount had the asset never been classified as ‘held for sale’ $100\,000 - 20\,000 - 100\,000 \times 10\% \times 6/12$
- Recoverable amount *Given*

Current carrying amount (30 June 20X3) *Fair value – costs to sell*

Impairment loss to be reversed

C

75 000

75 000

85 000

(65 000)

10 000

Journals:

30 June 20X3

Plant: accumulated impairment loss

10 000

- Impairment loss reversed (income)

10 000

Reversal of impairment loss on reclassification of ‘non-current asset held for sale’ as ‘property, plant and equipment’: criteria no longer met

Note: Depreciation on this asset will now begin again.

5. Non-current assets held for sale: disclosure (IFRS 5.30 and .38 - .42)**5.1 Overview**

Extra disclosure is required where the financial statements include either:

- a ‘non-current asset held for sale’; or
- a ‘sale of a non-current asset’.

The classification affects the period during which it was classified as ‘held for sale’. This means that no adjustment should be made to the measurement or presentation of the affected assets in the comparative periods presented.

5.2 In the statement of financial position

Non-current assets (or non-current assets within a disposal group) that are ‘held for sale’ must be shown separately in the statement of financial position.

If a disposal group includes liabilities, these liabilities must also be shown separately from other liabilities in the statement of financial position and may not be set-off against the assets within the disposal group.

5.3 In the statement of financial position or notes thereto

Major classifications of assets within the total of the 'non-current assets held for sale' and major classifications of liabilities within the total 'liabilities of a disposal group' must be shown in the notes (unless shown in the statement of financial position).

5.4 Other note disclosure

An entity shall disclose the following information in the notes in the period in which a non-current asset (or disposal group) has been classified as held for sale or sold:

- a) a description of the non-current asset (or disposal group);
- b) a description of the facts and circumstances of the sale, or leading to the expected disposal, and the expected manner and timing of that disposal;
- c) the gain or loss recognised in accordance with IFRS 5 (paragraph 20-22) **and**, if not separately presented in the statement of comprehensive income, the caption in the statement of comprehensive income that includes that gain or loss;
- d) if applicable, the segment in which the non-current asset (or disposal group) is presented in accordance with *IAS 14 Segment Reporting*.

If, during the current period, there was a decision to reverse the plan to sell the non-current asset (or disposal group), the following extra disclosure would be required:

- a) the description of the facts and circumstances leading to the decision not to sell; and
- b) the effect of the decision on the results of operations for all periods presented.

Example 7: disclosure of non-current assets held for sale

Assume that an entity owns only the following non-current assets:

- Plant; and
- Factory buildings.

Details of the plant are as follows:

- Plant was purchased on 1 January 20X1 at a cost of C100 000;
- Depreciation is provided over 10 years to a nil residual value on the straight-line basis;
- Plant was reclassified as 'held for sale' on 31 December 20X2 and immediately impaired to its 'fair value less costs to sell' of C65 000;
- On 30 June 20X3 (six months later), plant ceased to meet all criteria necessary for classification as 'held for sale', on which date its recoverable amount is C85 000.

Details of the factory buildings are as follows:

- The factory buildings were purchased on 1 January 20X1 at a cost of C600 000,
- Depreciation is provided over 10 years to nil residual values on the straight-line basis
- Factory buildings were reclassified as 'held for sale' on 30 June 20X3 at a 'fair value less cost to sell' of C445 000.

Required:

Disclose all information necessary in relation to the plant and factory buildings in the financial statements for the year ended 31 December 20X3.

Solution to example 7: disclosure of non-current assets held for sale

Comment: this example explains how to disclose non-current assets held for sale, as well as how to disclose a non-current asset that is no longer held for sale.

Company name**Statement of financial position****At 31 December 20X3**

		20X3	20X2
		C	C
<i>Non-current assets</i>			
Property, plant and equipment	26	70 000	480 000
Non-current assets (and disposal groups) held for sale	27	445 000	65 000
<i>Non-current liabilities</i>			
Liabilities of a disposal group (for disclosure purposes only)	27	xxx	xxx

Company name**Notes to the financial statements****For the year ended 31 December 20X3**

	20X3	20X2
	C	C

5. Profit before tax

Profit before tax is stated after taking into consideration the following (income)/ expenses:

Depreciation – factory building	30 000	60 000
Depreciation – plant	5 000	10 000
Impairment loss – asset held for sale	5 000	15 000
Impairment loss reversed – asset no longer held for sale	(10 000)	0

26. Property, plant and equipment

Factory building	0	480 000
Plant	70 000	0
	<u>70 000</u>	<u>480 000</u>

Factory building:

Net carrying amount – 1 January	480 000	540 000
Gross carrying amount – 1 January	600 000	600 000
Accumulated depreciation and impairment losses – 1 January	(120 000)	(60 000)
Depreciation (to 30 June 20X5)	(30 000)	(60 000)
Impairment loss (to fair value less costs to sell: 450 000 – 445 000)	(5 000)	0
Non-current asset now classified as ‘held for sale’	(445 000)	0

Net carrying amount – 31 December	0	480 000
Gross carrying amount – 31 December	0	600 000
Accumulated depreciation and impairment losses – 31 December	0	(120 000)

Plant:

Net carrying amount – 1 January	0	90 000
Gross carrying amount – 1 January	0	100 000
Accumulated depreciation and impairment losses – 1 January	0	(10 000)

Non-current asset no longer classified as ‘held for sale’	65 000	0
Reversal of impairment loss (to lower of HCA: 75 000 or RA:85 000)	10 000	0
Depreciation (20X3: 75 000 / 7,5 remaining years x 6/12)	(5 000)	(10 000)
Impairment loss (to fair value less costs to sell: 80 000 – 65 000)	0	(15 000)
Non-current asset now classified as ‘held for sale’	0	(65 000)

Net carrying amount – 31 December	70 000	0
Gross carrying amount – 31 December	100 000	0
Accumulated depreciation and impairment losses – 31 December	(30 000)	0

27. Non-current assets held for sale

	20X3	20X2
	C	C
Factory buildings	445 000	0
Plant	0	65 000
Less non-current interest bearing liabilities (<i>disclosure purpose</i>)	0	0
	<u>445 000</u>	<u>65 000</u>

The company is transferring its business to a new location and thus the existing factory building is to be sold (*circumstances leading to the decision*).

The sale is expected to take place within 7 months of the end of the reporting period (*expected timing*). The factory building is expected to be sold as a going concern (*expected manner of sale*).

The plant is no longer classified as 'held for sale' since it is now intended to be redeployed to other existing factories rather than to be sold together with the factory buildings (*reasons for the decision not to sell*).

The effect on current year profit from operations is as follows:	C
- Gross (Impairment loss reversed: 10 000 – deprec.: 5 000)	5 000
- Tax	<u>(1 500)</u>
- Net	<u>3 500</u>

6. Discontinued operations: identification (IAS 5.31 - .36)

IFRS 5 requires that, where a component is identified as a discontinued operation, it must be separately disclosed in the financial statements. The following definitions are provided in IFRS 5:

A **component** of an entity comprise:

- operations and cash flows
- that can be clearly distinguished, operationally and for financial reporting purposes,
- from the rest of the entity.

A component of an entity may be a cash-generating unit or any group thereof.

A **discontinued operation** is

- a component of an entity that has either been
 - disposed of, or
 - is classified as held for sale;
- and meets one of the following criteria:
 - represents a separate major line of business or geographical area of operations; or
 - is part of a single co-ordinated plan to dispose of a separate major line of business or geographical area of operations; or
 - is a subsidiary acquired exclusively with a view to resale.

7. Discontinued operations: measurement

A discontinued operation is, in effect, constituted by non-current assets (or disposal groups) held for sale that, together, comprise a *component* that meets the definition of a 'discontinued operation'. Therefore, the principles that are adopted when measuring the individual non-current assets (or disposal groups) held for sale are also used when measuring the elements of a discontinued operation.

If the non-current asset (or disposal group) does not meet the definition of a 'component', the related transactions and adjustments will not be disclosed as 'discontinued operations' but rather as part of 'continuing operations'.

8. Discontinued operations: disclosure

8.1 In the statement of comprehensive income

A single amount must be presented on the face of the statement of comprehensive income being the total of:

- the post-tax profit or loss of the discontinued operations;
- the post-tax gain or loss recognised on measurement to fair value less costs to sell; and
- the post-tax gain or loss recognised on disposal of assets/ disposal groups making up the discontinued operations.

An analysis of this single amount that is presented in the statement of comprehensive income must be presented 'for all periods presented'. This analysis may be done in the statement of comprehensive income (see suggested presentation option A on the next page) or in the notes (see suggested presentation option B on the next page) and must show the following:

- revenue of discontinued operations;
- expenses of discontinued operations;
- profit (or loss) before tax of discontinued operations; and
- tax expense of discontinued operations.

An entity must also disclose the following either in the statement of comprehensive income or in the notes thereto 'for all periods presented' (with the exception of the change in estimate):

- gain or loss on re-measurement to 'fair value less selling costs';
- gain or loss on disposal of the discontinued operation (made up by assets/ disposal groups);
- tax effects of the above; and
- changes to estimates made in respect of discontinued operations disposed of in a prior period (showing nature and amount); examples of such changes include outcomes of previous uncertainties relating to:
 - the disposal transaction (e.g. adjustments to the selling price); and
 - the operations of the component before its disposal (e.g. adjustments to warranty/ legal obligations retained by the entity).

Option A: If the analysis of the profit or loss is presented on the face of the statement of comprehensive income, the statement of comprehensive income will look something like this (the figures are all assumed):

Example Ltd

Statement of comprehensive income

For the year ended 31 December 20X3 (extracts)

	20X3 C'000	20X3 C'000	20X3 C'000	20X2 C'000	20X2 C'000	20X2 C'000
	Continuing	Discontinued	Total	Continuing	Discontinued	Total
Revenue	800	150		800	790	
Expenses	(300)	(100)		(400)	(500)	
Profit before tax	500	50		400	290	
Taxation expense	(150)	(60)		(180)	(97)	
Gains/ (losses) after tax		40			7	
Gain/ (loss): re-measurement to fair value less costs to sell		30			10	
Gain/ (loss): disposal of assets in the discontinued operations		20			0	
Tax on gains/ (losses)		(10)			(3)	
Profit for the period	350	30	380	220	200	420
Other comprehensive income	0	0	0	0	0	0
Total comprehensive income	350	30	380	220	200	420

Option B: If the total profit or loss is presented in the statement of comprehensive income, with the analysis in the notes, the statement of comprehensive income and notes will look something like this (the figures are all assumed):

Example Ltd
Statement of comprehensive income
For the year ended 31 December 20X3 (extracts)

	Note	20X3 C'000	20X2 C'000
Revenue		800	800
Expenses		(300)	(400)
Profit before tax		500	400
Taxation expense		(150)	(180)
Profit from continuing operations		350	220
Profit from discontinued operations	4 & 5	30	200
Profit for the period		380	420
Other comprehensive income		0	0
Total comprehensive income		380	420

Example Ltd
Notes to the financial statements
For the year ended 31 December 20X3 (extracts)

	20X3 C'000	20X2 C'000
4. Discontinued operation: analysis of profit		
The profit from discontinued operations is analysed as follows:		
• Revenue	150	790
• Expenses	(100)	(500)
• Profit before tax	50	290
• Tax	(60)	(97)
• Gains/ (losses) after tax	40	7
• Gain/ (loss) on re-measurement to fair value less costs to sell	30	10
• Gain/ (loss) on disposal of assets in the/ the discontinued operations	20	0
• Tax on gains/ (losses)	(10)	(3)
• Profit for the period	30	200

8.2 In the statement of cash flows

In respect of discontinued operations, an entity shall disclose the following either on the face of the statement of cash flows or in the notes thereto 'for all periods presented' [para 33(c)]:

- net cash flows from operating activities;
- net cash flows from investing activities; and
- net cash flows from financing activities.

Example Ltd
Notes to the statement of cash flows
For the year ended 31 December 20X3 (extracts)

	20X3 C'000	20X2 C'000
4. Discontinued operation		
Included in the statement of cash flows are the following net cash flows resulting from a discontinued operation:		
Net cash flows from operating activities (<i>assumed figures</i>)	5	6
Net cash flows from investing activities (<i>assumed figures</i>)	0	1
Net cash flows from financing activities (<i>assumed figures</i>)	(8)	(4)
Net cash outflows (<i>assumed figures</i>)	(3)	3

8.3 Other note disclosure

8.3.1 Components no longer held for sale (IFRS 5.37)

Where the component is no longer 'held for sale', the amounts previously disclosed as 'discontinued operations' in the prior periods must be reclassified and included in 'continuing operations'. This will facilitate better comparability.

See the examples of disclosure provided in 8.1 and assume that the discontinued operation was first classified as such in 20X2, but that during 20X3 the criteria for classification as 'discontinued' were no longer met. Notice that the 20X2 figures shown below, whereas previously split into 'continuing', 'discontinuing' and 'total' (in 8.1) are now restated in one column. Although IFRS 5 does not require it, it is suggested that a note be included explaining to the user that a previously classified 'discontinued operation' has been reabsorbed into the figures representing the 'continuing operations' of the entity, thus explaining the *re-presentation* of the 20X2 figures.

Example Ltd

Statement of comprehensive income

For the year ended 31 December 20X3 (extracts)

	20X3 C'000	20X2 C'000 Restated
Revenue	1 000	1 600
Expenses	(400)	(900)
Profit before tax	600	700
Tax expense	(220)	(280)
Profit for the period	380	420
Other comprehensive income	0	0
Total comprehensive income	380	420

The above amounts are assumed amounts: notice how they tie up with the previous explanatory examples in Option A and Option B.

8.3.2 Criteria met after the end of the reporting period (IAS 5.12)

If the criteria for separate classification and measurement as 'held for sale' are met during the post-reporting date period, no adjustments should be made to the amounts and no reclassification of the assets as 'held for sale' should take place. This is treated as a non-adjusting event with the following disclosure being necessary:

- a description of the non-current asset (or disposal group);
- a description of the facts and circumstances leading to the expected disposal;
- the expected manner and timing of the disposal; and
- the segment (if applicable) in which the non-current asset (or disposal group) is presented.

The note disclosure of an event after the reporting period might look like this:

Example Ltd

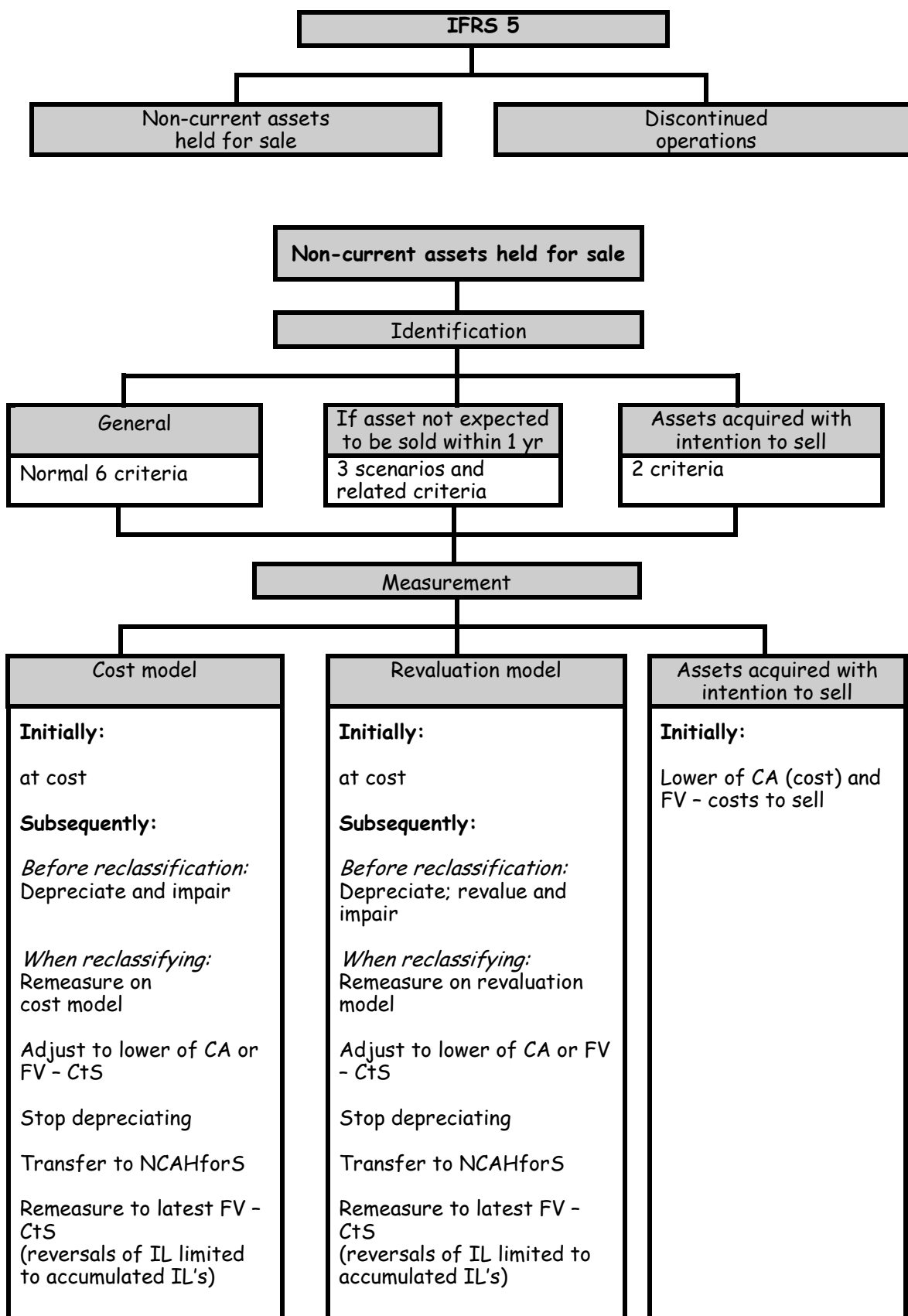
Notes to the financial statements

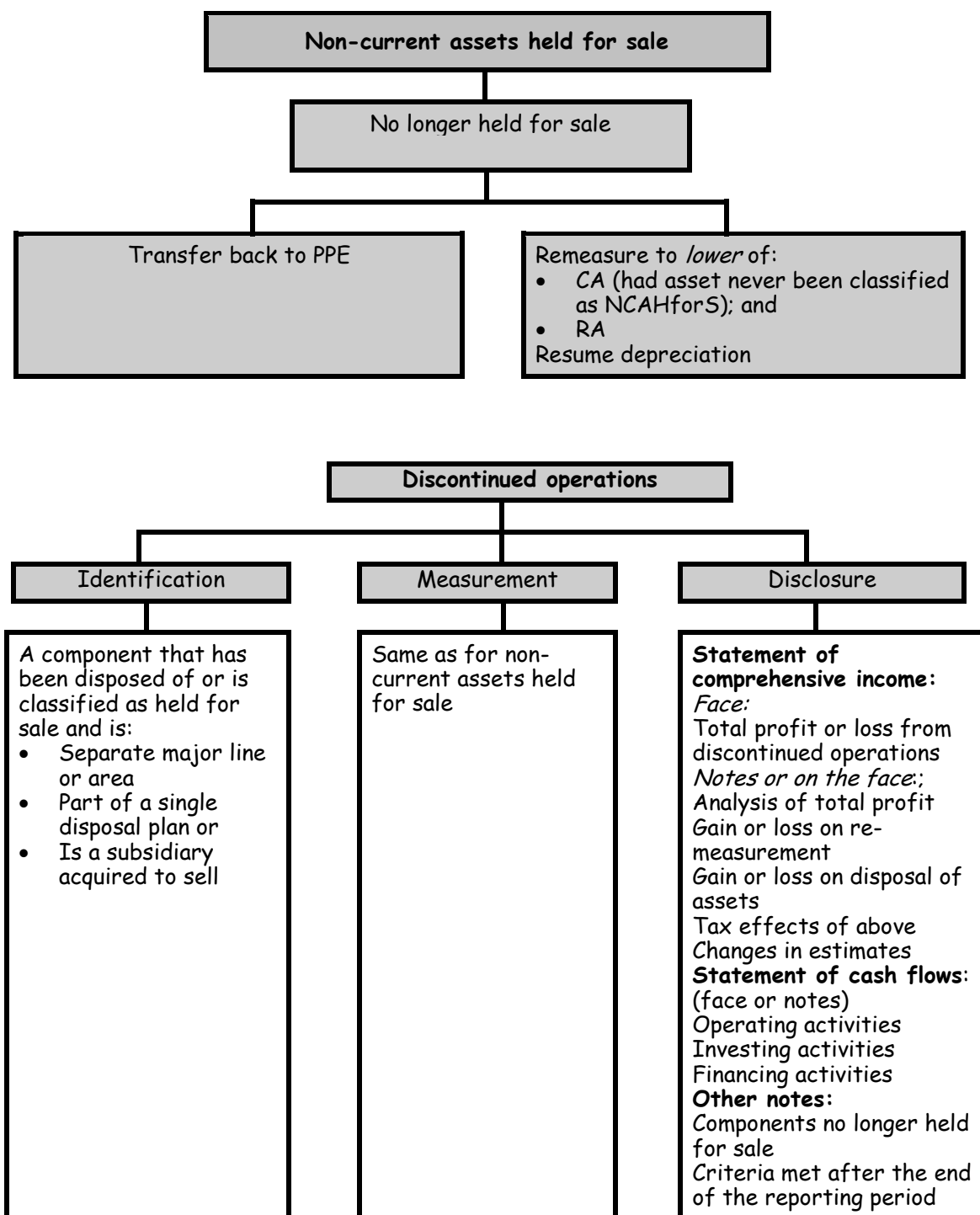
For the year ended 31 December 20X3 (extracts)

4. Events after the reporting period

On 15 February 20X4, the board of directors decided to dispose of the shoe division following severe losses incurred by it during the past 2 years. The division is expected to continue operations until 30 April 20X4, after which its assets will be sold on a piecemeal basis. The entire disposal of the division is expected to be completed by 31 August 20X4.

9. Summary





Chapter 10

Impairment of Assets

Reference: IAS 36

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1. Introduction

The standard on impairment of assets applies to all assets with the exception of the following:

- inventories (IAS 2)
- construction contract assets (IAS 11)
- deferred tax assets (IAS 12)
- employee benefit assets (IAS 19)
- financial assets (IAS 39)
- investment properties measured at fair value (IAS 40)
- certain biological assets (IAS 41)
- insurance contracts (IFRS 4)
- non-current assets classified as held for sale (IFRS 5).

In the case of the abovementioned assets, the treatment of possible impairments is covered by the standard specifically designed to cater for that type of asset.

The term ‘asset’ used in this chapter refers equally to ‘cash-generating units’ (a group of assets).

The recoverable amount is simply a calculation of its estimated future economic benefits. An asset is therefore impaired in the event that its recoverable amount is less than its carrying amount. This is in line with the Framework since an asset should never be measured at an amount that exceeds the value of its reliably measurable future economic benefits.

This standard requires that an entity perform an ‘periodic test of impairment’ (at the end of the reporting period) to assess whether an asset may be impaired. Only if this review suggests that an asset may be impaired should the recoverable amount be estimated.

The recoverable amount is the *higher* of the future economic benefits expected

- through the use of the asset or
- through the sale thereof.

The test of impairment and the need to formally estimate the recoverable amount (when the test of impairment suggests a possible impairment), are, although time-consuming, helpful to businesses in that it forces them to assess the most profitable future for the asset concerned (basically you can either continue to use your asset or dispose of it).

If the asset has a carrying amount greater than its recoverable amount, the asset is classified as impaired and must be written-down to its recoverable amount. It is possible, however, that the circumstances that led to a write-down may reverse in the future, in which case the impairment loss may be reversed with the result that the carrying amount is subsequently increased.

2. Definitions (per IAS 36.6)

The recoverable amount (of an asset or a cash-generating unit) is the higher of its fair value less costs to sell and value in use.

Value in use is the present value of the future cash flows expected to be derived from an asset or cash-generating unit.

Fair value less costs to sell is the amount obtainable from the sale of an asset or cash-generating unit in an arm’s length transaction between knowledgeable, willing parties, less the costs of disposal.

Costs of disposal are incremental costs directly attributable to the disposal of an asset or cash-generating unit, excluding finance costs and income tax expense.

An **impairment loss** is the amount by which the carrying amount of an asset or a cash-generating unit exceeds its recoverable amount.

Carrying amount is the amount at which an asset is recognised after deducting any accumulated depreciation (amortisation) and accumulated impairment losses thereon.

Depreciation (Amortisation) is the systematic allocation of the depreciable amount of an asset over its useful life. Note: In the case of an intangible asset, the term ‘amortisation’ is generally used instead of ‘depreciation’. The two terms have the same meaning.

Depreciable amount is the cost of an asset, or other amount substituted for cost in the financial statements, less its residual value.

Useful life is either:

- (a) the period of time over which an asset is expected to be used by the entity, or
- (b) the number of production or similar units expected to be obtained from the asset by the entity.

A **cash-generating unit** is the smallest identifiable group of assets that generates cash inflows that are largely independent of the cash inflows from other assets or groups of assets.

Corporate assets are assets other than goodwill that contribute to the future cash flows of both the cash-generating unit under review and other cash-generating units.

An **active market** is a market in which all the following conditions exist:

- a) the items traded within the market are homogenous;
- b) willing buyers and sellers can normally be found at any time; and
- c) prices are available to the public.

3. Test of impairment (IAS 36.7–17)

3.1 Overview (IAS 36.7–17)

A ‘test of impairment’ must be performed at the end of the reporting period in order to assess whether an impairment *may* have occurred.

The test of impairment should take into consideration the following factors:

- external information;
- internal information;
- materiality; and
- reassessment of the variables of depreciation.

The recoverable amount needs only to be calculated if:

- the test of impairment suggests that the asset may be impaired;
- the asset is an intangible asset with an indefinite useful life;
- the asset is an intangible asset not yet available for use; or
- the asset is an intangible asset that is goodwill.

An asset is impaired if its carrying amount is greater than its recoverable amount.

3.2 External information (IAS 36.12–14)

There are countless examples of external information that could indicate that an asset may be impaired, including:

- a significant decrease in the market value of the asset relative to normal usage over time;
- a significant adverse change in the market within which the asset is used (e.g. where a new competitor may have entered the market and undercut the selling price of the goods that the machine produces); and
- the net asset value per share is greater than the market value per share.

3.3 Internal information (IAS 36.12–14)

As with external information, there are countless examples of internal information that could indicate that an asset may be impaired, including:

- evidence of physical damage or obsolescence;
- knowledge of significant changes adversely affecting the use of the asset, including planned changes. Examples include: a plan to dispose of the asset at a date earlier than previously expected, a plan that will result in the asset becoming idle, the intention to cease manufacturing a product line or close a factory that uses the asset concerned and the reassessment of the useful life of an asset from ‘indefinite’ to ‘finite’;
- knowledge of future unexpected maintenance costs that will reduce the value in use; and
- unusually low budgeted cash flows and profits/ losses relating to the use of the asset.

3.4 Materiality (IAS 36.15–16)

Where a test of impairment suggests that an impairment may have occurred, a formal assessment of the recoverable amount should be done but only if the impairment is expected to be material. The recoverable amount of certain *intangible* assets should, however, always be done irrespective of materiality, namely:

- an intangible asset with an indefinite useful life;
- an intangible asset not yet available for use; and
- goodwill.

3.5 Reassessment of the variables of depreciation (IAS 36.17)

In the event that any one of the indicators (internal or external) give evidence that the asset may be materially impaired, then the:

- estimated remaining useful life;
- residual value (used in calculating the depreciable amount); and
- depreciation (or amortisation) method

should be re-evaluated and adjusted (even if no impairment loss is ultimately recognised).

Any change in the above three variables must be adjusted in accordance with the statement governing that type of asset. For example, a change that affects property, plant and equipment will be made as a change in accounting estimate (IAS 8), since this is the method suggested by the standard governing property, plant and equipment (IAS 16).

Example 1: test of impairment

Lilguy Limited owns a plant, its largest non-current asset, that originally cost C700 000 on 1/1/20X1 and which has a carrying amount of C350 000 at 31/12/20X5. Plant is depreciated straight-line to a nil residual value over a 10 year estimated useful life.

Lilguy Limited performed a test of impairment (at 31/12/20X5) to assess whether this asset might be impaired. Initial information collected for the purpose of review includes:

- the management accountant budgeted that net cash inflows will be slightly reduced over the next year of usage, due to a drop in the market demand for the plant’s output. His opinion is that there will be no market for the plant’s output after 20X6.

- The present value of the future net cash inflows from the plant is C170 000.
- market price per share in Lilguy Limited: C2,20 (there are 100 000 issued shares).

A summary of the totals in the statement of financial position is as follows:

- Assets: 400 000
- Liabilities: 100 000
- Equity: 300 000

Required:

Discuss whether the recoverable amount must be calculated at 31 December 20X5 (year-end).

Solution to example 1: test of impairment

- The future cash flows will be reduced over the next year which suggests a possible impairment, but the fact that the reduction is expected to be slight suggests that the impairment would be immaterial and therefore this fact alone does not require a recoverable amount to be calculated.
- The present value of the future cash inflows from the use of the plant are C170 000. This appears to be significantly less than the carrying amount of the plant of C350 000. This difference seems to be material and therefore suggests that there may be a possible impairment.
- The net asset value of the company is presented in the statement of financial position as C300 000 (Assets: 400 000 – Liabilities: 100 000) and this works out to a net asset value of C3 per share (300 000 / 100 000 shares). The fact that the market perceives the value of the company to be only C2,20 per share or C220 000 in total suggests that the assets in the statement of financial position might be over-valued. This difference in value seems to be material and thus suggests that there may be a possible impairment.
- There seems to be overwhelming evidence that suggests that there may be a possible impairment and if, as in this case, the possible impairment seems likely to be material, the recoverable amount would need to be calculated. Before doing this though, one must first reassess the variables of depreciation, and adjust the carrying amount for any changes in estimate.
- Since the management accountant believes that there is only 1 year of future economic benefits left in the plant suggests that the 10 years over which the plant is being depreciated is too long. By revising the useful life to a shorter period, the carrying amount of the plant will drop and may possibly drop sufficiently such that there is no need to calculate the recoverable amount.

Total useful life – original estimate	10 years
Used up	5 years
Remaining useful life – original estimate	5 years
Remaining useful life according to latest budget	1 years
Reduction in remaining useful life (from 5 years to 5 – 1 = 4 years)	4 years

This change in useful life must be accounted for as a change in accounting estimate (IAS 8). Assuming one uses the reallocation approach to calculate the effect of the change in estimate, the change to the carrying amount is as follows:

		10 year useful life	6 year useful life	Drop in carrying amount
Cost: 1/1/20X1	<i>Given</i>	700,000		
Accum deprec: 31/12/20X4	$700,000 / 10 \times 4$	(280,000)		
Carrying amount: 1/1/20X5		420,000	420,000	
Remaining useful life	$10 - 4; 1 + 1$	6	2	
Depreciation: 20X5	$420,000 / 6;$ $420,000 / (1 + 1)$	(70 000)	(210,000)	(140,000)
Carrying amount: 31/12/20X5		350,000	210,000	(140,000)

The new carrying amount will adjust the net asset value downwards and the revised net asset value must be compared again with the market value:

Assets per the statement of financial position before the change in useful life	<i>Given</i>	400,000
Less reduction in carrying amount of plant		<u>(140,000)</u>
Assets per the statement of financial position after the change in useful life		260,000
Less liabilities	<i>Given</i>	<u>100,000</u>
Net asset value		<u>160,000</u>

The revised net asset value is now less than the company's market value of 220,000 (2.2 x 100,000) and therefore the market value no longer suggests a possible impairment.

- The new reduced carrying amount is now also more in line with the present value of the future net cash inflows per the management accountant's budget

Carrying amount - revised	160,000
Present value of budgeted future cash inflows	170,000

Since the carrying amount is now less than the present value of the expected future cash inflows, the budgeted future cash flows no longer suggest an impairment.

Conclusion: although the review initially suggested that there were possible impairments and that these impairments were possibly material, no recoverable amount needed to be calculated since the revised depreciation resulted in the carrying amount being reduced.

	<u>Debit</u>	<u>Credit</u>
Depreciation - plant	140,000	
Plant: accumulated depreciation		140,000
<i>Extra depreciation processed due to a reduction in useful life</i>		

Example 2: test of impairment

Lilguy Limited owns a plant, its largest non-current asset, that originally cost C700,000 on 1/1/20X1 and which has a carrying amount of C350,000 at 31/12/20X5. Plant is depreciated straight-line to a nil residual value over a 10 year useful life.

Lilguy Limited performed a test of impairment (at 31/12/20X5) to assess whether this asset might be impaired. Initial information collected for the purpose of review includes:

- the management accountant budgeted that net cash inflows will be slightly reduced over the next 3 years of usage, due to a drop in the market demand for the plant's output. The management accountant's opinion is that there will be no market for the plant's output after 3 years.
- the estimated present value of the future net cash inflows from the plant is C250, 000.
- market price per share in Lilguy Limited: C3,50 (there are 100,000 issued shares).

A summary of the totals in the statement of financial position is as follows:

- Assets: 400,000
- Liabilities: 100,000
- Equity: 300,000

Required:

Discuss whether the recoverable amount must be calculated

Solution to example 2: test of impairment

- The fact that the management accountant believes that there is only 3 years of usage left in the plant suggests that the 10 years over which the plant is being depreciated is too long. By revising the useful life to a shorter period, the carrying amount of the plant will be reduced and may be reduced sufficiently such that there is no need to calculate the recoverable amount.

Total useful life – original estimate	10 years
Used up	5 years
Remaining useful life – original estimate	5 years
Remaining useful life according to latest budget	3 years
Reduction in remaining useful life (from 5 years to $5 - 3 = 2$ years)	2 years

This change in useful life must be accounted for as a change in accounting estimate (IAS 8). Assuming that one uses the reallocation approach to account for the change in estimate, the change to the carrying amount is as follows:

		10 year useful life	8 year useful life	Drop in carrying amount
Cost: 1/1/20X1	<i>Given</i>	700,000		
Accum deprec: 31/12/20X4	$700,000 / 10 \times 4$	(280,000)		
Carrying amount: 1/1/20X5		420,000	420,000	
Remaining useful life	$10 - 4; 1 + 3$	6	4	
Depreciation: 20X5	$420,000 / 6;$ $420,000 / (1 + 1)$	(70,000)	(105,000)	(35,000)
Carrying amount: 31/12/20X5		350,000	315,000	(35,000)

- The new carrying amount will adjust the net asset value downwards and the revised net asset value must be compared again with the market value:

Assets per the statement of financial position before the change in useful life	400,000
Less reduction in carrying amount of plant	(35,000)
Assets per the statement of financial position after the change in useful life	365,000
Less liabilities	100,000
Net asset value	265,000

The revised net asset value is now less than the company's market value of 350,000 ($3.5 \times 100,000$) and therefore the market value no longer suggests a possible impairment.

- The new carrying amount will have brought the carrying amount downwards to be more in line with the present value of the future net cash inflows per the management accountant's budget

Carrying amount - revised	315,000
Present value of budgeted future cash inflows	250,000

Although the carrying amount is reduced, it is still materially greater than the present value of the expected future cash inflows, and therefore the budgeted future cash flows still suggest that the asset may be impaired.

- Conclusion: although extra depreciation is to be processed, there is still evidence of a possible material impairment and therefore the recoverable amount will need to be calculated and compared with the revised carrying amount and an impairment journal will probably need to be processed. The journals will be as follows:

	Debit	Credit
Depreciation - plant	35,000	
Plant: accumulated depreciation		35,000
<i>Extra depreciation processed due to a reduction in useful life</i>		
Impairment loss - plant	xxx	
Plant: accumulated impairment losses		xxx
<i>Impairment of plant</i>		

4. Recoverable amount (IAS 36.18–23)

4.1 Overview

The recoverable amount is the greater of the:

- fair value less costs to sell; or
- value in use.

Example 3: recoverable amount and impairment loss – basic

A company has an asset with the following details at 31 December 20X3:

Fair value less costs to sell	C170 000
Value in use	C152 164

Required:

- A. Calculate the recoverable amount of the asset at 31 December 20X3.
- B. Calculate whether or not the asset is impaired if its carrying amount is:
 - i. C200 000
 - ii. C150 000.

Solution to example 3A: recoverable amount – basic

	C
Recoverable amount is the higher of the following:	170 000
Fair value less costs to sell	170 000
Value in use	152 164

Solution to example 3B: impairment loss – basic

- i. If the carrying amount is C200 000, the asset is impaired:

	C
Carrying amount	200 000
Less recoverable amount	170 000
Impairment (carrying amount exceeded the recoverable amount)	30 000

- ii. If the carrying amount is C150 000, the asset is not impaired:

	C
Carrying amount	150 000
Less recoverable amount	170 000
Impairment (carrying amount less than the recoverable amount)	N/A

4.1.1 Recoverable amounts: indefinite useful life intangible assets (IAS 36.24)

The recoverable amount of an intangible asset with an indefinite useful life must be estimated annually (i.e. not only when a test of impairment suggests an impairment). If, however, there is a recent detailed estimate made in a preceding year this may be used instead if:

- this intangible asset is part of a cash-generating unit, where the change in the values of the assets and liabilities within the cash-generating unit are insignificant;
- the most recent detailed estimate of the recoverable amount was substantially greater than the carrying amount at the time; *and*
- events and circumstances subsequent to the calculation of the previous recoverable amount suggest that there is only a *remote* chance that the current recoverable amount would now be less than the carrying amount.

4.1.2 Recoverable amounts: all other assets (IAS 36.19–22)

The recoverable amount should be determined for each individual asset, unless the asset produces cash inflows in tandem with a group of inter-dependent assets instead. In this case, the recoverable amount of this group of assets is calculated rather than as an individual asset. This group of assets is referred to as a cash-generating unit. This will be covered later in this chapter.

Although the recoverable amount is the higher of value in use and fair value less costs to sell, it is not always necessary (or possible) to determine *both* these amounts, for example:

- if it is impossible to determine the fair value less costs to sell, only the value in use is calculated;
- when one of these two amounts is calculated to be greater than the carrying amount, since this will automatically mean that an impairment is not required; and
- when there is no indication that the value in use materially exceeds the fair value less costs to sell, in which case, only the fair value less costs to sell (generally easier to calculate) need be calculated.

Since the value in use calculation is generally quite a difficult calculation, where one has a choice, one would choose to rather calculate the fair value less costs to sell instead.

<i>Summary:</i>	
Normal approach	<ul style="list-style-type: none"> • calculate FV - CTS; • if FV – CTS is less than CA then also: calculate VIU
But if you know that the:	
• Value in use > fair value less costs to sell	only calculate value in use
• Fair value less costs to sell > value in use	only calculate fair value less costs to sell
• Value in use = fair value less costs to sell	only calculate fair value less costs to sell (easier!)
• If calculation of FV - CTS impossible	calculate value in use

VIU = value in use

FV - CTS = fair value less costs to sell

CA = carrying amount

4.2 Fair value less costs to sell (IAS 36.25–29)

The fair value less costs to sell is:

- the amount obtainable from the sale of the asset in an arm's length transaction between knowledgeable, willing parties
- *less* the disposal costs.

The fair value less costs to sell may be determined in a number of ways. Obviously, the most definite way would be to use the price quoted in a binding sale agreement, adjusted for the costs of disposal. Frequently, however, there is no binding sale agreement and the fair value less costs to sell has to be estimated. The method of estimation depends on whether or not there is an active market for the asset:

- if there *is* an active market for the asset, use the: market price less expected costs of disposal (where the market price is the current bid price or, if this is unavailable, the most recent transaction price assuming no significant change in economic circumstances has occurred since this transaction);
- if there is *no* active market for the asset, use the: best information available at the end of the reporting period as to the price that would *probably* be achieved between knowledgeable, willing parties in an arm's length transaction, (where this price is estimated with reference to the sale of similar assets within the same industry) less expected disposal costs.

The disposal costs are the costs *directly* associated with the disposal (other than those already recognised as liabilities) and may include, for example:

- legal costs;
- costs of removal of the asset;
- costs incurred in bringing the asset to a saleable condition;
- transaction taxes.

Example 4: recoverable amount – fair value less costs to sell

A company has an asset with the following details at 31 December 20X3:

	C
Expected selling price	200 000
Costs of delivery to potential customer	20 000
Legal costs involved in sale agreement	10 000

Required:

Calculate the fair value less costs to sell of the asset at 31 December 20X3

Solution to example 4: recoverable amount – fair value less costs to sell

	C
Expected selling price	200 000
Less the costs of disposal (C20 000 + C10 000)	30 000
Fair value less costs to sell	170 000

4.3 Value in use (IAS 36.30 – .57)

Value in use includes the net cash flows relating to its:

- Use and
- Disposal after usage.

The measurement of this amount involves the calculation of a present value as follows:

- estimating all future cash flows relating to the asset; and
- multiplying the cash flows by the appropriate discount rate.

There are five elements involved in this process (*covers A1 in IAS 36 Appendix A*):

- future cash flows;
- time value of money;
- uncertainties regarding the amount and timing of the cash flows;
- the cost of bearing the uncertainties; and
- other factors that may affect the pricing of the cash flows (e.g. illiquidity).

The last three elements may be built into *either* the cash flows or taken together with the time value of money to calculate the discount rate – not both.

We will now discuss the calculating of the value in use under the following headings:

- cash flows in general;
- cash flows from the use of the asset;
- cash flows from the disposal of the asset; and
- present valuing the cash flows.

4.3.1 Cash flows in general (IAS 36.33–53)

General factors to bear in mind when estimating the future cash flows include the:

- assumptions made;
- period of the prediction;
- growth rate used;
- cash flows to be included and excluded; and
- foreign currency future cash flows.

4.3.1.1 Assumptions: (IAS 36.33(a), 34 and 38)

The assumptions used when making the projections should be:

- reasonable;
- justifiable (e.g. although a company historically produced 5 000 units per year, it believes that 20 000 units per year is a reasonable projection for the future since it has recently built a large factory that has increased capacity from 5 000 units to 25 000 units);
- management's best estimate (i.e. not the most optimistic or most pessimistic) of the future economic conditions that will exist over the useful life of the asset;
- considerate of past cash flows and past accuracy (or lack thereof) in projecting cash flows; and
- based on external evidence more than internal evidence (since this is more objective) wherever possible.

4.3.1.2 Period of the prediction: (IAS 36.33(b) and 35)

The projected cash flows should:

- be based on the most recent budgets and forecasts that have been approved by management (therefore budgets produced and approved after year-end would be favoured over budgets produced and approved before year-end); and should
- not cover a period of more than five years unless this can be justified (because budgets covering longer periods become more inaccurate).

Projected cash flows should ideally not extend beyond five years since the projections usually become increasingly unreliable. Projections may, however, extend beyond five years if:

- management is confident that these projections are reliable; and
- it can demonstrate its ability, based on past experience, to forecast cash flows accurately over that longer period.

4.3.1.3 Growth rate: (IAS 36.33(c); 36 and 37)

If the projected cash flows cover a period that exceeds the period covered by the most recent, approved budgets and forecasts (or indeed beyond the normal five year limit), then the projected cash flows should be estimated by:

- extrapolating the approved budgets and forecasts;
- using either a steady or a declining growth rate (i.e. this would be more prudent than using an increasing growth rate), unless an increasing growth rate is justifiable based, for example, on objective information regarding the future of the product or industry; and
- where this growth rate should not exceed the long-term average growth rate of the products, industries, market or countries in which the entity operates, unless this can be justified (prudence once again). For example, one should not use a future growth rate of 15% in the projections based on a current year's growth rate of 15%, if during the last ten years the entity experienced an average growth rate of only 10%. It is also difficult to justify a growth rate that exceeds the long-term average growth rate since this would indicate extremely favourable conditions and of course, as soon as there are favourable conditions, competition may increase which will possibly decrease the growth rate in future. The effects of future unknown competitor/s are obviously impossible to estimate.

4.3.1.4 General inflation: (IAS 36.40)

If the discount rate used reflects the effect of general inflation, then the projected cash flows should be the 'nominal' cash flows (i.e. expressed at current values that are not increased for the effects of inflation).

If the discount rate used does not reflect the effects of general inflation, then the projected cash flows should be the 'real' cash flows (including future specific price increases or decreases).

4.3.1.5 Relevant cash flows (IAS 36.39)

The cash flows that should be included are both inflows and outflows (where the outflows are those necessary to create the inflows) relating to:

- the use of the asset; and
- the eventual disposal of the asset.

4.3.2 Cash flows from the use of the asset (IAS 36. 39–51)

4.3.2.1 Cash flows to be included: (IAS 36.39(a) and (b); 41 and 42)

Cash inflows include:

- the inflows from the continuing use of the asset; and
- represent the economic benefits resulting from that asset alone: it is often very difficult to estimate the expected cash inflows from one particular asset in which case it may become necessary to evaluate the cash inflows and outflows of a group of assets (cash-generating unit) rather than the individual asset.

Cash outflows include all costs that:

- are necessarily incurred for the continuing use of the asset (or preparation for use); and
- can be directly attributed, or allocated on a reasonable and consistent basis, to the use of the asset.

Cash outflows therefore include only future capital expenditure that is necessary to *maintain* the asset at the standard of performance assessed immediately before the expenditure is made.

4.3.2.2 Cash flows to be excluded: (IAS 36.43-48, 50 and 51)

Future cash flows are estimated based on the asset's current condition. Care must therefore be taken not to include the expected:

- cash inflows that relate to other assets, (since these will be taken into account when assessing the value in use of these other assets);
- cash outflows that have already been recognised as liabilities (for example, a payment of an accounts payable) since these outflows will have already been recognised (either as part of the asset or as an expense);
- cash inflows and outflows that relate to future capital expenditure that will 'enhance the asset in excess of its standard of performance assessed immediately before the expenditure was made';
- cash inflows and outflows that relate to a future restructuring to which the entity is not yet committed;
- cash inflows and outflows from financing activities (because the cash flows are later discounted to present values using a discount rate that takes into account the time-value of money); and
- cash flows in respect of tax receipts and tax payments (because the discount rate used to discount the cash flows is a pre-tax discount rate).

4.3.3 Cash flows from the disposal of the asset (IAS 36.52 and 53)

The cash flows resulting from the eventual disposal of the asset are estimated using the same principles applied when estimating the cash flows resulting from the use of the asset. The calculation of the net cash flows from the future disposal of an asset is as follows:

- the amount the entity expects to receive from the disposal of the asset at the end of the asset's useful life in an arm's length transaction between knowledgeable, willing parties;
- less the estimated costs of the disposal.

The estimated net cash flows from the future disposal of the asset should be based on the current prices achieved from the disposal of similar assets that are already at the end of their useful lives and that have been used under similar conditions. These prices are then adjusted up or down for general inflation (if general inflation was taken into account when estimating the cash flows from use and the discount factor) and for specific future price adjustments.

Example 5: recoverable amount - value in use – cash flows

A machine has the following future cash flows, based on management's most recently approved budgets:

	20X4 C'000	20X5 C'000	20X6 C'000
Outflows:			
Maintenance costs	100	120	80
Operational costs (electricity, water, labour etc)	200	220	240
Interest on finance lease	60	50	40
Tax payments on profits	16	20	28
Cost of increasing the machine's capacity	0	220	0
Depreciation	80	80	80
Expenses to be paid in respect of 20X3 accruals	30	0	0
Inflows:			
Basic inflows: see note 1	1 000	1 200	1 400
Extra profits resulting from the upgrade	0	20	50
 Note 1:		Machine	Plant
Cash inflows stem from		40%	60%

The useful life of the machine is expected to last for 5 years. The growth rate in the business in 20X3 was an unusual 15% whereas the average growth rate over the last 7 years is:

in the industry	10%
in the business	8%

Required:

Calculate the future net cash flows to be used in the calculation of the value in use of the machine at 31 December 20X3 assuming that a 5-year projection is considered to be appropriate.

Solution to example 5: recoverable amount - value in use – cash flows

Future cash flows - Machine	20X4 C'000	20X5 C'000	20X6 C'000	20X7 C'000	20X8 C'000
Outflows:					
Maintenance costs (direct cost)	(100)	(120)	(80)		
Operational costs (allocated indirect costs)	(200)	(220)	(240)		
Interest on finance lease (financing always excluded)	-	-	-		
Tax payments (tax always excluded)	-	-	-		
Cost of upgrading machine (upgrades always excluded)	-	-	-		
Depreciation (not a cash flow – a 'sunk' cost)	-	-	-		
Expenses to be paid iro 20X3 accruals (not a future expense – already recognised in 20X3 financial statements)	-	-	-		
Inflows:					
Basic inflows: (only 40% relates to machine)	400	480	560		
Extra profits from the upgrade (always exclude)	-	-	-		
Net cash inflows (20X7: 240 x 1.08) (20X8: 259 x 1.08)	100	140	240	259*	280*

* Rounded

- The net cash inflows per year would still need to be present valued and the total of the present values per year would then be totalled to give the 'net present value' or 'value in use'.
- It was assumed in this question that the machine would not be able to be sold at the end of its useful life and the disposal thereof would not result in any disposal costs.
- The current year growth rate of 15% seems unusual given the company's average growth rate was only 8%. The industry average of 10% is also greater than the business average of 8%. Prudence dictates that we should therefore use 8%.

4.3.4 Present valuing the cash flows (IAS 36.55–57)

The cash inflows and cash outflows relating to the use and eventual disposal of the asset must be present valued. This means multiplying the cash flows by an appropriate discount factor (or using a financial calculator), calculated using an appropriate pre-tax discount rate.

The discount rate is estimated using the:

- rate implicit in current market transactions for similar assets; and
- the risks specific to the asset (for which the future cash flows have not yet been adjusted).

When an asset-specific rate is not available, a surrogate rate is used. Guidance for estimating a surrogate rate is as follows (IAS 36 Appendix A, A16 - 18):

- Estimate what the market assessment would be of:
 - the time value of money for the asset over its remaining useful life;
 - the uncertainties regarding the timing and amount of the cash flows (where the cash flow has not been adjusted);
 - the cost of bearing the uncertainties relating to the asset (where the cash flow has not been adjusted);
 - other factors that the market might apply when pricing future cash flows (e.g. the entity's liquidity) (where the cash flow has not been adjusted).
- The weighted average cost of capital of the entity (using the Capital Asset Pricing Model), the entity's incremental borrowing rate and other market borrowing rates could be considered although these rates would need to be adjusted for the following risks (unless the cash flows have been appropriately adjusted):
 - country risk;
 - currency risk; and
 - price risk.

Example 6: value in use – discounted (present) value

An asset has the following future cash flows, estimated at 31 December 20X3:

Expected cash inflows per year (until disposal)	110 000
Expected cash outflows per year (until disposal)	50 000
Expected sale proceeds at end of year 3	7 000
Expected disposal costs at end of year 3	3 000
Number of years of expected usage	3 years
Present value factors based on a discount rate of	10%
Present value factor for year 1	0.909
Present value factor for year 2	0.826
Present value factor for year 3	0.751

Required:

Calculate the expected value in use at 31 December 20X3.

Solution to example 6: value in use – discounted (present) value

	20X4	20X5	20X6
Cash inflow for the year	110 000	110 000	110 000
Cash outflow for the year	(50 000)	(50 000)	(50 000)
Sale proceeds			7 000
Disposal costs			(3 000)
Net cash flows (NCF)	60 000	60 000	64 000
Present value factor (PVF) (discount factor)	0.909	0.826	0.751
PV of net cash flows (NCF x PVF)	54 540	49 560	48 064

Net present value (NPV) (value in use): (54 540 + 49 560 + 48 064) C152 164

4.3.5 Foreign currency future cash flows (IAS 36.54)

Future cash flows which are generated in a foreign currency must first be estimated in that currency and then discounted to a present value using a discount rate appropriate for that currency. This present value is then translated into the local currency using the spot rate at the date of the value in use calculation.

Example 7: foreign currency future cash flows

An asset belonging to a South African company (where the rand (R) is the functional currency) has the following dollar denominated future cash flows, estimated at 31 December 20X6:

	\$
Expected cash inflows per year (until disposal)	100 000
Expected cash outflows per year (until disposal)	50 000
Expected sale proceeds at end of year 3	7 000
Expected disposal costs at end of year 3	3 000
Number of years of expected usage	10%
Present value factors based on a discount rate of (appropriate discount rate for the US dollar)	3 years
PV factor for year 1	0.909
PV factor for year 2	0.826
PV factor for year 3	0.751
The Rand : Dollar exchange rate on the 31 December 20X6	R6: \$1

Required:

Calculate the expected value in use at 31 December 20X6.

Solution to example 7: foreign currency future cash flows

	20X7	20X8	20X9
	\$	\$	\$
Cash inflows for the year	100 000	100 000	100 000
Cash outflows for the year	(50 000)	(50 000)	(50 000)
Sale proceeds			7 000
Disposal costs			(3 000)
Net cash flows	50 000	50 000	54 000
Present value factor	0.909	0.826	0.751
PV of net cash flows	45 450	41 300	40 554
Net present value in dollars (value in use)	$(45\,450 + 41\,300 + 40\,554)$		\$127 304
Net present value in rands (value in use)	$(\$127\,304 \times R6)$		<u>R763 824</u>

4.4 Recoverable amounts for assets whose costs include dismantling costs

Where the cost of an asset includes the expected cost of future dismantling (also referred to as decommissioning), the calculation of the impairment loss depends on whether:

- the seller will pay the decommissioning costs; or
- the buyer will pay the decommissioning costs (i.e. the asset and liability are to be sold as one cash-generating unit).

If the *seller* is expected to pay the decommissioning costs, then the impairment loss is calculated as follows:

- the carrying amount of the asset
- less the recoverable amount of the asset, being the higher of:
 - the fair value less costs to sell where the expected decommissioning costs are ignored;
 - the value in use where the expected decommissioning costs are ignored.

Under this scenario, the decommissioning costs are completely ignored because they relate to the entity's decommissioning liability (which it expects to keep or settle separately) and not to the asset (whose recoverable amount is being calculated).

If, on the other hand, the *buyer* is expected to pay the decommissioning costs, then the impairment loss is calculated as follows:

- the carrying amount of the asset *and the liability*
- less the recoverable amount of the asset and liability, being the higher of:
 - the fair value less costs to sell (i.e. where the expected decommissioning costs are deducted);
 - the value in use (i.e. where the expected decommissioning costs are deducted).

In this scenario, the decommissioning costs are included in the calculation of both the carrying amount and the recoverable amount since the asset and liability are being sold as a unit (i.e. the entity expects to sell both the asset and the liability).

Example 8: recoverable amount and future decommissioning costs

An asset is purchased by A Limited for C1 000 on 31 December 20X1. The present value of future expected decommissioning costs of C100 are recognised on the same date.

On the same date, the value in use is calculated as C600 and the expected selling price of the asset is C900, on condition that the seller pays the decommissioning costs.

Required:

- A. Journalise the acquisition of the asset.
- B. Show the calculation of the impairment loss assuming that the seller (A Limited) will pay the decommissioning costs.
- C. Show the calculation of the impairment loss assuming that the future buyer will pay the decommissioning costs.

Solution to example 8A: journal - acquisition of asset with future decommissioning costs

<i>Journal in 20X1</i>	Debit	Credit
Asset (including the cost of its decommissioning)	1 100	
Bank		1 000
Decommissioning liability		100
<i>Acquisition of asset: (1 000 + 100)</i>		

Solution to example 8B: impairment loss – seller to pay decommissioning costs

	C
Expected proceeds on sale of asset	900
Costs to sell asset (ignore decommissioning costs: these have already been recognised)	0
Fair value less costs to sell of asset	900
Value in use (given)	600
Recoverable amount (greater of 'fair value less costs to sell' and 'value in use')	900
Recoverable amount (fair value less costs to sell)	900
Carrying amount of asset (C1 000 + 100 – 0: accumulated depreciation)	1 100
Impairment loss	200

Note: if we are going to pay the decommissioning costs, it means that we are keeping the liability and only looking at what we can get from the sale or use of the asset.

Solution to example 8C: impairment loss – buyer to pay decommissioning costs

	C
Expected proceeds on sale of asset and liability (C900 – C100)	800
Costs to sell asset and liability (ignore decommissioning costs: same reason as above)	0
Fair value less costs to sell of asset and liability	800
Value in use (asset: 600 – liability: 100 = 500)	500
Recoverable amount (greater of 'fair value less costs to sell' and 'value in use')	800
Recoverable amount (fair value less costs to sell)	800
Carrying amount of asset and liability (Asset: C1 100 – Liability: C100)	1 000
Impairment loss	200

Note: if the buyer is going to pay the decommissioning costs, it means that we are plan to pay the liability ourselves after using the asset or planning to sell the asset with the liability. Therefore, all calculations are based on the asset less the decommissioning liability.

Notice that the expected selling price is now C800: if the selling price of the asset was C900, the selling price would have to be dropped if one wanted the buyer to pick up the liability costs as well.

5. Recognising the impairment loss (IAS 36.58–64)

When the recoverable amount of an asset (other than cash-generating units and goodwill) is found to be less than its carrying amount, the carrying amount needs to be reduced to the recoverable amount. The asset is credited and an impairment loss expense account is debited.

Example 9: impairment loss journal - basic

A plant, measured under the cost model, has the following values at 31 December 20X1:

Cost	150 000
Less accumulated depreciation to 31 December 20X2	(50 000)
Carrying amount: 31 December 20X2	100 000
Recoverable amount	40 000

Required:

Journalise the impairment at the year ended 31 December 20X1.

Solution to example 9: impairment loss journal - basic

31 December 20X1	Debit	Credit
Impairment loss (expense)	60 000	
Plant: accumulated impairment losses		60 000
<i>Impairment of plant (100 000 – 40 000)</i>		

If, however, the revaluation model has been adopted and there is a revaluation surplus as a result of a previous upward revaluation of the asset, the decrease must first be debited against the revaluation surplus (i.e. recognised in other comprehensive income), and if there is any excess after the revaluation surplus has been reversed completely (has a zero balance), then this excess is recognised as an impairment loss expense (i.e. recognised in profit or loss).

Example 10: impairment loss journal – with a revaluation surplus

The following balances relate to plant, measured under the revaluation model at 31 December 20X1:

	C
Carrying amount: 31 December 20X1	100 000
Recoverable amount: 31 December 20X1	40 000
Revaluation surplus: 31 December 20X1	10 000

Required:

Journalise the impairment at 31 December 20X1.

Solution to example 10: impairment loss journal – with a revaluation surplus

31 December 20X1	Debit	Credit
Revaluation surplus (equity)	10 000	
Plant: cost		10 000
Impairment loss (expense)	50 000	
Plant: accumulated impairment losses		50 000
<i>Impairment of plant (100 000 – 40 000) first set-off against the revaluation surplus of 10 000, the balance of 50 000 being expensed</i>		

The chapter that covers property, plant and equipment's measurement models shows how to decrease an asset's carrying amount when:

- using the cost model: example 1; and
- using the revaluation model: example 8.

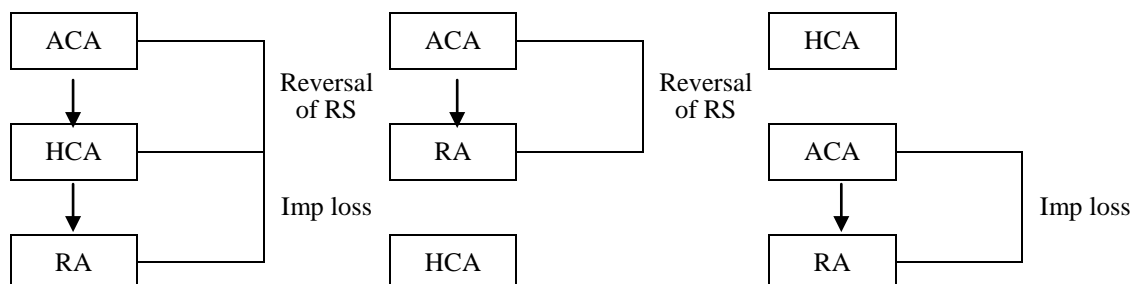
Subsequent depreciation will be calculated based on:

- the reduced carrying amount of the asset
- less its residual value
- the net of which is divided by the asset's remaining useful life.

A decrease in carrying amount: A summary of the various interactions of carrying amount and recoverable carrying amount when using the *cost model* is shown below.



A decrease in carrying amount: A summary of the various interactions of carrying amount and recoverable carrying amount when using the *revaluation model* is shown below.



6. Recognising a reversal of a previous impairment loss (IAS 36 para 109 – 121)

If, at a later stage, it is discovered that the recoverable amount is greater than the actual carrying amount, where this asset was previously impaired, the impairment loss previously recognised may be reversed. This happens when the circumstances that originally caused the impairment are reversed.

The chapter covering property, plant and equipment's measurement models shows how to *increase* an asset's carrying amount when:

- using the cost model: example 2; and
- using the revaluation model: example 7 and 9.

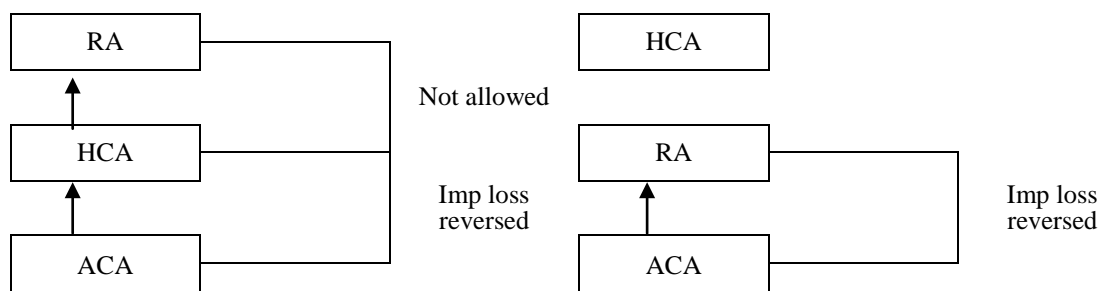
Subsequent depreciation will be calculated based on the:

- increased carrying amount of the asset less its residual value
- divided by the asset's remaining useful life.

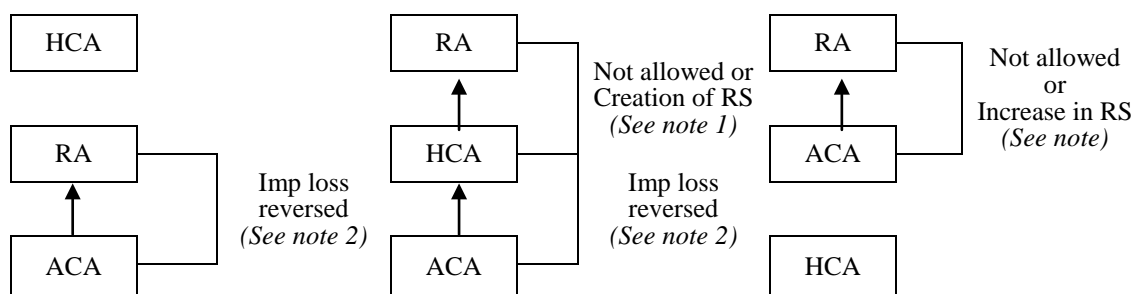
If the asset is carried under the *cost model*, the increase in value will be recognised as an impairment loss reversed (income), and is calculated as follows:

	C
Recoverable amount (limited to historical carrying amount)	XXX
Less the actual carrying amount	(XXX)
Impairment loss reversed	XXX

An increase in carrying amount: A summary of the various interactions of carrying amount and recoverable carrying amount when using the *cost model* are shown below.



An increase in carrying amount: A summary of the various interactions of carrying amount and recoverable amount when using the *revaluation model* are shown below.



Note 1: If the asset is carried under the *revaluation model*, any excess above the historical carrying amount is generally ignored although, if the recoverable amount equals the asset's fair value and the entity would normally have performed a revaluation at this time, the excess could be treated as a 'revaluation surplus' (equity).

Note 2: If the asset's actual carrying amount is less than the historical carrying amount due to a prior devaluation to fair value, no impairment loss is reversed (since there is no prior impairment loss).

An impairment loss relating to goodwill is never reversed. The reason is that an apparent increase in the recoverable amount of goodwill probably relates to internally generated goodwill (rather than the purchased goodwill), which is not allowed to be recognised as an asset according to IAS 38 (see the chapter governing ‘intangible assets’).

7. Impairment of cash-generating units (IAS 36.65 – .108 and IAS 36.122 - .125)

7.1 Overview

When testing assets for impairment, the recoverable amount should ideally be estimated for that individual asset. There are, however, instances where it is not possible to estimate the recoverable amount of the *individual* asset. These instances are when:

- its value in use cannot be determined and it is not estimated to be close to the fair value less costs to sell; and
- it does not generate cash inflows from continuing use that are largely independent of those from other assets.

Where this is the case we must determine to which cash-generating unit the asset belongs.

A cash-generating unit is simply the ‘smallest identifiable group of assets that generates cash inflows from continuing use that are largely independent of the cash inflows from other assets or groups of assets’.

The recoverable amount of the cash-generating unit will be calculated as a whole and is compared to the net carrying amounts of the assets and liabilities that make up the unit.

When calculating the carrying amount and the recoverable amount (greater of fair value less costs to sell and value in use) of a cash-generating unit:

- include the carrying amount of only those assets that can be attributed directly, or allocated on a reasonable and consistent basis, to the cash-generating unit and will generate the future cash flows used in determining the cash-generating units value in use;
- exclude all liabilities relating to the group of assets unless the recoverable amount of the cash-generating unit cannot be determined without consideration of this liability: for example, where the disposal of a group of assets would require the buyer to assume (accept responsibility for) the liability, (e.g. a nuclear power station where there is a legal requirement to dismantle it at some stage in the future);
- any asset within the cash-generating unit that an entity intends to scrap: the asset to be scrapped is tested for impairment separately from the remaining assets of the cash-generating unit. It is necessary to point out that, if one knows that the asset is to be scrapped, then obviously both the value in use and fair value less costs to sell will be the same: the expected net proceeds from scrapping.

Example 11: scrapping of an asset within a cash-generating unit

One of the machines (carrying amount of C40 000) in an assembly line suffered damage due to a power surge and was immediately removed from the assembly line. The assembly line is still operating although at 80% capacity. The assembly line’s recoverable amount is C300 000 and its carrying amount is C240 000.

Required:

Calculate and journalise the impairment of the machine assuming that:

- A. the intention is to repair the machine and return it to the assembly line; and
- B. the intention is to scrap the machine for C1 000.

Solution to example 11 A: scrapping of an asset within a cash-generating unit

Since the machine is part of a cash-generating unit, it is not tested for impairment separately from the cash-generating unit.

Since the cash-generating unit's recoverable amount exceeds its carrying amount, the cash-generating unit is not impaired and therefore the machine is not impaired.

Solution to example 11 B: scrapping of an asset within a cash-generating unit

Since the machine is to be scrapped, it is removed from the cash-generating unit and tested for impairment on its own.

Given that the machine has already been taken out of use, its value in use will be zero.

Given that the machine is to be scrapped for C1 000, its fair value less costs to sell is C1 000 (assuming no costs to sell).

The machine is therefore impaired as follows:

	C
Carrying amount:	40 000
Recoverable amount:	1 000
Impairment loss:	<u>39 000</u>

	Debit	Credit
Impairment loss	39 000	
Machine: accumulated impairment loss		39 000
<i>Impairment of machine</i>		

7.2 Allocation of an impairment loss to a cash-generating unit (covers para 104 and 105)

Although a group of assets is being tested for impairment, any impairment loss is then allocated to the individual assets within the group. The allocation of an impairment of a cash-generating unit to its individual assets is done on a *pro rata* basis based on the relative carrying amounts of the individual assets within the group.

When allocating an impairment loss, however, the carrying amount of each individual asset must not be reduced below the higher of:

- its fair value less costs to sell;
- its value in use; and
- zero.

Example 12: allocation of impairment loss (no goodwill)

A cash-generating unit, measured under the cost model, which has a recoverable amount of C10 000, has the following assets:

	Carrying amount	Recoverable amount
	C	C
Equipment	3 000	unknown
Vehicles	2 000	unknown
Plant	6 000	unknown
Factory building	4 000	unknown
	<u>15 000</u>	

Required:

Calculate and allocate the impairment loss to this cash-generating unit and then journalise it.

Solution to example 12: allocation of impairment loss (no goodwill)

Impairment loss of cash-generating unit	C
Carrying amount	15 000
Recoverable amount	10 000
Impairment loss	5 000

Allocation of impairment loss to the individual assets		CA before C	Impairment allocated C	CA after C
	<i>Calculation</i>			
Equipment	$3\,000 / 15\,000 \times C5\,000 \text{ impairment}$	3 000	1 000	2 000
Vehicles	$2\,000 / 15\,000 \times C5\,000 \text{ impairment}$	2 000	667	1 333
Plant	$6\,000 / 15\,000 \times C5\,000 \text{ impairment}$	6 000	2 000	4 000
Factory building	$4\,000 / 15\,000 \times C5\,000 \text{ impairment}$	4 000	1 333	2 667
		15 000	5 000	10 000

Journal in 20X1	Debit	Credit
Impairment loss: equipment	1 000	
Equipment: accumulated impairment loss		1 000
Impairment loss: vehicles	667	
Vehicles: accumulated impairment loss		667
Impairment loss: plant	2 000	
Plant: accumulated impairment loss		2 000
Impairment loss: building	1 333	
Building: accumulated impairment loss		1 333
<i>Impairment of assets within the cash-generating unit</i>		

It may happen that a portion of the impairment loss remains unallocated, in which case a second round of allocation must be done whereby any excess impairment loss is allocated to the other assets of the cash-generating unit that have not yet been reduced below their minimum value (higher of their value in use, fair value less costs to sell and zero).

Example 13: allocation of impairment loss (no goodwill) – multiple allocation

A cash-generating unit, measured under the cost model, which has a recoverable amount of C12 000, has the following assets:

	Carrying amount	Recoverable amount
Equipment	3 000	unknown
Vehicles	2 000	unknown
Plant	6 000	5 000
Factory building	4 000	5 000
	15 000	12 000

Required:

Calculate and allocate the impairment loss to this cash-generating unit

Solution to example 13: allocation of impairment loss (no goodwill) – multiple allocation

Impairment loss of cash-generating unit	C
Carrying amount	15 000
Recoverable amount	12 000
Impairment loss	3 000

Allocation of impairment loss to the individual assets		Carrying amount before	Impairment allocated	Carrying amount after
		C	C	C
<i>First round of allocation: Calculation</i>				
Equipment	$3\,000 / 15\,000 \times C3\,000$ impairment	3 000	600	2 400
Vehicles	$2\,000 / 15\,000 \times C3\,000$ impairment	2 000	400	1 600
Plant	$6\,000 / 15\,000 \times C3\,000$ impairment: limited to C1000 (CA 6 000–RA 5 000)	6 000	⁽¹⁾ 1 000	⁽³⁾ 5 000
Factory building	$4\,000 / 15\,000 \times C3\,000$ impairment: limited to nil (RA exceeds its CA)	4 000	⁽²⁾ 0	⁽³⁾ 4 000
		15 000	2 000	13 000

(1) The allocated impairment initially works out to C1 200, but this would drop the carrying amount of the plant to 4 800. Since we know that the recoverable amount of the plant is C5 000, we limit the impairment allocation to C1 000 (C6 000 – 1 000 = 5 000). Plant is now fully impaired.

(2) Factory buildings are not allocated any of the impairment since we know they are not impaired (their recoverable amount is greater than their carrying amount).

(3) These assets are fully impaired since their carrying amounts are now representative of their recoverable amounts (or less than their recoverable amounts).

		Carrying amount before	Impairment allocated	Carrying amount after
		C	C	C
<i>Second round of allocations: Calculation</i>				
Equipment	$2\,400 / 4\,000 \times (3\,000 - 2\,000)$	2 400	600	1 800
Vehicles	$1\,600 / 4\,000 \times (3\,000 - 2\,000)$	1 600	400	1 200
		4 000	1 000	3 000

Where a cash-generating unit includes goodwill, any impairment of this cash-generating unit must first be allocated to this goodwill. Any remaining impairment loss is then allocated to the remaining assets within the cash-generating unit.

Example 14: allocation of impairment loss (with goodwill)

A cash-generating unit, carried under the cost model, which has a recoverable amount of C8 000, has the following assets:

	Carrying amount	Recoverable amount
	C	C
Motor vehicle	4 000	2 800
Building	5 000	unknown
Goodwill	2 000	unknown
	11 000	

Required:

Calculate and allocate the impairment loss to this cash-generating unit

Solution to example 14: allocation of impairment loss (with goodwill)

Impairment loss of cash-generating unit	C
Carrying amount	11 000
Recoverable amount	8 000
Impairment loss	3 000

The impairment of C3 000 is first allocated to the goodwill and any remaining impairment is then allocated to the other assets within the cash-generating unit based on their carrying amounts relative to the carrying amount of the group (reduced by the impaired goodwill):

Allocation of impairment loss		Carrying amount before C	Impairment allocated C	Carrying amount after C
Calculation				
<i>First round of allocation:</i>				
Goodwill		2 000	2 000	0
<i>Second round of allocation:</i>				
Motor vehicle	$4\,000 / (4\,000 + 5\,000) \times (3\,000 - 2\,000)$	4 000	444	3 556
Building	$5\,000 / (4\,000 + 5\,000) \times (3\,000 - 2\,000)$	5 000	556	4 444
		11 000	3 000	8 000

It should be noted that goodwill must be tested every year for possible impairments, even if there is no indication that it is impaired. Whereas most other assets must be tested *at* year-end, goodwill may be tested at *any stage* during the year so long as it is tested at the *same time every year* (where goodwill is allocated across various cash-generating units, these cash-generating units may be tested for impairment at different times).

The most recent detailed calculation made in a preceding period of the recoverable amount of a cash-generating unit to which goodwill has been allocated may be used in the impairment test of that unit in the current period provided all of the following criteria are met (IAS 36.99):

- the assets and liabilities making up the unit have not changed significantly since the most recent recoverable amount calculation;
- the most recent recoverable amount calculation resulted in an amount that exceeded the carrying amount of the unit by a substantial margin; and
- based on an analysis of the events that have occurred and the circumstances that have changed since the most recent recoverable amount calculation, the likelihood that a current recoverable would be less than the current carrying amount of the unit is remote.

7.3 Reversals of impairments

If an impairment loss relating to a cash-generating unit is to be reversed, it is first allocated to the assets of the unit, (except to goodwill), on a pro rata basis based on the carrying amounts of the individual assets relative to the carrying amount of the cash-generating unit in total. Any impairment once allocated to goodwill may never be reversed.

Example 15: Impairment and reversal thereof (no goodwill)

On the 31 December 20X4, as a result of a government ban on a product produced by Banme Limited, the affected cash-generating unit must be impaired to its recoverable amount of C2 000 000.

On this date, the details of the individual assets in the unit (each measured using the cost model) were as follows:

	Remaining useful life	Residual value	Carrying amount C	Recoverable amount C
Equipment	5 years	Nil	1 000 000	unknown
Plant	5 years	Nil	3 000 000	unknown
			4 000 000	2 000 000

One year later, the ban was lifted and the cash-generating unit was brought back into operation. Its revised recoverable amount is C3 000 000. On this date, the individual carrying amounts and recoverable amounts were as follows:

	Historical carrying amount C	Carrying amount C	Recoverable amount C
Equipment	800 000	400 000	unknown
Plant	2 400 000	1 200 000	unknown
	3 200 000	1 600 000	3 000 000

Required:

Calculate and allocate the original impairment loss to this cash-generating unit and calculate and allocate the subsequent reversal thereof.

Solution to example 15: Impairment and reversal thereof (no goodwill)

31 December 20X4: Impairment loss of cash-generating unit	C
Carrying amount	4 000 000
Recoverable amount	2 000 000
Impairment loss	2 000 000

Allocation of impairment to individual assets	Impairment C
<i>Calculation</i>	
Equipment	500 000
Plant	1 500 000

31 December 20X5: Reversal of impairment loss of cash-generating unit	C
Carrying amount	1 600 000
Recoverable amount (<i>not limited since the historical carrying amount is greater: 3 200 000</i>)	3 000 000
Impairment loss reversed	(1 400 000)

Allocation of reversal of impairment to individual assets	Reversal of impairment C
<i>Calculation</i>	
Equipment	350 000
Plant	1 050 000
Impairment loss reversed	1 400 000

Example 16: Impairment and reversal thereof (with goodwill)

On the 31 December 20X4, as a result of a government ban on a product produced by Banme Limited, the affected cash-generating unit must be impaired to its recoverable amount of C2 000 000.

On this date, the details of the individual assets in the unit (each measured using the cost model) were:

	Remaining useful life	Residual value	Carrying amount C	Recoverable amount C
Goodwill	5 years	Nil	2 000 000	unknown
Plant	5 years	Nil	3 000 000	unknown
Building	5 years	Nil	5 000 000	unknown
			10 000 000	2 000 000

One year later, the ban was lifted and the cash-generating unit was brought back into operation. Its revised recoverable amount is C4 000 000. On this date, the individual carrying amounts and recoverable amounts were as follows:

	Historical carrying amount C	Carrying amount C	Recoverable amount C
Goodwill	2 000 000	0	unknown
Plant	2 400 000	600 000	unknown
Building	4 000 000	1 000 000	unknown
	8 400 000	1 600 000	4 000 000

Required:
Perform the allocation of the impairment and the reversal thereof.

Solution to example 16: Impairment and reversal thereof (with goodwill)

31 December 20X4: Impairment loss of cash-generating unit		C
Carrying amount		10 000 000
Recoverable amount		2 000 000
Impairment loss		8 000 000

Allocation of impairment		Impairment C
	<i>Calculation</i>	
Goodwill	<i>The entire goodwill is first removed, leaving an impairment of 6 mil (8 mil – 2 mil) still to be allocated</i>	2 000 000
Plant	<i>3mil/ (3mil + 5mil) x 6 mil impairment</i>	2 250 000
Building	<i>5mil/ (3mil + 5mil) x 6 mil impairment</i>	3 750 000
		8 000 000

31 December 20X4: Reversal of impairment loss of cash-generating unit		C
Carrying amount		1 600 000
Recoverable amount		4 000 000
Impairment loss reversal (income)		2 400 000

Allocation of reversal of impairment		Reversal of impairment C
	<i>Calculation</i>	
Goodwill	<i>Any previous impairment of goodwill may never be reversed</i>	0
Plant	<i>600 000 / 1 600 000 x 2 400 000</i>	900 000
Building	<i>1 000 000 / 1 600 000 x 2 400 000</i>	1 500 000
Impairment loss reversed		2 400 000

The impairment loss reversed is limited on an individual asset basis to what its historical carrying amount is. For example, if the plant in the previous example has a historical carrying amount of 1 100 000 at 31 December 20X4, then only 500 000 could be allocated to plant as a impairment loss reversed (CA: 600 000 + ILR: 500 000 = HCA: 1 100 000).

7.4 Corporate assets (IAS 36.100 and 102)

When testing a cash-generating unit for impairment, one must include any corporate assets that are able to be allocated on a reasonable and consistent basis to that unit.

Corporate assets (such as a head office building) are those assets:

- that do not generate cash flows independently of the other assets or groups of assets; and
- whose carrying amounts cannot be attributable to the cash-generating unit under review.

Where the entity owns corporate assets that are not able to be allocated to its cash-generating units, further impairment test/s are performed from the bottom-up. Essentially this means:

- first testing the smallest cash-generating units for impairment;
- then testing a group of cash-generating units to which the corporate assets (or portion thereof) can be allocated on a reasonable and consistent basis for impairment;
- then testing a bigger group of cash-generating units for impairment; and so on until the corporate assets are completely included in a cash-generating unit/s (the final group of cash-generating units often being the business as a whole).

Example 17: corporate assets

The reporting entity has three cash-generating units (toothpaste, wire brushes and rubber tyre production lines) and three corporate assets (a building, phone system and a computer platform). The building and phone system support all cash-generating units whereas the computer platform supports the toothpaste and wire-brush units only.

At the 31 December 20X5 the following values were determined:

Cash-generating units excluding corporate assets

Cash-generating unit: toothpaste

Cash-generating unit: wire-brushes

Cash-generating unit: rubber tyres

CA C	RA C
1 000 000	600 000
2 000 000	1 500 000
4 000 000	3 200 000
7 000 000	5 300 000

Corporate assets

Corporate asset: building

Corporate asset: phone system

Corporate asset: computer platform

700 000
350 000
1 050 000
2 100 000
9 100 000

Required:

Determine the amount of the impairment to be allocated to the entity's assets, assuming that:

- the corporate assets can be allocated to the relevant cash-generating units. The appropriate method of allocation is based on the carrying amount of the cash-generating unit's individual assets as a percentage of cash-generating unit's total assets excluding corporate assets to be allocated.
- the corporate assets cannot be allocated to the relevant cash-generating units.

Solution to example 17A: corporate assets are able to be allocated

		Cash-generating units		
		Toothpaste	Wire-brushes	Rubber tyres
Carrying amount:	Calculation	C	C	C
Without corporate assets		1 000 000	2 000 000	4 000 000
Building	$1\,000K / 7\,000K \times 700\,000 *$	100 000	200 000	400 000
	$2\,000K / 7\,000K \times 700\,000 *$			
	$4\,000K / 7\,000K \times 700\,000 *$			
Phone system	$1\,000K / 7\,000K \times 350\,000 *$	50 000	100 000	200 000
	$2\,000K / 7\,000K \times 350\,000 *$			
	$4\,000K / 7\,000K \times 350\,000 *$			
Computer platform	$1\,000K / 3\,000K \times 1\,050\,000 *$	350 000	700 000	0
	$2\,000K / 3\,000K \times 1\,050\,000 *$			
Total		1 500 000	3 000 000	4 600 000
Recoverable amount		600 000	1 500 000	3 200 000
Impairment		900 000	1 500 000	1 400 000

*: $1\,000\,000 + 2\,000\,000 + 4\,000\,000 = 7\,000\,000$

** : $1\,000\,000 + 2\,000\,000 = 3\,000\,000$

Solution to example 17B: corporate assets not able to be allocated

The impairment testing of this entity's assets, where its corporate assets were not able to be allocated to its three cash-generating units, involves three levels of testing, as follows:

First test: without any corporate assets:

	Cash-generating units		
	Toothpaste C	Wire-brushes C	Rubber tyres C
Carrying amount before first impairment	1 000 000	2 000 000	4 000 000
Recoverable amount	600 000	1 500 000	3 200 000
First impairment	400 000	500 000	800 000

Second test: toothpaste and wire-brush cash generating units with computer platform:

		C
Cash-generating unit toothpaste	<i>1 000 000 – 400 000 first impairment</i>	600 000
Cash-generating unit wire-brushes	<i>2 000 000 – 500 000 first impairment</i>	1 500 000
Computer platform		1 050 000
Carrying amount before level 2 impairment		3 150 000
Recoverable amount	<i>600 000 + 1 500 000</i>	2 100 000
Second impairment		1 050 000

Third test: all cash-generating units with all corporate assets:

		C
Toothpaste, wire-brushes and computer platform	<i>3 150K – 1 050K second impairment</i>	2 100 000
Cash-generating unit: rubber tyres		3 200 000
Building		700 000
Phone system		350 000
Carrying amount before level 3 impairment		6 350 000
Recoverable amount	<i>600 000 + 1 500 000 + 3 200 000</i>	(5 300 000)
Third impairment		1 050 000

Total impairment:

		C
First impairment	<i>400 000 + 500 000 + 800 000</i>	1 700 000
Second impairment		1 050 000
Third impairment		1 050 000
		3 800 000

Total revised carrying amount of all assets:

	C
Carrying amount before impairment	9 100 000
Impairment	3 800 000
Carrying amount after impairment	5 300 000

8. Disclosure (IAS 36.126–137)**8.1 In general**

The following information should be disclosed for each class of asset:

The amount of any impairment loss debited:

- to expenses (and an indication as to which line item includes the impairment loss, e.g. profit before tax); and
- against equity (i.e. the revaluation surplus account).
-

The amount of any reversals of impairment losses credited:

- to income (and an indication as to which line item includes the reversal of the impairment loss, e.g. profit before tax); and
- to equity (i.e. revaluation surplus).

This disclosure may be included in a note supporting the calculation of profit or loss (e.g. 'profit before tax' note) or in the note supporting the asset (e.g. the 'property, plant and equipment' note in the reconciliation of carrying amount).

8.2 Impairment losses and reversals of previous impairment losses

For every impairment loss or reversal of a previous impairment loss that is considered to be material, the entity must disclose the following:

- the events and circumstances that led to the impairment loss or reversal thereof;
- the nature of the asset (or the description of a cash-generating unit);
- the amount of the impairment loss or impairment loss reversed;
- the reportable segment in which the individual asset or cash-generating unit belongs (if the entity reports segment information);
- whether the recoverable amount is the 'fair value less costs to sell' (in which case state whether it was determined with reference to an active market or by way of another method) or the 'value in use' (in which case, state the discount rate used in the estimates made).

If the above information relating to the recognition and reversal of impairment losses is not disclosed, indicate:

- the main class of assets affected as well as
- the main events and circumstances that led to the recognition or reversal of the impairment losses.

8.3 Impairment testing: cash-generating units versus individual assets

Additional disclosure is required when impairment testing is performed on 'cash-generating units' instead of 'individual assets':

- a description of the cash-generating unit (e.g. a product line or geographical area);
- the amount of the impairment loss recognised or reversed by class for assets and, if the entity reports segment information, by reportable segment;
- if the aggregation of assets for identifying the cash-generating unit has changed since the previous estimate of the cash-generating unit's recoverable amount, a description of the current and former way of aggregating assets and the reasons for changing the way the cash-generating unit is identified.

Where a cash-generating unit includes goodwill or an intangible asset with an indefinite useful life where the allocated portion of the carrying amount of the goodwill or intangible asset is *significant* in relation to the total carrying amount of goodwill or intangible assets with indefinite useful lives of the entity (as a whole), then you also need to disclose:

- the carrying amount of the allocated goodwill;
- the carrying amount of intangible assets with indefinite useful lives;
- the basis for calculating the recoverable amount of the cash-generating unit (either its fair value less costs to sell or value in use;
- where the recoverable amount is based on value in use:
 - a description of each key measurement assumption on which management has based its cash flow projections;
 - a description of how management determined the values assigned to each key assumption, whether those values reflect past experience or external sources of information or both, and if not, why and how they differ from past experience or external sources of information;

- the period over which management has projected cash flows based on financial budgets approved by management and, when a period of more than five years is used for a cash-generating unit, an explanation of why that longer period is justified;
- the growth rate used to extrapolate cash flow projections beyond the period covered by the financial budgets and the justification for using a growth rate that exceeds the long-term average growth rate; and
- the discount rate applied to cash flow projections;
- where the recoverable amount is based on fair value less costs to sell, state that this value has been determined with reference to an observable market price, unless this isn't the basis, in which case disclose:
 - a description of each key measurement assumption on which management has estimated the fair value less costs to sell; and
 - a description of how management determined the values assigned to each key assumption, whether those values reflect past experience and external sources of information, and if not, why and how they differ from past experience or external sources of information;

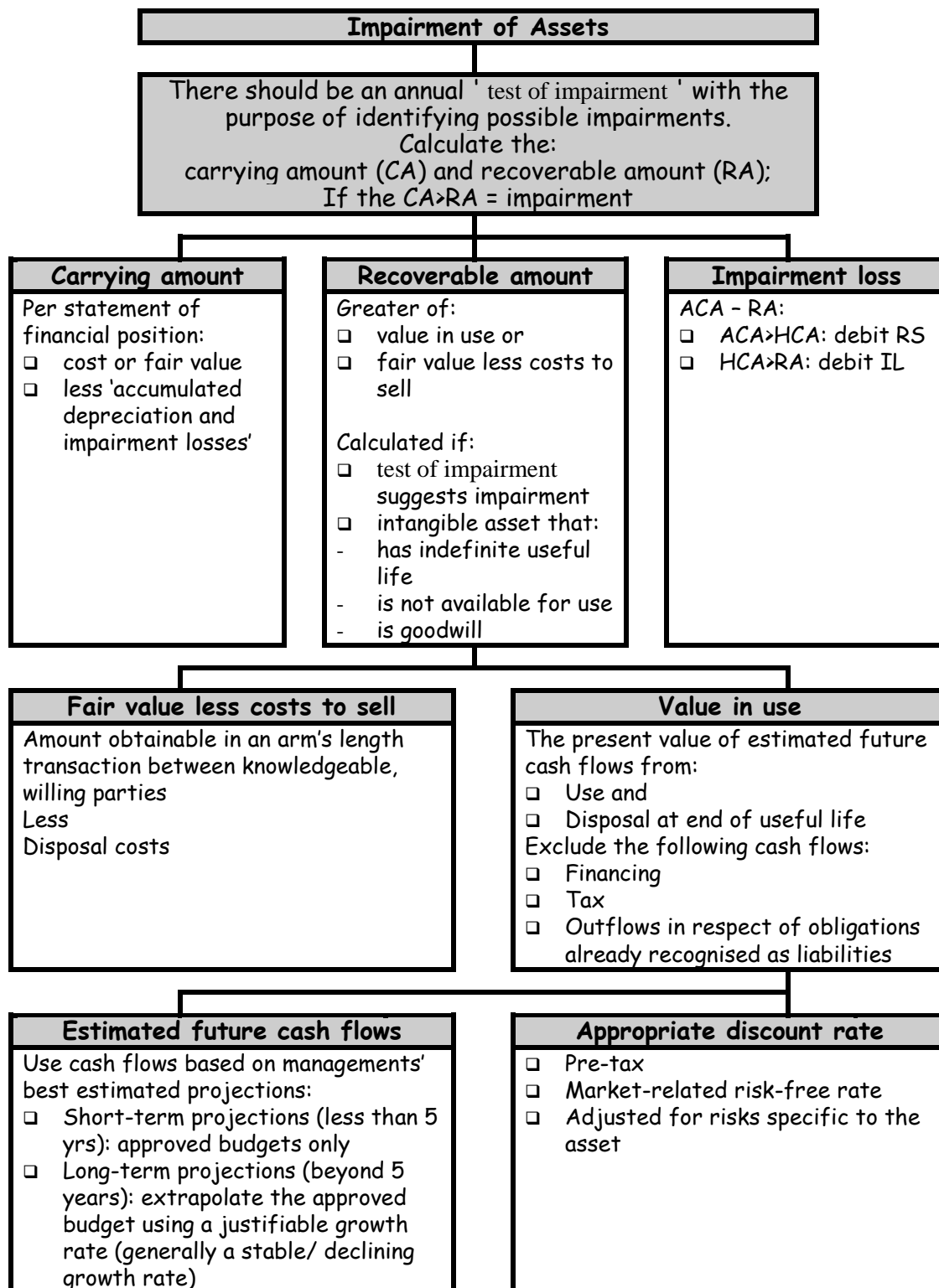
Where a cash-generating unit includes goodwill or an intangible asset with an indefinite useful life where the allocated portion of the carrying amount of the goodwill or intangible assets is *insignificant* in relation to the total carrying amount of goodwill or intangible assets with indefinite useful lives of the entity (as a whole), then you must also disclose:

- the aggregated carrying amount of allocated goodwill;
- the aggregated carrying amount of allocated intangible assets with indefinite useful lives;
- the key assumptions
- a description of how management determined the values assigned to each key assumption, whether those values reflect past experience or external sources of information or both, and if not, why and how they differ from past experience or external sources of information.

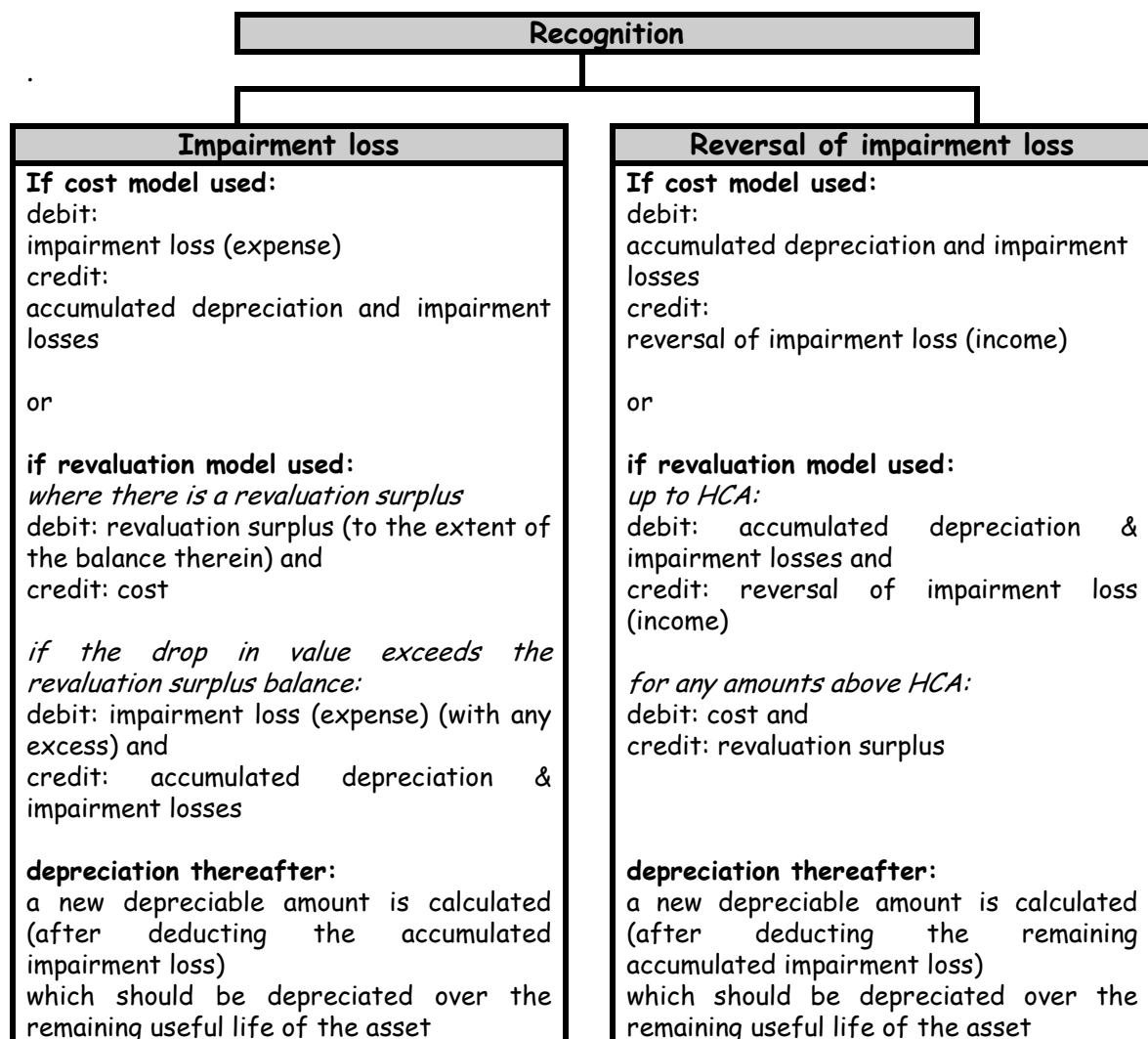
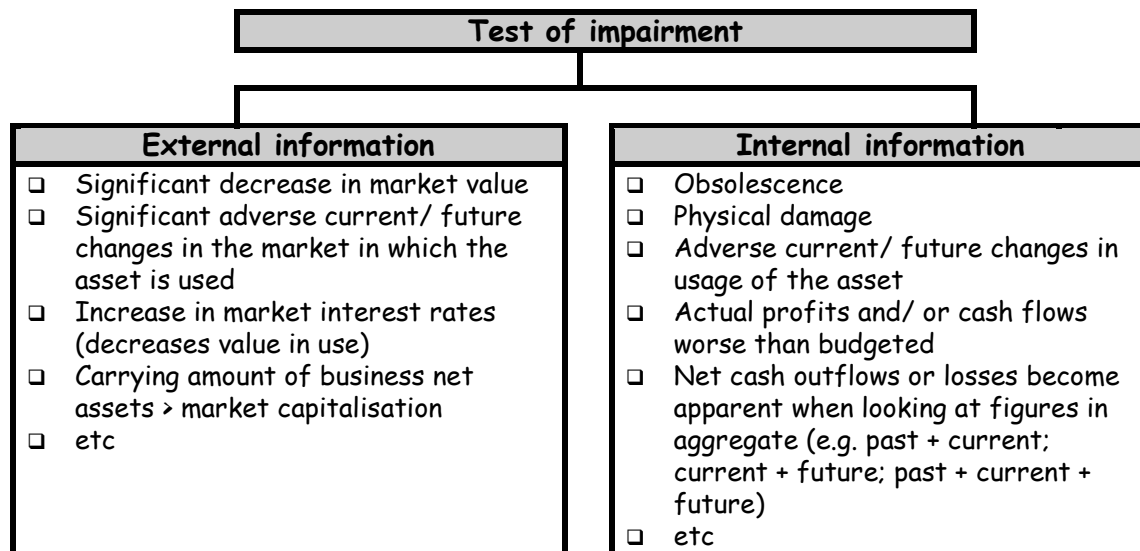
Whether allocated goodwill or intangible assets with indefinite lives is significant or insignificant, where a key assumption that was used in the determination of the recoverable amount might reasonably be expected to change such that the recoverable amount drops below carrying amount then disclose:

- the amount by which the recoverable amount currently exceeds the carrying amount;
- the value assigned to the key assumption;
- the amount by which this value would have to change in order for the recoverable amount to equal the carrying amount.

9. Summary



ACA = actual carrying amount
 HCA = historical carrying amount
 RA = recoverable amount
 RS = revaluation surplus
 IL = impairment loss



Chapter 11

Capitalisation of Borrowing Costs

Reference: IAS 23

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1 Introduction and definitions

1.1 Overview

IAS 23 was revised in March 2007. Those of you who have studied this standard previously will notice that in the previous version of IAS 23, accountants were able to choose between:

- the benchmark treatment (expensing borrowing costs); and
- the allowed alternative treatment (capitalising borrowing costs).

In the revised version of IAS 23, however, you will notice that there is no reference at all to the benchmark or allowed alternative treatments. The revised IAS 23 has it that accountants *must* capitalise borrowing costs (the previous allowed alternative treatment) that are incurred on *qualifying* assets. Thus borrowing costs on non-qualifying assets are always expensed.

Therefore, IAS 23 now requires that an entity:

- capitalise borrowing costs that were incurred on a qualifying asset; and
- expense borrowing costs that were not incurred on a qualifying asset.

Up until now you will have indirectly been exposed to borrowing costs where borrowing costs are generally expensed (i.e. the presupposition in such examples would have been that the borrowing costs were not incurred on a qualifying asset). We will now learn how and when to capitalise borrowing costs. In a nutshell, borrowing costs that relate to qualifying assets must be capitalised assuming that criteria for recognition of an asset are also met.

One of the more significant reasons behind capitalising borrowing costs instead of expensing them is that the cost of financing is generally a significant cost, and is generally a necessary evil in order to bring an asset to a location and condition that makes it useable or saleable. Costs that are significant and necessary should surely form part of the asset's cost. There are arguments against capitalizing borrowing costs as well, of course. These are discussed at the end of this chapter, but are largely academic now, given that there is no longer a choice.

1.2 Borrowing costs

Borrowing costs are those costs that are incurred by the entity in connection with the borrowing of funds.

Other names often used for borrowing costs include:

- interest expense; and
- finance charges.

Borrowings costs may include:

- interest incurred on loans (including bank overdraft);
- amortisation of discounts (or premiums);
- finance charges on finance leases;
- exchange difference on foreign loan accounts; and
- costs of raising debt.

1.3 Qualifying assets

Qualifying assets are those that take a *substantial period of time* to get ready for their intended use or sale.

Qualifying assets may include:

- manufacturing plants;
- power generation facilities;
- intangible assets;
- investment properties; and
- inventories.

1.4 Qualifying borrowing costs (IAS 23.8 - .10)

Borrowing costs that must be capitalised to the cost of an asset are those that:

- are directly attributable
- to the acquisition, manufacture or production
- of a qualifying asset; and those that
- would have been avoided had the expenditure on the qualifying asset not been made.

It is sometimes quite difficult to identify a direct link between borrowing costs incurred and a specific asset since:

- the borrowings may not have been specifically raised for that asset, but may be general borrowings (i.e. the entity may have a range of debt instruments at a range of varying interest rates);
- the borrowings may not even be denominated in your local currency (i.e. the borrowings may be foreign borrowings); and
- the borrowings may be subject to hyper-inflation (borrowing costs that compensate for inflation are always expensed).

The lists of complications are seemingly endless thus frequently requiring your professional judgement. These complications in calculation of the borrowing costs to be capitalised are expanded upon in the section entitled 'measurement'.

2 Expensing borrowing costs

2.1 Recognition (IAS 23.8 - .9)

Whenever borrowing costs do not meet the conditions for capitalisation, they are expensed.

Expensing borrowing costs simply means to include the borrowing costs as an expense in *profit or loss* in the period in which they were incurred (i.e. as and when interest is charged in accordance with the terms of the borrowing agreement).

2.2 Measurement

The amount of borrowing costs expensed is simply the amount charged by the lender in accordance with the borrowing agreement.

Example 1: expensing borrowing costs

Yay Limited incurred C100 000 interest (during the year ended 31 December 20X5) on a loan that was used to finance the construction of a factory plant.

The factory plant was *not* considered to be a qualifying asset.

Required:

Provided the necessary journal entries for expensing the interest in Yay Limited's books for the year ended 31 December 20X5.

Solution to example 1: expensing borrowing costs

Comment:

When to recognise an expense: when the interest is incurred.

How much to expense: the amount of interest charged by the lender in terms of the agreement.

	Debit	Credit
Finance costs (expense)	100 000	
Bank/ liability		100 000
<i>Interest incurred during the period is expensed</i>		

3 Capitalising borrowing costs

3.1 Recognition (IAS 23.8 - .9)

To capitalise borrowing costs simply means to include them in the cost of the related *qualifying assets*. In other words, the borrowing costs are recognised as an asset.

Before the borrowing costs may be recognised as an asset, they must meet the basic recognition criteria for an asset:

- future economic benefits must be probable; and
- the costs must be reliably measurable.

Borrowing costs that must be capitalised are those:

- that are directly attributable
- to the acquisition, construction or production
- of a qualifying asset.

Directly attributable means: if the assets had not been constructed, acquired or produced then these costs could have been *avoided*.

An example of an *acquisition* is the purchase of a building. An example of the *construction* of an asset is the building of a manufacturing plant. An example of the *production* of an asset is the manufacture of inventory.

When to recognise borrowing costs as part of the asset (capitalisation) is affected by:

- Commencement date: capitalisation starts from the date on which certain criteria are met;
- Suspension period: capitalisation must stop temporarily when certain criteria are met;
- Cessation date: capitalisation must stop permanently when certain criteria are met.

When borrowing costs are capitalised, the carrying amount of the asset will obviously be increased by the borrowing costs incurred. The cost of these borrowings will eventually reduce profits, but only when the qualifying asset affects profit or loss (e.g. through the depreciation expense when the qualifying asset is an item of property, plant and equipment).

3.1.1 Commencement of capitalisation (IAS 23.17 - .19)

Assuming the basic recognition criteria are met, an entity must start to capitalise borrowing costs from the date that all the following criteria are met:

- the entity is preparing the asset for its intended use or sale (activity is happening);
- expenditure is being incurred by the entity in preparing the asset; and
- borrowing costs are being incurred.

The date that all three criteria are met is known as the *commencement date*.

Example 2: capitalisation of borrowing costs - all criteria met at same time

Yippee Limited incurred C100 000 interest on a loan used to finance the construction of a building during the year ended 31 December 20X5:

- The building was considered to be a qualifying asset.
- Construction of the building began on 1 January 20X5, when the loan was raised.
- It is probable that the building would result in future economic benefits and the borrowing costs are reliably measurable.
- The construction of the building began as soon as the loan was raised.

Required:

Provide the necessary journal entries to capitalise the borrowing costs in Yippee Limited's books for the year ended 31 December 20X5.

Solution to example 2: capitalisation of borrowing costs - all criteria met at same time

Comment: Interest must be recognised as part of the cost of the qualifying asset. Interest is recognised as part of the asset (capitalisation) from the time that all criteria for capitalisation are met. All criteria are met on the same date (1 January 20X5):

- a loan is raised on 1 January 20X5 on which interest is being incurred;
- activities start on 1 January 20X5; and
- expenditure related to the activities start on 1 January 20X5 is being incurred.

The basic recognition criteria are also met and therefore the amount to be capitalised is calculated from 1 January 20X5.

		Debit	Credit
Finance costs (expense)	$100\,000 \times 12 / 12$	100 000	
Bank/ liability			100 000
<i>Interest on the loan incurred first expensed</i>			
Building: cost (asset)	$100\,000 \times 12 / 12$	100 000	
Finance costs (expense)			100 000
<i>Interest on the loan capitalised to the cost of the building</i>			

Example 3: commencement of capitalisation - criteria met at different times

Dawdle Limited borrowed C100 000 on the 30 June 20X5 to build a factory to store its goods. The necessary building materials were only available on 31 August 20X5 and it was then that Dawdle Limited began construction. The building is considered to be a qualifying asset.

Required:

Discuss when Dawdle Limited may begin capitalising the interest incurred.

Solution to example 3: commencement of capitalisation - criteria met at different times

All three criteria must be met before the entity may begin capitalisation. From the 30 June 20X5, Dawdle Limited borrowed funds and began incurring borrowing costs, but had not yet met the other two criteria (activities were not underway and costs on the asset were not being incurred). On the 31 August 20X5, however, Dawdle both acquired the construction materials and began construction thereby fulfilling all three criteria. Dawdle Limited may therefore only begin capitalising the borrowing costs on the 31 August 20X5 (assuming that it was probable that the building would render future economic benefits and that the costs were considered reliably measurable).

Example 4: commencement of capitalisation - criteria met at different times

Hoorah Limited incurred C100 000 interest for the year ended 31 December 20X5 on a loan of C1 000 000, raised on 1 January 20X5. The loan was raised to finance the construction of a building during the year ended 31 December 20X5. The building is a qualifying asset. Construction began on 1 February 20X5.

Required:

Provide the necessary journal entries to capitalise the borrowing costs in Hoorah Limited's books for the year ended 31 December 20X5.

Solution to example 4: commencement of capitalisation - criteria met at different times

Comment: Borrowing costs are being incurred from 1 January 20X5, but activities and related expenditure are only incurred from 1 February 20X5: all three criteria for capitalisation are therefore only met from 1 February 20X5 and therefore capitalisation may only occur from this date:

20X5		Debit	Credit
Finance costs (expense)	$100\,000 \times 12 / 12$	100 000	
Bank/ liability			100 000
<i>Interest on the loan incurred first expensed: total interest incurred for the year (given: 100 000)</i>			
Building: cost (asset)	$100\,000 \times 11 / 12$	91 667	
Finance costs (expense)			91 667
<i>Interest on the loan capitalised to the cost of the building; from commencement date (1 February 20X5)</i>			

3.1.2 Suspension of capitalisation (IAS 23.20 - .21)

If the active development of the qualifying asset is interrupted or delayed for a long period of time, the capitalisation of the borrowing costs *must be suspended*.

Capitalisation of borrowing costs *must not be suspended*, however, if:

- the delay is only temporary;
- if the delay is due to substantial technical or administrative work; or
- if the delay is a necessary part of getting the asset ready for its intended use.

A typical example of when borrowing costs should continue to be capitalised despite a delay is a wine farm that has to wait for its inventory of wine to mature in order to ensure a saleable condition. In this case, borrowing costs that are incurred during this period of maturation would continue to be capitalised to the cost of the inventory of wine.

Example 5: delays in construction

A hotel is under construction in 20X5. Borrowing costs of C300 000 are incurred on a loan during 20X5. The loan was specifically raised on 1 January 20X5 for the sole purpose of the construction of the hotel.

Required:

Discuss how much of the interest may be capitalised assuming that:

- The builders go on strike for a period of two months, during which no progress is made.
- The builders of the hotel had to wait for five days for the cement in the foundations to dry.

Solution to example 5: delays in construction

- During these two months, the interest incurred may not be capitalised to the asset as it is a substantial and unnecessary interruption to the construction process.
- The borrowing costs must still be capitalised as it is merely a temporary delay and is a normal part of the construction process.

3.1.3 Cessation of capitalisation

The entity must stop capitalising borrowing costs when the asset:

- is ready for its intended use or sale; or
- is substantially complete and capable of being used or sold.

By way of example, capitalisation would cease if routine administration work or minor modifications are all that remains to be done (e.g. decoration of a new building to the client's specifications) in order to bring the asset to a useable or saleable condition.

If an asset is completed in parts where each part is capable of being used separately from the other parts, then capitalisation of borrowing costs ceases on each part as and when each part is completed. An example of such an asset would be an office park: as office blocks are

completed, these office blocks may begin to be used by tenants. An example of an asset that would not be capable of being used or sold in parts is a factory plant that requires parts to be made in sequence and where the plant becomes operational only when all parts are completed.

Example 6: end of construction

Flabby Limited began construction of a block of flats on 1 January 20X5. The block of flats is to be leased out to tenants in the future.

On 1 January 20X5, Flabby Limited correctly began capitalising borrowing costs (on a C2 000 000 loan raised for the construction) to the cost of the property.

On 30 September 20X5, the building of the block was complete but no tenants could be found. On 15 November 20X5, however, after lowering the rentals, the entire building was rented out to tenants.

Interest of C200 000 (at 10% on the loan) was incurred during the 12-month period ended 31 December 20X5.

Required:

Discuss when Flabby Limited should stop capitalising the interest expense to the asset (building) and show the journal entries relating to interest.

Solution to example 6: end of construction

Capitalisation should cease when:

- the asset is ready for its intended use or sale.

On the 30 September 20X5 the construction was completed. Although the asset was not *being leased* it was *ready to be leased* to tenants on 30 September 20X5, and therefore capitalisation must cease on 30 September 20X5 (because one of the three criteria for capitalisation is no longer met: activity has ceased). All subsequent interest incurred must be expensed.

Journals in 20X5:

	Debit	Credit
Finance costs (expense)	200 000	
Bank/ liability		200 000
<i>Interest incurred: 200 000 (given)</i>		
Building (asset)	150 000	
Finance costs (expense)		150 000
<i>Interest capitalised: 200 000 x 9 / 12 (to completion date: 30/9/20X5)</i>		

3.2 Measurement (IAS 23.10 - .15)

Not all borrowing costs may be capitalised. The list of borrowing costs that may be capitalised are given in IAS 23 and are included under paragraph 1.2 above.

Notice that this list excludes certain costs associated with raising funds or otherwise financing a qualifying asset. This suggests that costs that do not appear on this list may not be capitalised. Borrowing costs therefore exclude:

- cost of raising share capital that is recognised as equity, for example:
 - dividends on ordinary share capital;
 - dividends on non-redeemable preference share capital (dividends on redeemable preference share capital may be capitalised because redeemable preference shares are recognised as liabilities and not equity);
- cost of using internal funds (e.g. if one uses existing cash resources instead of borrowing more funds, there is an indirect cost being the lost income, often measured using the

companies weighted average cost of capital or the market interest rates that could otherwise have been earned);

- foreign exchange differences that are incurred as a result of acquiring the qualifying asset on credit terms with no interest charged (e.g. if an asset is purchased for \$ 1 000 on 1 January 20X1 when the exchange rate is C7: \$1, then the entity owes C7 000 on the transaction date, but if the payment is only necessary on 30 June 20X1 and if the payment is made on this date, and if the exchange rate is C10: \$1 on this date, then the entity will have to pay C10 000: the asset will be recorded at C7 000 and the C3 000 exchange difference will have to be expensed since it does not relate to a borrowing cost).

The formula used to measure the borrowing costs that may be capitalised depends on the *source of the borrowings*. There are two sources of borrowings, which include:

- specific borrowings and
- general borrowings.

Unfortunately IAS 23 does not define what is meant by *specific and general borrowings*. The difference between specific and general borrowings can, however, be explained as follows:

- *specific borrowings* are taken out for the sole purpose of financing the construction, acquisition or production of a qualifying asset; whereas
- *general borrowings* are those funds that are entered into for a 'general' purpose. These funds may be utilised for buying inventory, paying off creditors and a multitude of other purposes *in addition* to the construction, acquisition or production of a qualifying asset.

When determining whether your borrowings are either general or specific, it is useful to remember that whilst a bank overdraft facility is often used as general purpose borrowings, it is also possible for a bank overdraft facility to be arranged specifically for a qualifying asset. The particular circumstances should, therefore, always be considered when deciding whether the borrowing is specific or general.

Measuring the borrowing costs to be capitalised is sometimes more complicated than it first appears. The basic questions that one needs to answer when measuring the borrowing costs to be capitalised include:

- are the borrowings specific or general or is there a mix of both specific and general?
- is the borrowing a precise amount (e.g. a loan) or does it increase as expenditure is paid for (e.g. a bank overdraft)?
- are the expenditures (on which interest is incurred) incurred evenly or at the beginning or end of a period or at haphazard times during a period?
- how long are the *periods* during which capitalisation is allowed?

In considering whether the borrowings are specific or general or is there a mix of both specific and general, remember that:

- where the borrowings are specific:
 - you will need the *actual rate* of interest/s charged on the borrowing/s; and
 - you will need to ascertain whether any surplus borrowings were invested upon which interest income was earned (if so, remember to reduce the *interest expense* by the *interest income*);
- where the borrowings are general:
 - you will need the *weighted average rate* of interest charged (assuming there is more than one general borrowing outstanding during the period);

In considering whether the borrowing is a precise amount (e.g. a loan) or whether it increases as expenditure is paid for (e.g. a bank overdraft), bear in mind that:

- if the borrowing is a loan (a precise amount), you will use the *capital sum*; and
- if the borrowing is an overdraft (a fluctuating amount), you will use the *relevant expenditures* and will need to know when they were incurred (or whether they were incurred relatively evenly).

In assessing whether the expenditures (on which interest is incurred) are incurred evenly or at the beginning or end of a period or at haphazard times during a period, bear in mind that:

- interest expense can be measured using *average borrowing balances* if the costs are incurred evenly, whereas *actual borrowing balances* should be used (whether specific or general borrowings) if costs are incurred at the beginning or end of a period; and
- interest income should be measured using *average investment balances* if the costs are incurred evenly, whereas *actual investment balances* should be used (if it is a specific borrowing) if costs are incurred at the beginning or end of a period,.

In determining the *periods* during which capitalisation must occur, you will need to know:

- the commencement date:
borrowings may be outstanding (and incurring interest) *before commencement date* in which case interest expense (and interest income on any surplus funds invested) up to commencement date must be ignored when calculating the portion to be capitalised;
- the cessation date:
borrowings may be outstanding (and incurring interest) *after cessation date* in which case interest expense (and interest income on any surplus funds invested) after cessation date must be ignored when calculating the portion to be capitalised; and
- whether there was a suspension period between these two dates:
borrowings may be outstanding (and incurring interest) during a *suspension period* in which case interest expense (and interest income on any surplus funds invested) during this period must be ignored when calculating the portion to be capitalised.

3.2.1 Measurement: specific loans (IAS 23.12 - .13)

All of the borrowing costs incurred on a specific loan are capitalised to the asset. If these funds are invested prior to the date they were utilised then any interest earned must be subtracted from the interest incurred (borrowing costs), in which case only the net amount may be capitalised.

Example 7: specific loans

Yahoo Limited borrowed C500 000 from the bank on 1 January 20X5 to begin the construction of a building. The interest payable on the loan during 20X5 was C50 000 (calculated at 10%). The company invested all surplus funds raised in a fixed deposit and earned C24 000 interest during 20X5. No capital portion of the loan was repaid during the year ended 31 December 20X5. All criteria for capitalisation of borrowing costs were met on 1 January 20X5. The building is a qualifying asset.

Required:

Calculate the amount of borrowing costs that must be capitalised in terms of IAS 23 and show the necessary journal entries.

Solution to example 7: specific loans

Comment: this example shows that interest income is used to reduce the amount of borrowings that may be capitalised when the borrowing is a specific borrowing.

	Calculations:	C
Interest incurred	$500\,000 \times 10\%$	50 000
Interest earned	<i>given</i>	(24 000)
Total to be capitalised		<u>26 000</u>
		<u>Debit</u> <u>Credit</u>
Finance costs (expense)		50 000
Bank/ liability		50 000
<i>Interest incurred on the loan first expensed</i>		

		Debit	Credit
Bank/ liability		24 000	
Interest income			24 000
<i>Interest income earned on investment of surplus loan funds</i>			
Building: cost (asset)	50 000 – 24 000	26 000	
Finance costs (expense)			26 000
<i>Portion of interest on the loan capitalised to the cost of the building</i>			

When calculating the interest income you may find that *actual* amounts invested can be used. This happens when, for example, the expenditures are infrequent and/ or happen at the start or end of a period. This will mean that the investment balance will remain unchanged for a period of time. The calculation of the amount of borrowing costs on specific borrowings that must be capitalised is therefore:

- total interest incurred on specific borrowings:
capital borrowed x interest rate x period borrowed
- less interest income earned from investment of surplus borrowings:
amount invested x interest rate x period invested.

Very often, however, *average* amounts invested need to be used instead of actual amounts invested. This happens more frequently when the borrowing is a general borrowing, but can apply to a specific borrowing where, for example, the expenditure is paid relatively evenly over a period of time, with the result that the balance on the investment account (being the surplus borrowings that are invested) is constantly changing. In this case, it is normally acceptable to calculate the interest earned on the average investment balance over a period of time (rather than on the actual balance on a specific day). The calculation of the amount of borrowing costs on specific borrowings that must be capitalised could therefore be:

- total interest incurred on specific borrowings:
capital borrowed x interest rate x period borrowed
- less interest income earned from investment of surplus borrowings:
(investment o/ balance + investment c/ balance) / 2 x interest rate x period invested

Example 8: specific loans – costs paid on specific days

Haha Limited borrowed C500 000 from the bank on 1 January 20X5 to begin the construction of a building (a qualifying asset). Construction began on 1 January 20X5 (i.e. all criteria for capitalisation of borrowing costs were met). The interest rate payable on the loan was 10%. The company paid construction costs of C400 000 on 1 March 20X5. Surplus funds were invested in a fixed deposit and earned interest at 6% per annum. No capital portion of the loan was repaid during the year ended 31 December 20X5.

Required:

Calculate the amount of borrowing costs that must be capitalised.

Solution to example 8: specific loans – costs paid on specific days

Comment: The borrowings are raised two months before they were required. These surplus funds are invested for January and February and the balance on this account for these two months remains stable at C500 000. On March, however, payments totaling C400 000 are made, thus reducing the investment balance to C100 000. This balance remains stable for the remaining ten months of the year. Since the expenditure is not incurred evenly over a period but is incurred on a specific day, the interest income for the purposes of the calculation of the borrowing costs to be capitalised should be calculated using the actual investment balances (C500 000 for 2 months and C100 000 for 10 months).

	Calculations:	C
Borrowing costs incurred	$500\,000 \times 10\% \times 12 / 12$	50 000
Interest earned	$500\,000 \times 6\% \times 2 / 12 + (500\,000 - 400\,000) \times 6\% \times 10 / 12$	(10 000)
Capitalised borrowing costs		40 000

	Debit	Credit
Finance costs (expense)	50 000	
Bank/ liability		50 000
<i>Interest incurred on the loan is first expensed</i>		
Bank/ liability	10 000	
Interest income		10 000
<i>Interest income earned on investment of surplus loan funds</i>		
Building: cost (asset)	40 000	
Finance costs (expense)		40 000
<i>Portion of interest on the loan capitalised to the cost of the building</i>		

Example 9: specific loans – costs paid evenly over a period

Hooray Limited borrowed C500 000 from the bank on 1 January 20X5 to begin the construction of a building (*a qualifying asset*).

Construction begins on 1 January 20X5 (all criteria for capitalisation of borrowing costs were met on this date).

The interest rate payable on the loan was 10%.

The company paid construction costs of C400 000 *evenly between 1 March 20X5 and 31 December 20X5*.

Surplus funds are invested in a fixed deposit and earned interest at 6% per annum. No capital portion of the loan was repaid during the year ended 31 December 20X5.

Required:

Calculate the amount of borrowing costs that must be capitalised.

Solution to example 9: specific loans – costs paid evenly over a period

Comment: The borrowings are raised two months before they were required. These surplus funds are invested for January and February and the balance on this account for these two months remains stable at C500 000. From March, however, the amount invested gradually reduces as payments are made (the balance of C500 000 on 1 March gradually decreases to a balance of C100 000 (C500 000 – C400 000) on 31 December. Since the payments are incurred evenly over this ten-month period, the interest income for the purposes of the calculation of the borrowing costs to be capitalised may be calculated using the average of these two balances (C500 000 and C100 000).

	Calculations:	C
Interest incurred	$500\,000 \times 10\% \times 12 / 12$	50 000
Interest earned	$(500\,000 \times 6\% \times 2 / 12) + (500\,000 + 100\,000) / 2 \times 6\% \times 10 / 12$	(20 000)
Capitalised borrowing costs		30 000

	Debit	Credit
Finance costs (expense)	50 000	
Bank/ liability		50 000
<i>Interest incurred on the loan is first expensed</i>		
Bank/ liability	20 000	
Interest income		20 000
<i>Interest income earned on investment of surplus loan funds</i>		
Building: cost (asset)	30 000	
Finance costs (expense)		30 000
<i>Portion of interest on the loan capitalised to the cost of the building</i>		

Example 10: specific loans – loan raised before construction begins

Yeeha Limited borrowed C500 000 from the bank on 1 January 20X5 to begin the construction of a building (*a qualifying asset*).

Construction began on 1 February 20X5 (i.e. all criteria for capitalisation of borrowing costs were met on this date).

The interest rate payable on the loan is 10%.

The company paid construction costs of C400 000 on 1 March 20X5.

Surplus funds are invested in a fixed deposit and earned interest at 6% per annum.

No capital portion of the loan was repaid during the year ended 31 December 20X5.

Required:

Calculate the amount of borrowing costs that may be capitalised.

Solution to example 10: specific loans – loan raised before construction begins

Compare this to example 8, in which the construction began on 1 January 20X5. In this example, the loan is taken out before construction begins. All criteria for capitalisation are therefore only met on 1 February 20X5 (commencement date) and therefore the interest that is incurred/ earned before this date must be ignored for the purpose of calculating the portion of interest to be capitalised.

	Calculations:	C
Interest incurred after commencement date	$500\,000 \times 10\% \times 11 / 12$ (i.e. excludes January interest expense)	45 833
Interest earned after commencement date	$(500\,000 \times 6\% \times 1 / 12) + (500\,000 - 400\,000) \times 6\% \times 10 / 12$ (i.e. excludes January interest income)	(7 500)
Capitalised borrowing costs		<u>38 333</u>

	Debit	Credit
Finance costs (expense)	50 000	
Bank/ liability		50 000
<u>Interest incurred on the loan first expensed: $500\,000 \times 10\% \times 12 / 12$</u>		
Bank/ liability	10 000	
Interest income		10 000
<u>Interest income earned on investment of surplus loan funds: $(500\,000 \times 6\% \times 2 / 12) + (500\,000 - 400\,000) \times 6\% \times 10 / 12$</u>		
Building: cost (asset)	38 333	
Finance costs (expense)		38 333
<u>Portion of interest on the loan capitalised to the cost of the building</u>		

3.2.2 Measurement: general loans (IAS 17.14 - .15)

General loans are used for many purposes and therefore it cannot be said that all the interest incurred thereon was 'directly attributable to the qualifying asset'. Therefore, not all the interest incurred on a general loan may be capitalised to the asset.

If the entity has used a general loan for a qualifying asset, the costs eligible for capitalisation are the weighted average cost of borrowings, calculated as follows:

- capitalisation rate x the average expenditure relating to the qualifying asset.
 - *The capitalisation rate is:*
the weighted average interest rate on the loans borrowed by the entity.
 - *The average expenditure is:*
expenditure for the period / 2

The total amount of interest capitalised may not exceed the total interest paid or incurred.

Example 11: general loans – costs incurred evenly

Bizarre Limited had a C500 000 7% existing general loan outstanding on 1 January 20X5. It raised an additional general loan of C600 000 on 1 January 20X5 at an interest rate of 12.5%. Bizarre Limited did not make any repayments on either loan during the year.

Construction began on 1 January 20X5.

The company spent the following amounts per month on the construction of a building, a qualifying asset:

	C per month
1 January – 31 July (7 months)	50 000
1 August – 30 November (4 months)	30 000
1 – 31 December (1 month)	100 000

Required:

Calculate the amount of borrowing costs that must be capitalised and provide the necessary journal entries for the year ended 31 December 20X5, assuming that the amounts were spent evenly during each month.

Solution to example 11: general loans – costs incurred evenly

Comment: There are two borrowings, both of which are general borrowings and therefore the borrowing costs to be capitalised is based on the expenditures incurred and the weighted average interest rate. Since the expenditures are incurred evenly, average expenditures are used. Since the borrowings are general, one does not consider interest income in the calculation of the amount to be capitalised.

W1: Borrowing costs to be capitalised

The loans are general loans and therefore the formula is: ‘Capitalisation rate x Average expenditure’.

Capitalisation rate (weighted average interest rate):

= interest incurred on general borrowings/ borrowings outstanding during the period
 = [(C500 000 x 7% x 12 / 12) + (C600 000 x 12.5% x 12 / 12)] / 1 100 000 total borrowings
 = 10%

Cumulative expenditure	C
1 January 20X5 Opening balance	0
January – July 50 000 x 7 months	350 000
31 July 20X5 Closing balance	350 000
August - November 30 000 x 4 months	120 000
30 November 20X5 Closing balance	470 000
December 100 000 x 1 month	100 000
31 December 20X5 Closing balance	570 000

Capitalisation rate x average expenditure:

	C
Jan – July (0 + 350 000) / 2 x 10% x 7 / 12 months; OR: (50 000 x 7 months) / 2 x 10 % x 7 / 12 months	10 208
Aug – Nov (350 000 + 470 000) / 2 x 10% x 4 / 12 months; OR: {(30 000 x 4 months) / 2 + 50 000 x 7} x 10 % x 4 / 12 months	13 667
Dec (470 000 + 570 000) / 2 x 10% x 1 / 12 months; OR {(100 000 x 1) / 2 + 50 000 x 7 + 30 000 x 4 } x 10% x 1 / 12	4 333
Total to be capitalised:	28 208

The above calculation can be done the long way around, if preferred:

Expense incurred evenly during each month							
	Balance (A)	Expense (B)	Balance (C)	Balance (D)	Interest %	Months	Capitalise
January	0	50 000	50 000	25 000	10%	1	208
February	50 000	50 000	100 000	75 000	10%	1	625
March	100 000	50 000	150 000	125 000	10%	1	1 042
April	150 000	50 000	200 000	175 000	10%	1	1 458
May	200 000	50 000	250 000	225 000	10%	1	1 875
June	250 000	50 000	300 000	275 000	10%	1	2 292
July	300 000	50 000	350 000	325 000	10%	1	2 708
August	350 000	30 000	380 000	365 000	10%	1	3 042
September	380 000	30 000	410 000	395 000	10%	1	3 292
October	410 000	30 000	440 000	425 000	10%	1	3 542
November	440 000	30 000	470 000	455 000	10%	1	3 792
December	470 000	100 000	570 000	520 000	10%	1	4 333
		<u>570 000</u>					<u>28 209</u>

Balance (A): first day of the month

Expense (B): incurred on the last day of the month

Balance (C): last day of the month

Balance (D): average balance = $(A + C) / 2$

Capitalise: interest expense that may be capitalised: Balance (A) \times interest rate $\times 1 / 12$

Capitalisation rate (weighted average interest rate): see calculation above

Journals in 20X5:

	Debit	Credit
Building (asset)	570 000	
Bank/ liability		570 000
<i>Construction costs incurred: 50 000 \times 7 + 30 000 \times 4 + 100 000 \times 1</i>		
<i>This journal would actually be processed separately for each and every payment but is shown here as a cumulative journal for ease</i>		
Finance costs (expense)	110 000	
Bank/ liability		110 000
<i>Finance costs incurred: 500 000 \times 7% + 600 000 \times 12.5%</i>		
Building (asset)	28 209	
Finance costs (expense)		28 209
<i>Finance costs capitalised: (W1)</i>		

Example 12: general loans – costs incurred at the end of each month

Bizarre Limited had a C500 000 7% existing general loan outstanding on 1 January 20X5. It raised an additional general loan of C600 000 on 1 January 20X5 at an interest rate of 12.5%.

Bizarre Limited did not make any repayments on either loan during the year.

Construction began on 1 January 20X5.

The company spent the following amounts per month on the construction of a building, a qualifying asset:

	C per month
1 January – 31 July	50 000
1 August – 30 November	30 000
1 – 31 December	100 000

Required:

Calculate the amount of borrowing costs that must be capitalised and provide the necessary journal entries for the year ended 31 December 20X5, assuming that the amounts were paid at the end of each month.

Solution to example 12: general loans – costs incurred at the end of each month

Comment: There are two borrowings, both of which are general borrowings and therefore the interest to be capitalised is based on the expenditures incurred and the weighted average interest rate. Since the expenditures are incurred at the end of the month, actual expenditures should be used instead (assuming the difference between using actual and average expenses is considered by the entity to be material). The interest is calculated as follows: the opening balance at the beginning of each month multiplied by the weighted average interest rate multiplied by 1/12.

W1: Borrowing costs to be capitalised

The loans are general loans and therefore the formula is: 'Capitalisation rate x Average expenditure'.

Expense incurred at end of each month						
	Balance (A)	Expense (B)	Balance (C)	Interest	Months	Capitalise (D)
January	0	50 000	50 000	10%	1	0
February	50 000	50 000	100 000	10%	1	417
March	100 000	50 000	150 000	10%	1	833
April	150 000	50 000	200 000	10%	1	1 250
May	200 000	50 000	250 000	10%	1	1 667
June	250 000	50 000	300 000	10%	1	2 083
July	300 000	50 000	350 000	10%	1	2 500
August	350 000	30 000	380 000	10%	1	2 917
September	380 000	30 000	410 000	10%	1	3 167
October	410 000	30 000	440 000	10%	1	3 417
November	440 000	30 000	470 000	10%	1	3 667
December	470 000	100 000	570 000	10%	1	3 917
		<u>570 000</u>				<u>25 835</u>

Balance (A): balance on the first day of the month

Expense (B): incurred on the last day of the month

Balance (C): balance on the last day of the month

Capitalise (D): interest expense that may be capitalised: $A \times \text{interest rate} \times 1/12$

Capitalisation rate (weighted average interest rate):

= interest incurred on general borrowings/ borrowings outstanding during the period

= $[(C500\,000 \times 7\% \times 12/12) + (C600\,000 \times 12.5\% \times 12/12)] / 1\,100\,000$ total borrowings

= 10%

Journals in 20X5:

	Debit	Credit
Building (asset)	570 000	
Bank/ liability		570 000
<i>Construction costs incurred: $50\,000 \times 7 + 30\,000 \times 4 + 100\,000 \times 1$</i>		
<i>This journal would actually be processed separately for each and every payment but is shown here as a cumulative journal for ease</i>		
Finance costs (expense)	110 000	
Bank/ liability		110 000
<i>Finance costs incurred: $500\,000 \times 7\% + 600\,000 \times 12.5\%$</i>		
Building (asset)	25 835	
Finance costs (expense)		25 835
<i>Finance costs capitalised: (W1)</i>		

Example 13: general loans – costs incurred at the start of each month

Bizarre Limited had a C500 000 7% existing general loan outstanding on 1 January 20X5. It raised an additional general loan of C600 000 on 1 January 20X5 at an interest rate of 12.5%. Bizarre Limited did not make any repayments on either loan during the year.

Construction began on 1 January 20X5.

The company spent the following amounts per month on the construction of a building, a qualifying asset:

	C per month
1 January – 31 July	50 000
1 August – 30 November	30 000
1 – 31 December	100 000

Required:

Calculate the amount of borrowing costs that must be capitalised and provide the necessary journal entries for the year ended 31 December 20X5, assuming that the amounts were paid at the beginning of each month.

Solution to example 13: general loans – costs incurred at the start of each month

Comment: There are two borrowings, both of which are general borrowings and therefore the interest to be capitalised is based on the expenditures incurred and the weighted average interest rate. Since the expenditures are incurred at the beginning of each month, actual expenditures should be used instead (assuming that the difference between using actual and average expenses is considered by the entity to be material). The interest is calculated as: the opening balance at the beginning of each month multiplied by the weighted average interest rate multiplied by 1/12.

W1: Borrowing costs to be capitalised

The loans are general loans and therefore the formula is: 'Capitalisation rate x Average expenditure'.

Expense incurred at beginning of each month						
	Balance (A)	Expense (B)	Balance (C)	Interest %	Months	Capitalise
January	0	50 000	50 000	10%	1	417
February	50 000	50 000	100 000	10%	1	833
March	100 000	50 000	150 000	10%	1	1 250
April	150 000	50 000	200 000	10%	1	1 667
May	200 000	50 000	250 000	10%	1	2 083
June	250 000	50 000	300 000	10%	1	2 500
July	300 000	50 000	350 000	10%	1	2 917
August	350 000	30 000	380 000	10%	1	3 167
September	380 000	30 000	410 000	10%	1	3 417
October	410 000	30 000	440 000	10%	1	3 667
November	440 000	30 000	470 000	10%	1	3 917
December	470 000	100 000	570 000	10%	1	4 750
		<u>570 000</u>				<u>30 585</u>

Balance (A): balance on the first day of the month **before** payment of expense

Expense (B): incurred on the first day of the month

Balance (C): **adjusted** balance on the first day of the month **after** payment of expense

Capitalise: interest expense that may be capitalised: $C \times \text{interest rate} \times 1/12$

Capitalisation rate (weighted average interest rate):

= interest incurred on general borrowings/ borrowings outstanding during the period

= $[(C500\,000 \times 7\% \times 12/12) + (C600\,000 \times 12.5\% \times 12/12)] / 1\,100\,000$ total borrowings

= 10%

Journals in 20X5:

	Debit	Credit
Building (asset)	570 000	
Bank/ liability		570 000
<i>Construction costs incurred: 50 000 x 7 + 30 000 x 4 + 100 000 x 1</i>		
<i>This journal would actually be processed separately for each and every payment but is shown here as a cumulative journal for ease</i>		
Finance costs (expense)	110 000	
Bank/ liability		110 000
<i>Finance costs incurred: 500 000 x 7% + 600 000 x 12.5%</i>		
Building (asset)	30 585	
Finance costs (expense)		30 585
<i>Finance costs capitalised: 30 585 (W1)</i>		

4 A comparison of the methods

It is interesting to note that many accountants expected the revised IAS 23 to make the expensing of borrowing costs compulsory and to outlaw the capitalisation thereof – not the other way around! There are arguments both for and against the capitalisation of borrowing costs.

Some argue that the capitalisation of borrowing costs is more appropriate than the expensing them because:

- interest should not be treated any differently to the other directly attributable costs that are capitalised in terms of *IAS 16: Property, Plant and Equipment (improves consistency)*;
- if the entity had purchased the qualifying asset, the construction company (seller) would have included any borrowing costs that they incurred into the purchase price: it therefore improves comparability between companies that purchase assets and those that construct their own (*improves comparability*); and
- if the entity does not capitalise the borrowing costs, it will result in a decrease in their profit, merely because they decided to self-construct the asset. A better approach, it is argued, would be to recognise the borrowing costs as part of the cost of the asset and then recognise these costs as an expense (e.g. depreciation) over the period that the asset is used and earns revenue (*improves matching of expense to income*).

Some of the arguments against capitalizing borrowing costs include:

- borrowing costs incurred when constructing an asset should be expensed in the period in which they are incurred, just as any other finance costs would be (*improves consistency and matching of expenses to the period in which they were incurred*);
- the calculation of the portion of the borrowing costs to be capitalised is, in practice, very subjective and could therefore result in errors and manipulation and therefore expensing the actual borrowing costs incurred is less prone to error (*improves reliability*); and
- when interest is treated as an expense, cash flows for the period will approximate the profit for the period, which is more useful to the user (*improves relevance*) since it helps to predict cash flows.

5 Disclosure (IAS 23.26)

The entity must disclose the following in the financial statements:

- the total amount of borrowing costs capitalised;
- the amount of borrowing costs expensed as finance costs in the statement of comprehensive income (this is an IAS 1 requirement – not a requirement of IAS 21);
- the capitalisation rate used to calculate the borrowing costs for a general loan.

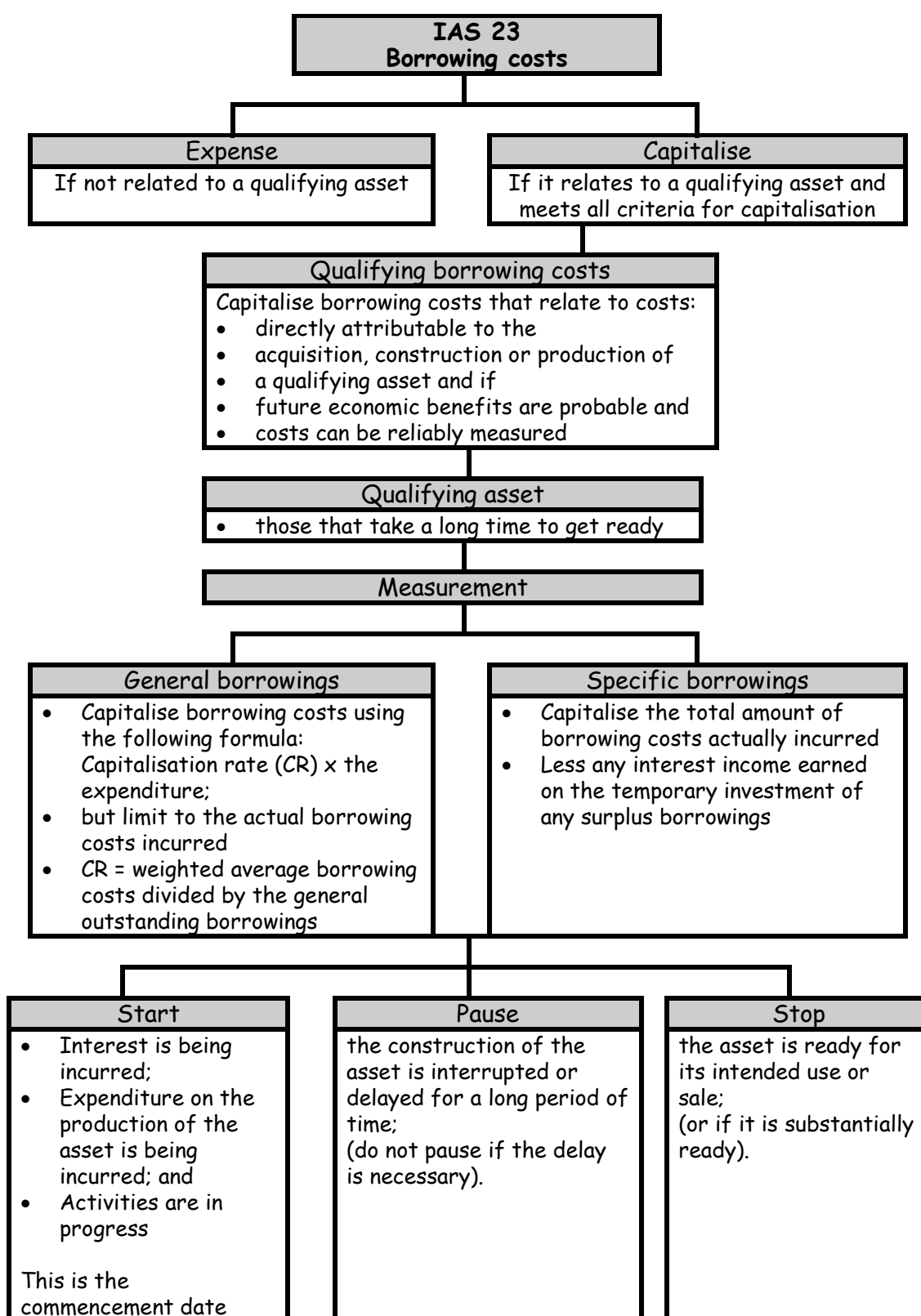
Company name**Statement of comprehensive income (extracts)****For the year ended 31 December**

		20X5	20X4
	Note	C	C
Profit before finance costs		x	x
Finance costs	3.	X	X
Profit before tax		x	x
Other comprehensive income		x	x
Total comprehensive income		x	x

Company name**Notes to the financial statement (extracts)****For the year ended 31 December****3. Finance costs**

		20X5	20X4
		C	C
Interest incurred		Z	Z
Less interest capitalised	<i>IAS 23 requirement</i>	(Y)	(Y)
Finance cost expense	<i>IAS 1 requirement</i>	X	X

6. Summary



Chapter 12

Government Grants and Government Assistance

Reference: IAS 20 and SIC 10

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1. Introduction

Government grants are provided to encourage an entity to become involved in certain activities that it may otherwise not have involved itself in (or may even be used to discourage certain activities). It is often provided to assist businesses in starting up. This obviously benefits the business but also benefits the government through creation of jobs and thus a larger base of taxpayers. Grants are often referred to by other names such as subsidies, subventions and premiums.

2. Definitions

The following definitions have been simplified wherever considered appropriate:

Government:

- government;
- government agencies;
- similar bodies;
- whether local, national or international.

Government assistance:

- action designed by government
- to provide an economic benefit
- to an entity or range of entities
- that qualify under certain criteria.

Government grants:

- government assistance
- in the form of transfers of resources to an entity
- in return for past or future compliance with certain conditions relating to the operating activities of the entity
- but excludes:
 - assistance that cannot be reasonably valued, and
 - transactions with government that cannot be distinguished from normal trading.

Grants related to income:

- a government grant
- that is not a grant related to an asset.

Grants related to assets:

- a government grant
- that has a primary condition requiring:
 - the qualifying entity
 - to purchase, construct or otherwise acquire long-term assets;
- that may have a secondary condition/s restricting:
 - the type or location of the assets, and/ or
 - the periods during which the assets are to be acquired or held.

Forgivable loan:

- a loan
- that the lender has undertaken to waive repayment of
- under certain conditions.

Fair value:

- the amount for which an asset could be exchanged between
- knowledgeable, willing parties in an arm's length transaction.

3. Recognition

3.1 General (IAS 20.7 – .18)

A government grant can take one of two forms:

- grant related to an asset:
these are those where the grant must be used to purchase some sort of asset;
- grant related to an expense:
these are any grants other than those related to the purchase of an asset.

The type of grant provided determines how it should be accounted for.

Government grants are only recognised when there is reasonable assurance:

- that the entity will comply with the conditions; and
- the grants will be received.

Government grants are recognised as:

- income over the relevant periods
- on a rational basis
- that matches the grant income with the costs that they were intended to compensate.

The grant income can be presented as:

- 'other income' or as a separate income in the statement of comprehensive income: direct income approach; or
- a reduction to the expense or asset to which it related: indirect income approach.

The terms direct income approach and indirect income approach are not terms that you will find in IAS 20, but are merely terms devised for ease of explanation and understanding of the two forms of presentation.

3.2 Grants related to expenses (IAS 20.12 - .19 and .21)

If the grant received does not relate to an asset it could be used as:

- compensation for past expenses or as immediate financial support; or as
- compensation for future expenses still to be incurred.

3.2.1 Grant for past expenses or immediate financial support (IAS 20.20 - .22; .29 - .31)

The grant may be receivable as either:

- immediate financial support (unrelated to future costs); or
- for expenses or losses already incurred.

Where the grant relates to immediate financial support or past expenses, it is recognised as income in the period in which the grant becomes receivable.

Example 1: grant for past expenses

The government offers companies that incur certain labour expenditure, a cash sum equal to 30% of the specified expenditures. Giveme Limited incurred C30 000 of specified expenses during 20X0 and presented the government with an audited statement of expenses on 31 March 20X1.

Required:

Show the related journal entries in the records of Giveme Limited assuming that the grant becomes receivable:

- In the year in which the company incurs the specified expenses;
- In the year in which the company provides the government with an audited statement of expenses.

Solution to example 1A: grant for past expenses

31 December 20X0	Debit	Credit
Labour expenses	30 000	
Salaries and wages payable		30 000
<i>Labour costs incurred during 20X0</i>		
Grant income receivable (asset) $30\,000 \times 30\%$	9 000	
Grant income		9 000
<i>Grant income recognised based on past expenses; recognised when the expenses were incurred</i>		

Solution to example 1B: grant for past expenses

31 December 20X0	Debit	Credit
Labour expenses	30 000	
Salaries and wages payable		30 000
<i>Labour costs incurred during 20X0</i>		
 31 March 20X1		
Grant income receivable (asset) $30\,000 \times 30\%$	9 000	
Grant income		9 000
<i>Grant income recognised based on past expenses; recognised when the required audited expense statement was presented to government</i>		

3.2.2 Grant for future expenses (IAS 20.12 - .17 and .29 - .31)

If the grant is to be used to subsidise certain future expenditure, then it should be recognised in the statement of comprehensive income over the period that the expenditure is recognised.

There are two approaches that the company may use in presenting the government grant:

- *direct income approach*: the grant is credited to a grant income account (either deferred or realised) (i.e. the grant is recognised *directly* as income over the period of the grant);
- *indirect income approach*: the grant is credited to the expense account to which the subsidy relates (*indirectly* recognised as income over the period of the grant by way of the reduced expenditure).

If the grant relates to future expenses, the grant should be recognised as income on a basis that reflects the pattern in which the costs are expected to be incurred or are incurred.

Example 2: grant for future expenses – direct approach

The government grants a company a cash sum of C10 000 to contribute 10% towards C100 000 of future wage expenditure. The grant was received on 1 January 20X1 as a result of compliance with certain conditions in 20X0 (the prior year). All conditions attaching to the grant (with the exception of the incurring of the future wages) had all been met on date of receipt.

Required:

Show the journal entries for the year ended 31 December 20X1 assuming that the company policy is to present such a grant as grant income (i.e. direct income):

- The company incurs C100 000 wage expenditure in 20X1;
- The company incurs C20 000 of the related wage expenditure in the year ended 31 December 20X1 and C80 000 thereof in the year ended 31 December 20X2..

Solution to example 2A: grant for future expenses – direct approach

	Debit	Credit
1 January 20X1		
Bank	10 000	
Deferred grant income		10 000
<i>Recognising a government grant intended to reduce future expenses</i>		
31 December 20X1		
Wage expenditure	100 000	
Wages payable		100 000
<i>Wage expenditure incurred</i>		
Deferred grant income	10 000	
Grant income		10 000
<i>Recognised directly as income</i>		
<i>Recognising 100% of the government grant since all related expenses that the grant was intended to compensate have been incurred</i>		

Note: the statement of comprehensive income will reflect a wage expense of 100 000 and grant income of 10 000 (the net effect on profit is a net expense of 90 000).

Solution to example 2B: grant for future expenses – direct approach

	Debit	Credit
1 January 20X1		
Bank	10 000	
Deferred grant income		10 000
<i>Recognising a government grant intended to reduce future expenses</i>		
31 December 20X1		
Wage expenditure	20 000	
Wages payable		20 000
<i>Wage expenditure incurred</i>		
Deferred grant income	10 000 x 20% 2 000	
Grant income		2 000
<i>Recognising 20% of the government grant since 20% of the expenses that the grant was intended to compensate have been incurred</i>		
31 December 20X2		
Wage expenditure	80 000	
Wages payable		80 000
<i>Wage expenditure incurred</i>		
Deferred grant income	10 000 x 80% 8 000	
Grant income		8 000
<i>Recognised directly as income</i>		
<i>Recognising 80% of the government grant since 80% of the expenses that the grant was intended to compensate have been incurred</i>		

Note: the statement of comprehensive income will reflect:

- 20X1: a wage expense of 20 000 and grant income of 2 000 (the net decrease in profits: 18 000);
- 20X2: a wage expense of 80 000 and grant income of 8 000 (net decrease in profits: 72 000).

Example 3: grant for future expenses – indirect approach

The government grants a company a cash sum of C10 000 to contribute 10% towards future specified wages. The grant was received on 1 January 20X1 due to compliance with certain conditions in 20X0. All conditions attaching to the grant (with the exception of the incurring of the future wages) had all been met on date of receipt. The year-end is 31 December.

Required:

Show the journal entries assuming that the company policy is to recognise government grants as a credit to the related expense (i.e. indirect income approach):

- A. The company incurs all intended expenditure in the year ended 31 December 20X1;
 B. The company incurs 20% of the wages in 20X1 and 80% in 20X2..

Solution to example 3A: grant for future expenses – indirect approach

1 January 20X1	Debit	Credit
Bank	10 000	
Deferred grant income		10 000
<i>Recognising a government grant intended to reduce future expenses</i>		
31 December 20X1		
Wage expenditure	100 000	
Wages payable		100 000
<i>Wage expenditure incurred</i>		
Deferred grant income	10 000	
Wage expenditure		10 000
<i>Recognised indirectly as income</i>		
<i>Recognising 100% of the government grant since all related expenses that the grant was intended to compensate have been incurred</i>		

Note: the statement of comprehensive income will reflect a wage expense of 90 000 (the net effect on profit is a decrease of 90 000).

Compare this to example 2A: the effect on profit is the same.

Solution to example 3B: grant for future expenses – indirect approach

1 January 20X1	Debit	Credit
Bank	10 000	
Deferred grant income		10 000
<i>Recognising a government grant intended to reduce future expenses</i>		
31 December 20X1		
Wage expenditure	20 000	
Wages payable		20 000
<i>Wage expenditure incurred</i>		
Deferred grant income	10 000 x 20%	
Wage expenditure		2 000
<i>Recognised indirectly as income</i>		
<i>Recognising 20% of the government grant since 20% of the expenses that the grant was intended to compensate have been incurred</i>		
31 December 20X2		
Wage expenditure	80 000	
Wages payable		80 000
<i>Wage expenditure incurred</i>		
Deferred grant income	10 000 x 80%	
Wage expenditure		8 000
<i>Recognised indirectly as income</i>		
<i>Recognising 80% of the government grant since 80% of the expenses that the grant was intended to compensate have been incurred</i>		

Note: the statement of comprehensive income will reflect:

- 20X1: a wage expense of 18 000 (the net decrease in profits: 18 000);
- 20X2: a wage expense of 72 000 (net decrease in profits: 72 000);

Compare this to example 2B: the effect on profit is the same.

3.3 Grants related to assets (IAS 20.12; .17 - .18; .24 - .28)

Grants related to assets could be provided as:

- a non-monetary asset (i.e. the actual asset is provided); or as
- a monetary asset (i.e. cash) that must be used to acquire a non-monetary asset.

The non-monetary asset itself could be:

- a depreciable asset; or
- a non-depreciable asset.

If the grant is received as cash (or another monetary asset) the measurement is obviously simply the cash amount received. If the grant is received as a non-monetary asset, the fair value of the non-monetary asset must be determined. The grant income and the non-monetary asset are recognised at this fair value.

If the asset received or to be acquired is a depreciable asset, the grant is usually recognised as income over the same period that the asset is depreciated.

If the asset received or to be acquired is a non-depreciable asset, the grant may require certain obligations to be met, in which case the grant would be recognised as the obligations were met. Judgement would be required to determine when the grant should be recognised as income. By way of example, a grant could be provided by way of cash to purchase land on condition that a building is erected on it. In this case, the grant could be recognised as income once the building is erected or the grant could be recognised as income over the life of the building (being a depreciable asset).

Where the grant relates to an asset, the initial grant may be recorded using either of the following approaches:

- *direct income approach*: the grant is credited to a deferred grant income account and is recognised as grant income over the useful life of the asset (i.e. the grant is recognised *directly* as income over the life of the asset);
- *indirect income approach*: the grant is credited to the asset account to which the subsidy relates (i.e. *indirectly* recognised as income over the period of the grant by way of a reduced depreciation charge).

Example 4: grant related to a depreciable asset – direct approach

The government grants a company a cash sum of C12 000 on 1 January 20X1 to assist in the acquisition of a nuclear plant. The nuclear plant was acquired on 1 January 20X1 for C90 000, was available for use immediately and has a useful life of 3 years (the plant has a nil residual value).

The grant was received after compliance with certain conditions in 20X0 (the prior year).

All conditions attached to the grant, with the exception of the acquisition of the plant, had all been met on date of receipt.

Required:

Show the journal entries in the years ended 31 December 20X1, 20X2 and 20X3. The company has the policy of recognising government grants directly in income.

Solution to example 4: grant related to a depreciable asset – direct approach

1 January 20X1	Debit	Credit
Bank	12 000	
Deferred grant income		12 000
<i>Recognising a government grant intended to assist in the acquisition of a nuclear plant</i>		

1 January 20X1 continued ...		Debit	Credit
Nuclear plant: cost (asset)		90 000	
Bank			90 000
<i>Purchase of plant</i>			
31 December 20X1			
Depreciation - plant (expense) $(90\,000 - 0) / 3 \text{ years}$		30 000	
Nuclear plant: accumulated depreciation (asset)			30 000
<i>Depreciation on plant</i>			
31 December 20X2			
Deferred grant income $12\,000 / 3 \text{ years}$		4 000	
Grant income			4 000
<i>Grant income recognised on the same basis as plant depreciation</i>			
31 December 20X3			
Depreciation - plant (expense) $(90\,000 - 0) / 3 \text{ years}$		30 000	
Nuclear plant: accumulated depreciation (asset)			30 000
<i>Depreciation on plant</i>			
31 December 20X2			
Deferred grant income $12\,000 / 3 \text{ years}$		4 000	
Grant income			4 000
<i>Grant income recognised on the same basis as plant depreciation</i>			
31 December 20X3			
Depreciation - plant (expense) $(90\,000 - 0) / 3 \text{ years}$		30 000	
Nuclear plant: accumulated depreciation (asset)			30 000
<i>Depreciation on plant</i>			
31 December 20X3			
Deferred grant income $12\,000 / 3 \text{ years}$		4 000	
Grant income			4 000
<i>Grant income recognised on the same basis as plant depreciation</i>			

Note: the statement of comprehensive income will reflect:

- 20X1 – 20X3: a depreciation expense of 30 000 and grant income of C4 000 (net decrease in profits: 26 000 per year).

Example 5: grant related to a depreciable asset – indirect approach

The government grants a company a cash sum of C12 000 on 1 January 20X1 to assist in the acquisition of a nuclear plant. The nuclear plant:

- was acquired on 2 January 20X1 for C90 000;
- was available for use immediately; and
- has a useful life of 3 years (the plant has a nil residual value).

The grant was received after compliance with certain conditions in 20X0 (the prior year). All conditions attached to the grant, with the exception of the acquisition of the plant, had all been met on date of receipt.

Required:

Show the journal entries in the years ended 31 December 20X1, 20X2 and 20X3. The company has the policy of recognising government grants *indirectly* in income (i.e. as a reduction of the cost of the asset).

Solution to example 5: grant related to a depreciable asset – indirect approach

	Debit	Credit
1 January 20X1		
Bank	12 000	
Deferred grant income		12 000
<i>Recognising a government grant intended to assist in the acquisition of a nuclear plant</i>		
2 January 20X1		
Nuclear plant: cost (asset)	90 000	
Bank		90 000
<i>Purchase of plant</i>		
Deferred grant income	12 000	
Nuclear plant: cost (asset)		12 000
<i>Recognising the government grant as a reduction of the plant's cost</i>		
31 December 20X1		
Depreciation - plant (expense) $(90\,000 - 12\,000 - 0) / 3 \text{ years}$	26 000	
Nuclear plant: accumulated depreciation (asset)		26 000
<i>Depreciation on plant</i>		
31 December 20X2		
Depreciation - plant (expense) $(90\,000 - 12\,000 - 0) / 3 \text{ years}$	26 000	
Nuclear plant: accumulated depreciation (asset)		26 000
<i>Depreciation on plant</i>		
31 December 20X3		
Depreciation - plant (expense) $(90\,000 - 12\,000 - 0) / 3 \text{ years}$	26 000	
Nuclear plant: accumulated depreciation (asset)		26 000
<i>Depreciation on plant</i>		

Note: the statement of comprehensive income will reflect:

- 20X1 – 20X3: a depreciation expense of 26 000 (net decrease in profits: 26 000 per year). Compare this to example 4.

If the grant relates to the cost of a non-depreciable asset, the grant should be recognised on a basis that best reflects the manner in which the conditions are met.

Example 6: grant related to a non-depreciable asset – direct approach

The government grants a company a cash sum of C12 000 on 1 January 20X1 to assist in the acquisition of land. A condition of the grant is that the company builds a factory on the land. The land was acquired on 1 January 20X1 for C90 000. Land is not depreciated. The factory was completed on 31 March 20X1 (total building costs of C300 000 were paid in cash on this date), was available for use immediately and has a useful life of 3 years (the factory has a nil residual value).

The grant was received after compliance with certain conditions in 20X0 (the prior year). With the exception of the completion of a factory building, all conditions attaching to the grant had all been met on date of receipt.

Required:

Show the journal entries in the years ended 31 December 20X1, 20X2, 20X3 and 20X4. The company's policy is to recognise grants *directly* in income.

Solution to example 6: grant related to a non-depreciable asset – direct approach

	Debit	Credit
1 January 20X1		
Bank	12 000	
Deferred grant income		12 000
<i>Government grant received to assist in the acquisition of land</i>		
Land: cost	90 000	
Bank		90 000
<i>Purchase of land</i>		
31 March 20X1		
Factory building: cost	300 000	
Bank		300 000
<i>Building costs related to factory, paid in cash</i>		
31 December 20X1		
Depreciation – factory building $(300\,000 - 0) / 3 \text{ years} \times 9 / 12$	75 000	
Factory building: accumulated depreciation		75 000
<i>Depreciation of factory building</i>		
Deferred grant income $12\,000 / 3 \text{ years} \times 9 / 12$	3 000	
Grant income		3 000
<i>Grant income recognised on the same basis as depreciation on the factory building</i>		
31 December 20X2		
Depreciation – factory building $(300\,000 - 0) / 3 \text{ years}$	100 000	
Factory building: accumulated depreciation		100 000
<i>Depreciation of factory building</i>		
Deferred grant income $12\,000 / 3 \text{ years}$	4 000	
Grant income		4 000
<i>Grant income recognised on the same basis as depreciation on the factory building</i>		
31 December 20X3		
Depreciation – factory building $(300\,000 - 0) / 3 \text{ years}$	100 000	
Factory building: accumulated depreciation		100 000
<i>Depreciation of factory building</i>		
Deferred grant income $12\,000 / 3 \text{ years}$	4 000	
Grant income		4 000
<i>Grant income recognised on the same basis as depreciation on the factory building</i>		
31 December 20X4		
Depreciation – factory building $(300\,000 - 0) / 3 \text{ years} \times 3 / 12$	25 000	
Factory building: accumulated depreciation		25 000
<i>Depreciation of factory building</i>		
Deferred grant income $12\,000 / 3 \text{ years} \times 3 / 12$	1 000	
Grant income		1 000
<i>Grant income recognised on the same basis as depreciation on the factory building</i>		

3.4 Grants received as a package (IAS 20.19)

If the grant is received as a package to which a number of varying sets of conditions are attached, it may be appropriate to recognise each part of the grant on a different basis. The first step is to identify each part of the package to which there are different conditions affecting when the grant is earned.

The grant may, for instance, relate to a combination of:

- an asset
- future expenses
- past expenses
- immediate financial support.

In such cases, the grant package may be viewed as multiple parts. The grant relating to:

- the asset should be recognised as income in a way that reflects the pattern of depreciation;
- future expenses should be recognised as income in a way that reflects the pattern of future expenses;
- past expenses should be recognised as income in the period in which the grant becomes receivable;
- general and immediate financial support should be recognised as income in the period in which the grant becomes receivable.

Example 7: grant is a package deal

The government grants a company a cash sum of C120 000 on 1 January 20X1. The grant relates to two aspects:

- C30 000 is a cash sum as immediate financial support with no associated future costs;
- C90 000 is to assist in the future acquisition of vehicles.

The vehicles were acquired on 2 January 20X1 for C210 000. The vehicles were available for use immediately and have a useful life of 3 years (the vehicles all have nil residual values).

With the exception of the purchase of the vehicles, all conditions attaching to the grant had all been met on date of receipt.

Required:

Show the journal entries in the years ended 31 December 20X1, 20X2 and 20X3.

Solution to example 7: grant is a package deal

	Debit	Credit
1 January 20X1		
Bank	120 000	
Deferred grant income		120 000
<i>Recognising a government grant: package deal</i>		
Deferred grant income	30 000	
Grant income		30 000
<i>Portion of grant income recognised immediately – not attached to any asset or future expenses and all criteria met in a prior year: 30 000</i>		
2 January 20X1		
Vehicles: cost	210 000	
Bank		210 000
<i>Purchase of vehicles</i>		
31 December 20X1		
Depreciation – vehicles (210 000 – 0) / 3 years	70 000	
Vehicles: accumulated depreciation		70 000
<i>Depreciation of vehicles</i>		

31 December 20X1 continued ...		Debit	Credit
Deferred grant income	$(120\,000 - 30\,000) / 3 \text{ years}$	30 000	
Grant income			30 000
<i>Portion of grant income related to purchase of vehicles recognised on the same basis as vehicle depreciation</i>			
<hr/>			
31 December 20X2			
Depreciation – vehicles	$(210\,000 - 0) / 3 \text{ years}$	70 000	
Vehicles: accumulated depreciation			70 000
<i>Depreciation of vehicles</i>			
<hr/>			
Deferred grant income	$(120\,000 - 30\,000) / 3 \text{ years}$	30 000	
Grant income			30 000
<i>Portion of grant income related to purchase of vehicles recognised on the same basis as vehicle depreciation</i>			
<hr/>			
31 December 20X3			
Depreciation – vehicles	$(210\,000 - 0) / 3 \text{ years}$	70 000	
Vehicles: accumulated depreciation			70 000
<i>Depreciation of vehicles</i>			
<hr/>			
Deferred grant income	$(120\,000 - 30\,000) / 3 \text{ years}$	30 000	
Grant income			30 000
<i>Portion of grant income related to purchase of vehicles recognised on the same basis as vehicle depreciation</i>			
<hr/>			

4. Measurement (IAS 20.23)

Remember that government grants can be analysed into two basic categories. Either the company is granted:

- an asset such as a fishing licence; or
- cash (or some other asset)
 - to be used in the acquisition of another asset; or
 - to be used in the reduction of certain expenditure.

Where the grant is a cash sum, the measurement thereof is not in question. If, however, the company is granted an asset such as a licence to operate, the company may either measure the grant at its fair value or at the nominal cost thereof, being the directly attributable expenditure, if any (in which case, the government grant is not measured at all).

Example 8: grant asset – fair value or nominal amount

A South African government grants the company a licence to fish off the coast of Cape Town, South Africa. The fair value of the licence is C50 000 and the company is required to pay a small sum of C1 000 for the licence.

Required:

Show the journal entries assuming:

- A. The company chooses to measure the licence at its fair value.
- B. The company chooses to measure the licence at its nominal amount.

Solution to example 8A: grant asset – fair value

		Debit	Credit
Fishing licence (asset)	<i>Given</i>	50 000	
Deferred fishing income	$50\,000 - 1\,000$		49 000
Bank	<i>Given</i>		1 000
<i>Recognising the licence granted by the government at fair value</i>			
<hr/>			

Solution to example 8B: grant asset – nominal amount

		Debit	Credit
Fishing licence (asset)	<i>Given</i>	1 000	
Bank	<i>Given</i>		1 000
<i>Recognising the licence granted by the government at nominal value</i>			

5. Changes in estimates and repayments (IAS 20.32)

A change in estimate may be required:

- if the grant is received after acquisition of the asset (because this may change the cost of the asset and therefore changes depreciation),
- if the grant is provided on certain conditions and these conditions are later breached.

A change in estimate must be accounted for using IAS 8. Where the grant has to be repaid the treatment depends on whether the grant related to expenses or assets.

If the original grant related to expenses, the repayment of the grant is debited:

- first against the balance on the deferred income account, if any; and
- then to an expense account.

If the original grant related to an asset, the repayment of the grant is debited either:

- to the balance on the deferred income account, if any; or
- to the balance on the asset account; and
- the cumulative additional depreciation that would have been recognised to date had the grant not been received is recognised immediately as an expense.

If a grant becomes repayable, it could also suggest related assets may be impaired.

Example 9: grant related to expenses – repaid

The local government granted the company C10 000 on 1 January 20X1 to assist in the financing of mining expenses. The grant was conditional upon the company mining for a period of at least two years.

The company ceased mining on 30 September 20X2 due to unforeseen circumstances. The terms of the grant required that the grant be repaid immediately and in full.

Mining expenses incurred to date were as follows:

- 20X1: 80 000
- 20X2: 60 000

Required:

Show the journal entries assuming:

- The company recognises grants directly as ‘grant income’.
- The company recognises grants indirectly as income by reducing the related expense.

Solution to example 9A: grant related to expenses – repaid

	Debit	Credit
1 January 20X1		
Bank	10 000	
Deferred grant income		10 000
<i>Recognising a government grant intended to reduce future expenses</i>		

		Debit	Credit
31 December 20X1			
Mining expenditure		80 000	
Accounts payable			80 000
<i>Mining expenditure incurred</i>			
Deferred grant income	$10\,000 \times 50\% \times 12 / 12$	5 000	
Grant income			5 000
<i>Recognising 50% of the government grant since the condition is the company mines for 2 years and 1 of the 2 years has been met</i>			
30 September 20X2			
Mining expenditure		60 000	
Accounts payable			60 000
<i>Mining expenditure incurred</i>			
Deferred grant income	$10\,000 \times 50\% \times 9 / 12$	3 750	
Grant income			3 750
<i>Recognising 9 months of the remaining 50% of the government grant since the condition is the company mines for 2 years and only 9 months of year 2 has been met</i>			
Deferred grant income	$10\,000 - 5\,000 - 3\,750$	1 250	
Grant income forfeited	$10\,000 - 1\,250$	8 750	
Bank	$1\,250 + 8\,750$		10 000
<i>Repayment of the full grant, first reducing the balance on the deferred income account and then expensing the rest</i>			

Solution to example 9B: grant related to expenses – repaid

		Debit	Credit
1 January 20X1			
Bank		10 000	
Deferred grant income			10 000
<i>Recognising a government grant intended to reduce future expenses</i>			
31 December 20X1			
Mining expenditure		80 000	
Accounts payable			80 000
<i>Mining expenditure incurred</i>			
Deferred grant income	$10\,000 \times 50\% \times 12 / 12$	5 000	
Mining expenditure			5 000
<i>Recognising 50% of the government grant since the condition is the company mines for 2 years and 1 of the 2 years has been met</i>			
30 September 20X2			
Mining expenditure		60 000	
Accounts payable			60 000
<i>Mining expenditure incurred</i>			
Deferred grant income	$10\,000 \times 50\% \times 9 / 12$	3 750	
Mining expenditure			3 750
<i>Recognising 9 months of the remaining 50% of the government grant since the condition is the company mines for 2 years and only 9 months of year 2 has been met</i>			
Deferred grant income	$10\,000 - 5\,000 - 3\,750$	1 250	
Mining expenditure	$10\,000 - 1\,250$	8 750	
Bank	Given		10 000
<i>Repayment of the full grant, first reducing the balance on the deferred income account and then expensing the rest</i>			

Note: part A and part B differ simply in the naming of the accounts:

- *Part A: the grant was originally recognised as 'grant income' and therefore it makes sense that any expense related to the repayment of the grant should also refer to the grant income (e.g. an appropriate name might be 'grant income forfeited') ;*
- *Part B: the grant is recognised as a reduction in 'mining expenses' and therefore it makes sense that any expense related to the repayment of the grant be to the same 'mining expense' account.*

Example 10: grant related to assets – repaid

The local government granted the company C10 000 on 1 January 20X1 to assist in the purchase of a manufacturing plant. The grant was conditional upon the company manufacturing for a period of at least two unbroken years.

The company purchased the plant on 2 January 20X1 for C100 000. The plant is depreciated on the straight-line basis over its useful life of 4 years to a nil residual value.

The company ceased manufacturing on 30 September 20X2 due to unforeseen circumstances. The terms of the grant required that the grant be repaid immediately and in full. The asset was not considered to be impaired and the company intended to resume manufacturing in the next year.

Required:

Show the journal entries assuming that the company:

- recognises grants as grant income (direct income).
- recognises grants as a reduction of the cost of the related asset (indirect income).

Solution to example 10A: grant related to assets – repaid

	Debit	Credit
1 January 20X1		
Bank	10 000	
Deferred grant income		10 000
<i>Recognising a government grant</i>		
2 January 20X1		
Plant: cost	100 000	
Accounts payable/ bank		100 000
<i>Purchase of plant</i>		
31 December 20X1		
Depreciation - plant $(100\,000 - 0) / 4 \text{ years} \times 12 / 12$	25 000	
Plant: accumulated depreciation		25 000
<i>Depreciation of plant</i>		
Deferred grant income $10\,000 / 4 \text{ years} \times 12 / 12$	2 500	
Grant income		2 500
<i>Recognising 25% of the government grant since the grant relates to the acquisition of an asset that is depreciated over 4 years</i>		
30 September 20X2		
Depreciation - plant $(100\,000 - 0) / 4 \text{ years} \times 9 / 12$	18 750	
Plant: accumulated depreciation		18 750
<i>Depreciation of plant: (manufacture ceases on 30 September 20X2)</i>		
Deferred grant income $10\,000 / 4 \text{ years} \times 9 / 12$	1 875	
Grant income		1 875
<i>Recognising 9 months of the remaining 75% of the government grant to the date of repayment of the grant</i>		

30 September 20X2 continued ...		Debit	Credit
Deferred grant income	$10\,000 - 2\,500 - 1\,875$	5 625	
Grant forfeited expense	$10\,000 - 5\,625$ (balancing)	4 375	
Bank	Given		10 000
<i>Repayment of the full grant, first reducing the balance on the deferred income account and then expensing the rest</i>			

Solution to example 10B: grant related to assets – repaid

1 January 20X1		Debit	Credit
Bank		10 000	
Deferred grant income			10 000
<i>Recognising a government grant</i>			

2 January 20X1			
Plant: cost		100 000	
Accounts payable/ bank			100 000
<i>Purchase of plant</i>			

Deferred grant income		10 000	
Plant: cost			10 000
<i>Recognising the grant income as a decrease in the asset's cost</i>			

31 December 20X1			
Depreciation - plant	$(100\,000 - 10\,000 - 0) / 4 \text{ years} \times 12 / 12$	22 500	
Plant: accumulated depreciation			22 500
<i>Depreciation of plant:</i>			

30 September 20X2			
Depreciation - plant	$(100\,000 - 10\,000 - 0) / 4 \text{ years} \times 9 / 12$	16 875	
Plant: accumulated depreciation			16 875
<i>Depreciation of plant: (manufacture ceases on 30 September 20X2)</i>			

Plant: cost	Original grant refunded	10 000	
Bank			10 000
Depreciation - plant	W1: $2\,500 + 1\,875$	4 375	
Plant: accumulated depreciation	W1: $2\,500 + 1\,875$		4 375
<i>Repayment of the full grant: increase cost and increase accumulated depreciation with extra cumulative depreciation that would otherwise have been expensed if no grant had been received on 1 January 20X1</i>			

W1: Change in estimate calculation

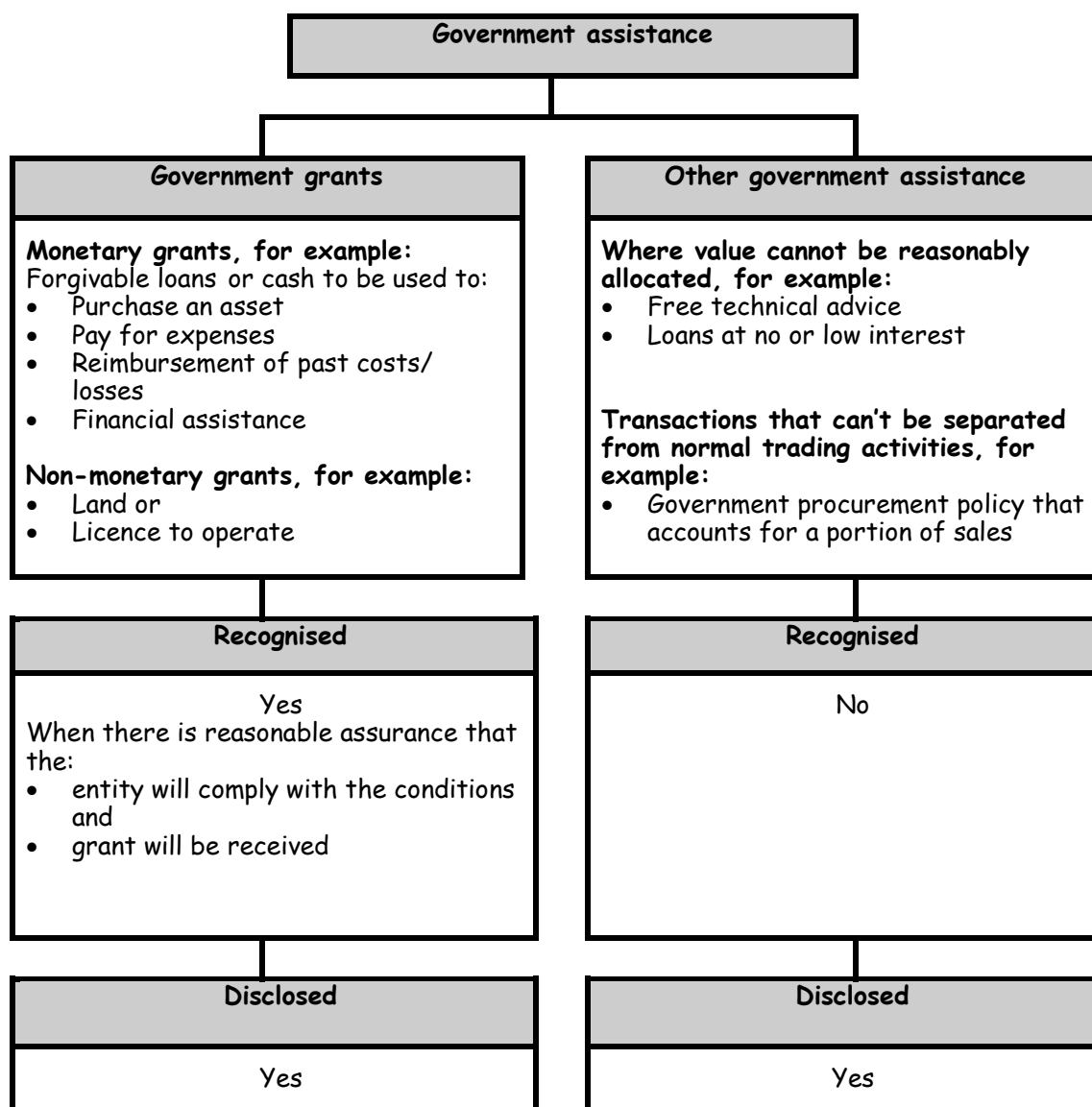
	Date	Calculations	Was	Is	Difference
Cost	1/1/X1	$100\,000 - 10\,000$	90 000	100 000	10 000
			0 000		
Depreciation	X1	$(90\,000 - 0) / 4 \times 1$ $(100\,000 - 0) / 4 \times 1$	(22 500)	(25 000)	(2 500)
Carrying amount	31/12/X1		67 500	75 000	7 500
Depreciation	X2	$(90\,000 - 0) / 4 \times 9 / 12$ $(100\,000 - 0) / 4 \times 9 / 12$	(16 875)	(18 750)	(1 875)
Carrying amount	31/12/X1		50 625	56 250	5 625
Depreciation	Future		(50 625)	(56 250)	(5 625)
Residual value			0	0	0

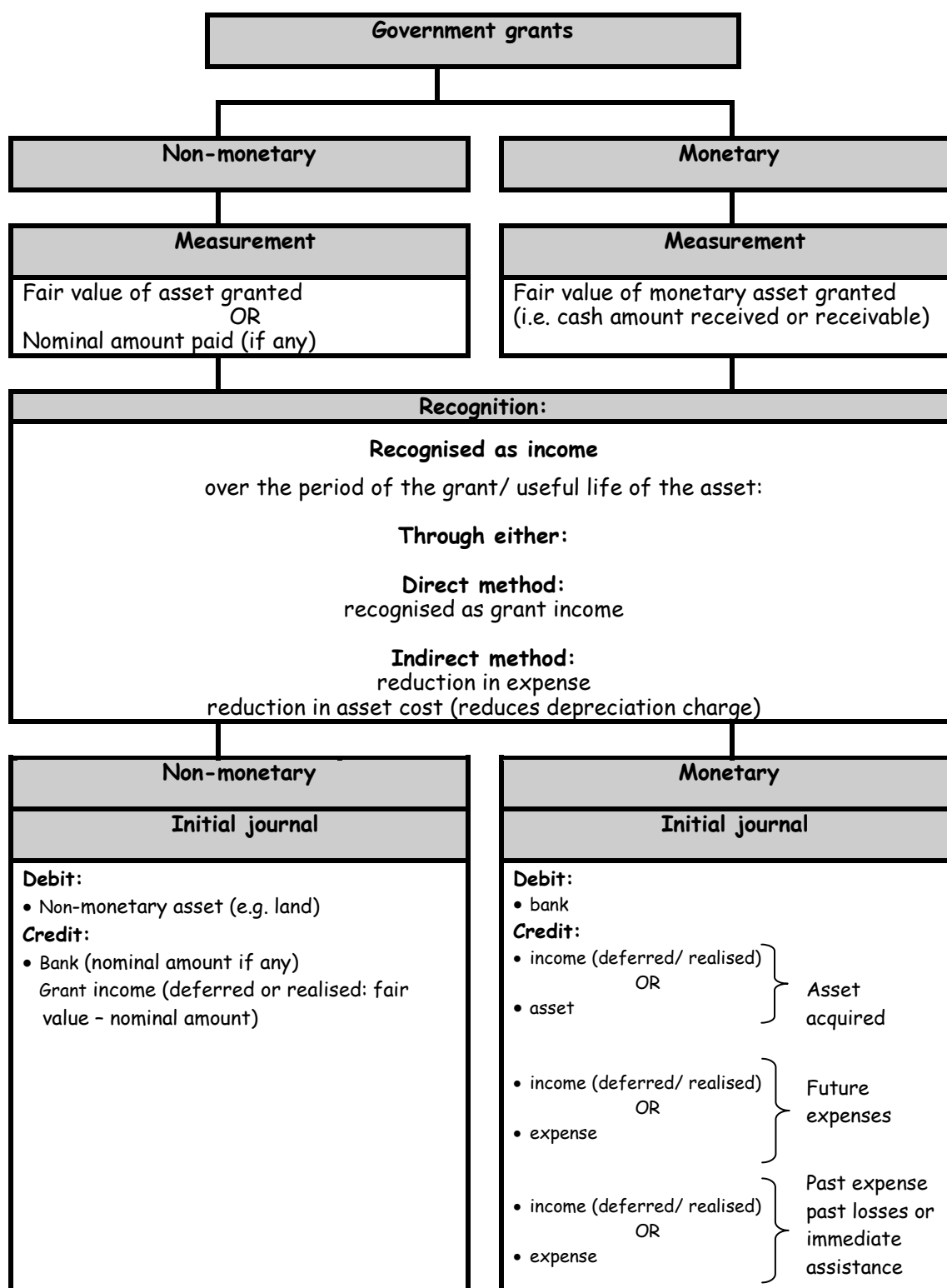
6. Disclosure (IAS 20.39)

The following issues must be disclosed:

- Accounting policy regarding both recognition and method of presentation, for example:
 - Government grants are recognised as income over the period to which the grant applies and in a manner that reflects the pattern of expected future expenditure; and
 - The grant is presented as a decrease in the expenditure to which it relates (or: the grant is presented as a separate line item: grant income).;
- The nature and extent of government grants recognised in the financial statements;
- An indication of other forms of government assistance not recognised as government grants but from which the entity has benefited directly (e.g. low or no interest loans and assistance that cannot reasonably have a value placed upon them);
- Unfulfilled conditions and other contingencies attached to recognised government grants.

7. Summary





Chapter 13

Leases: Lessee Accounting

Reference: IAS 17

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1. Introduction

Accounting is concerned with recording transactions in substance, rather than as they appear to be. In other words, a transaction's substance takes precedence over its legal form.

The common form of a lease transaction is that one party rents an item from another party. The substance of most leases may vary from their legal form, in that the lease agreement represents a sale rather than a lease.

True to its substance, a lease is either accounted for as an operating lease or a finance lease. In the following sub sections, the various differences between the two are explained.

2. Definitions

Inter alia, paragraph 4 of IAS 17 provides the following definitions:

- A **lease** is an agreement whereby the lessor conveys to the lessee in return for a payment or series of payments the right to use an asset for an agreed period of time.
- A **non-cancellable lease** is a lease that is cancellable only:
 - a) upon the occurrence of some remote contingency;
 - b) with the permission of the lessor;
 - c) if the lessee enters into a new lease for the same or an equivalent asset with the same lessor; or
 - d) upon payment by the lessee of such an additional amount that, at inception of the lease, continuation of the lease is reasonably certain.
- The **commencement of the lease** term is the date from which the lessee is entitled to exercise its right to use the leased assets. It is the date of initial recognition of the lease (i.e. the recognition of the assets, liabilities, income or expenses resulting from the lease, as appropriate).
- The **lease term** is the non-cancellable period for which the lessee has contracted to lease the asset together with any further terms for which the lessee has the option to continue to lease the asset, with or without further payment, when at the inception of the lease it is reasonably certain that the lessee will exercise the option.
- **Minimum lease payments** are the payments over the lease term that the lessee is or can be required to make, excluding contingent rent, costs for services and taxes to be paid by and reimbursed to the lessor, together with any amounts guaranteed by the lessee or by a party related to the lessee.
 However, if the lessee has an option to purchase the asset at a price that is expected to be sufficiently lower than fair value at the date the option becomes exercisable for it to be reasonably certain, at the inception of the lease, that the option will be exercised, the minimum lease payments comprise the minimum payments payable over the lease term to the expected date of exercise of this purchase option and the payment required to exercise it.
- **Economic life** is either:
 - a) the period over which an asset is expected to be economically usable by one or more users; or
 - b) the number of production or similar units expected to be obtained from the asset by one or more users.
- The **interest rate implicit in the lease** is the discount rate that, at the inception of the lease, causes the aggregate present value of (a) the minimum lease payments and (b) the unguaranteed residual value to be equal to the sum of (i) the fair value of the leased asset and (ii) any initial direct costs of the lessor.
- **Initial direct costs** are incremental costs that are directly attributable to negotiating and arranging a lease, except for such costs incurred by manufacturer or dealer lessors.

- **Contingent rent** is that portion of the lease payments that is not fixed in amount but based on the future amount of a factor that changes other than with the passage of time (e.g. percentage of future sales, amount of future use, future price indices, future market rates of interest).

3. Lease classification (IAS 17.7 - .19)

3.1 Overview (IAS 17.7 - .13)

There are two types of leases: finance leases and operating leases. What differentiates the one type from the other is whether substantially all the risks and rewards of ownership of an asset are transferred from the lessor to the lessee. If the risks and rewards:

- are transferred from the lessor to the lessee, then the substance of the transaction is a *purchase* rather than a true *lease*: therefore a finance lease;
- are not transferred from the lessor to the lessee, then the substance of the transaction is a true *lease*: therefore an operating lease.

Guidance as to whether risks and rewards are transferred is given in paragraph 10 of IAS 17 by way of a list of examples of situations that individually or in combination would normally lead to a lease being classified as a finance lease:

- a) the lease transfers ownership of the asset to the lessee by the end of the lease term;
- b) the lessee has the option to purchase the asset at a price that is expected to be lower than the fair value at the date the option becomes exercisable. It must be reasonably certain, at the inception of the lease, that the option will be exercised;
- c) the lease term is for the major part of the economic life of the asset, even if title is not transferred;
- d) at the inception of the lease, the present value of the minimum lease payments amounts to at least substantially all of the fair value of the asset; and
- e) the leased assets are of such a specialised nature that only the lessee can use them without major modifications.

If any of the above situations apply, then the lease is normally classified as a finance lease, otherwise it is classified as an operating lease. Always remember that the overriding requirement is whether substantially all the risks and rewards of ownership have been transferred.

Besides these examples, the standard gives a few extra indicators that might suggest that a lease is a finance lease. The indicators suggested are:

- a) if the lessee can cancel the lease, the lessor's losses associated with the cancellation are borne by the lessee;
- b) if any gains or losses from the fluctuation in the fair value of the residual accrue to the lessee (e.g. in the form of a rent rebate equalling most of the sales proceeds at the end of the lease);
- c) if the lessee has the ability to continue the lease for a secondary period at a rent that is substantially lower than market rent.

The classification of a lease is determined at the inception of the lease. If the lessee and lessor agree to alter the provisions of the lease which would have changed the classification of the lease had the new provisions been implemented at the inception of the lease, then the original lease is considered cancelled and the lease is considered a new one and is classified appropriately. Therefore, this does not apply to normal renewals and to changes in estimates.

This is best illustrated with an example.

Example 1: leases

Company A leases a motor vehicle from Company B.

- The lease became effective 1 January 20X4 and the lease term is for 4 years.
- The annual lease payments are C10 000 per annum, in arrears.
- There is no option of renewal (of the lease agreement).
- The implicit interest rate is 10%.
- The fair value of the motor vehicle at 1 January 20X4 is C31 700.

Required:

For each of the scenarios below, discuss whether or not the above lease agreement constitutes a finance lease:

- Scenario 1: The useful life of the motor vehicle is 8 years. At the end of the lease period, ownership of the motor vehicle transfers from Company B to Company A.
- Scenario 2: The useful life of the motor vehicle is 4 years. At the end of the lease period, ownership of the motor vehicle remains with Company B.
- Scenario 3: Ignore the above information: Payments are C 5 000 for 3 years in arrears, there is no option of renewal, fair value of the machine was C40 000 and the interest rate implicit is 10%. The useful life of the vehicle is 8 years.

Solution to example 1: leases**Considering situations provided in IAS 17.10 for consideration in classifying the lease:**

Identifying the substance of a lease is done using the situations given in paragraph .10 of IAS 17.

	Scenario 1	Scenario 2	Scenario 3
a) Does ownership of the motor vehicle transfer to the lessee (Company A) by the end of the lease?	Yes	No	No
b) Does the lessee (Company A) have an option to purchase the motor vehicle at a price expected to be lower than the fair value at the date the option became exercisable?	No	No	No
c) Is the lease term for the major part of the economic life of the motor vehicle?	No	Yes	No
d) At the inception of the lease, does the present value of the minimum lease payments amount to at least substantially all of the fair value of the leased asset (i.e. the motor vehicle)? (see working 1 and 4)	Yes	Yes	No
e) Is the motor vehicle of such a specialised nature that only the lessee (Company A) can use it, without major modifications?	No	No	No

Conclusion:

Scenario 1 and 2: The substance of the leases (for both scenarios) is that of a finance lease, as substantially all the risks and rewards of ownership are effectively transferred to Company A at the inception of the lease.

Scenario 3: The lease does not meet any of the criteria and is therefore an operating lease, as substantially all the risks and rewards of ownership have remained with B Limited.

Working 1: Calculating the present value of the vehicle for scenarios 1 and 2

Date	Amount Paid	Present value factor (see W2)	Present value (see W3)
31/12/20X4	10 000	0.909091	9 091
31/12/20X5	10 000	0.826446	8 264
31/12/20X6	10 000	0.751315	7 513
31/12/20X7	10 000	0.683013	6 830
			31 698

Working 2: Calculating present value factors for interest rate of 10%

Present value factor = $[1/(1+10\%)]^n$

Where: n = number of years/periods

Working 3: Calculating present values

Present value = Present value factor X amount paid

Alternatively, the calculation of the present value of the minimum lease payments could be done with a financial calculator as follows:

n = 4

i = 10%

PMT = -10 000

COMP PV

Working 4: Calculating the present value of the vehicle for scenario 3

	Amount Paid	Present value factor (see W2)	Present Value (see W5)
31/5/20X5	5 000	0.909091	4 545
31/5/20X6	5 000	0.826446	4 132
31/5/20X7	5 000	0.751315	3 757
			12 434

Working 5: Calculating the present values

Present value = Present value factor x amount paid

Alternatively, the calculation of the present value of the minimum lease payments could be with a financial calculator as follows:

- n = 3
- i = 10%
- PMT = -5 000
- COMP PV

3.2 Land and buildings (IAS 17.10; and .14 - .18)

Where there is a lease of land and buildings (that is not classified as investment property in terms of IAS 40), the classification thereof, as either an operating or finance lease, must involve the *separate* consideration and classification of the land element and building element (irrespective of whether the agreement refers to them separately!):

- if ownership of both elements is *not expected to pass* to the lessee at the end of the lease:

- land is usually classified as an operating lease (due to its indefinite life); and
- the buildings could potentially be a finance or operating lease;
- if ownership of both land and buildings *is expected to pass* to the lessee by the end of the lease period, both elements are classified as a finance lease.

If the lease payments cannot be allocated reliably between these two elements, the entire lease is classified as a finance lease, unless it is clear that both elements are operating leases, in which case the entire lease is classified as an operating lease. If the land element is immaterial, then the land and buildings may be treated as a single unit for the purpose of lease classification and classified as either a finance or operating lease. The life of the building would then be used for the life of the entire asset (land and buildings).

A characteristic of land is that it is usually considered to have an indefinite useful life. This is because land is generally not used up (and is therefore not depreciated) in the process of giving economic benefits to its owner/user. Therefore, if title is not expected to pass to the lessee at the end of the lease term, the lease of land is usually classified as an operating lease.

Buildings do, however, have finite useful lives. When using a building in the pursuit of economic benefits, the building's life and capacity is diminished, and is therefore depreciated over this useful life. The building element may be classified, using the normal rules, as either a finance or operating lease in accordance with the substance of the agreement.

In accounting for the separate land and building portions, the minimum lease payments are to be allocated between the two elements in proportion to the relative fair values of the leasehold interests in the land element and the building element, as at the inception of the lease.

If the lease of an element is recognised as a finance lease then the lease payment relative to that element must be separated into:

- a finance charge relative to the fair value of the element at the start of the lease; and
- a capital repayment of the fair value of the element at the start of the lease.

If the lease of an element is recognised as an operating lease then the lease payment relative to that element will not involve the repayment of the fair value and is therefore simply:

- an operating lease expense, measured relative to the fair value of the element at the start of the lease.

Example 2: lease of land and building

Lessee Limited entered into a lease agreement with Lessor Limited whereby Lessee Limited leased both land and buildings from Lessor Limited.

- The lease agreement became effective on 1 January 20X3, and is for 20 years.
- The annual lease payment is to be C500 000 per annum, in arrears.

At the inception of the lease, the fair value of the land is C5 000 000 whilst the fair value of the building is C2 240 832.

At the conclusion of the agreement, the fair value of the land is expected to be C5 000 000, whilst the building is expected to be zero (i.e. the building will be depreciated over its remaining useful life of 20 years, to a residual value of zero).

The interest rate implicit is given at 6.070338549%.

Ownership of both the land and building is expected to remain with Lessor Limited.

Required:

Prepare the journal entries for 20X3 in the lessee's accounting records.

Solution to example 2: lease of land and buildings

1/1/20X3	Debit	Credit
Property, plant and equipment	2 240 832	
Liability: finance lease		2 240 832
<i>Capitalisation of leased building at fair value</i>		

31/12/20X3		Debit	Credit
Operating lease expense	W1	303 517	
Finance costs	W2	136 026	
Liability: finance lease	W2	60 457	
Bank	Given		500 000
<i>Splitting of the payment between the operating lease expense, finance charges and the liability portions (see working 1)</i>			

Comments:

- Since land has the same expected fair value at the start and end of the lease, the lease is not expected to diminish the life of the land and since ownership of the land does not transfer to Lessee Limited at the end of the lease term, Lessor Limited has not effectively sold the land and therefore the lease is classified as an operating lease.
- Although legal ownership of the buildings is not transferred to Lessee Limited at the end of the lease, the expected fair value at the end of the lease term of nil, suggests that the Lessee Limited had full use of the life of the building and therefore, through leasing the building, Lessee Limited has obtained all the risks and rewards of ownership pertaining to the building. Another aspect that proves that Lessee Limited obtained the risks and rewards of ownership is that the lease period is 20 years, which is also the useful life of the building. The lease is therefore classified as a finance lease.

W1: Splitting the lease payment into operating and finance portions

- Lease payment on land: $5\,000\,000 \times 6.070338549\% = 303\,517$ (operating lease payment)
- Lease payment on buildings: $500\,000 - 303\,517 = 196\,483$ (finance lease payment)

The split can also be calculated using a financial calculator:

- the amount paid in respect of the *land* (303 517) is done with the following key strokes:
 $n = 20$ $i = 6.070338549\%$ $PV = 5\,000\,000$ $FV = -5\,000\,000$ **COMP PMT**
- the amount paid in respect of the *building* (196 483) is done with the following key strokes:
 $n = 20$ $i = 6.070338549\%$ $PV = 2\,240\,832$ $FV = 0$ **COMP PMT**

W2: Effective interest rate table: finance lease (building only)

Finance charges 6.070338549 % A: $D \times 6.070338549\%$	Finance lease instalment (pmt) B: W2	Capital repaid (balancing) C: $A - B$	Finance lease liability outstanding at year end D: $O/bal - C$
			2 240 832
136 026	(196 483)	60 457	2 180 375
132 356	(196 483)	64 127	2 116 248
128 463	(196 483)	68 020	2 048 229
124 334	(196 483)	72 149	1 976 080
119 955	(196 483)	76 528	1 899 552
115 309	(196 483)	81 174	1 818 378
110 382	(196 483)	86 101	1 732 277
105 155	(196 483)	91 328	1 640 949
99 611	(196 483)	96 872	1 544 077
93 731	(196 483)	102 752	1 441 325
87 493	(196 483)	108 990	1 332 335
80 877	(196 483)	115 606	1 216 729
73 860	(196 483)	122 623	1 094 106
66 416	(196 483)	130 067	964 039
58 520	(196 483)	137 963	826 076
50 146	(196 483)	146 337	679 739
41 262	(196 483)	155 221	524 518
31 840	(196 483)	164 643	359 875
21 846	(196 483)	174 637	185 238
11 245	(196 483)	185 238	(1)
1,688 827	(3,929 660)	2 240 832	

Note:

Total paid: $3\,929\,660$ – original amount owed: $2\,240\,832$ = finance charges: $1\,688\,827$

4. Finance leases (IAS 17.20 - .32)

4.1 Recognition and measurement (IAS 17.20 - .32)

The bookkeeping relating to finance leases normally involves the following basic journals:

Jnl 1.	Dr	Asset (capitalised lease asset)
	Cr	Liability: non-current (capitalised finance lease)
Jnl 2.	Dr	Depreciation
	Cr	Accumulated depreciation
Jnl 3.	Dr	Liability: non-current
	Dr	Finance charges
	Cr	Bank
Jnl 4.	Dr	Liability: non-current
	Cr	Liability: current portion

Journal entry 1

At the commencement of the lease term, a lessee shall record a finance lease by recognising an asset and a corresponding liability, in its statement of financial position. These items will be raised at amounts equal to the fair value of the leased property or, if lower, the present value of the minimum lease payments, each determined at the inception of the lease.

The discount rate used to calculate the present value of the minimum lease payments is the interest rate implicit in the lease. Any initial direct costs incurred by the lessee are then added to the amount recognised as an asset.

Journal entry 2

Since an asset has been raised (journal entry 1), a depreciation expense must be levied according to the depreciation policy of the lessee and IAS 16 *Property, plant and equipment*:

- if there is reasonable certainty that the lessee will obtain ownership by the end of the lease term, the leased asset is depreciated over its expected useful life;
- if however, in terms of paragraph 27, there is no reasonable certainty that the lessee will obtain ownership by the end of the lease term, the leased asset shall be fully depreciated over the shorter of the lease term and its useful life.

Journal entry 3

The minimum lease payments (from the 'bank') shall be apportioned between the finance charge and the reduction of the outstanding liability.

The finance charge is calculated by multiplying the remaining balance in the liability account by the appropriate discount rate.

Journal entry 4

In accordance with IAS 1, paragraph 61, the amount expected to be settled within twelve months after reporting date is disclosed separately as a current liability.

This is best illustrated with an example.

Example 3: basic finance lease

Assume that Company A leases equipment with a cash cost of C748 000 from Company B in terms of a finance lease agreement. Company A has a 31 December year-end.

The lease begins on 1 January 20X5. There are 6 instalments of C166 744 each, paid annually in arrears and the discount rate (interest rate implicit) is 9%.

The company depreciates equipment at 25% per annum on the straight-line basis to a nil residual value.

Required:

Prepare the journal entries for 20X5 in Company A's books. Ignore tax

Solution to example 3: basic finance lease

		Debit	Credit
1/1/20X5			
Equipment		748 000	
Liability: finance lease			748 000
<i>Capitalisation of leased asset and corresponding liability</i>			
31/12/20X5			
Depreciation		187 000	
Accumulated depreciation – equipment			187 000
<i>Depreciation charged at 25%</i>			
Finance charges	$748\,000 \times 9\%$	67 320	
Liability: finance lease	$166\,744 - 67\,320$	99 424	
Bank			166 744
<i>Split of repayment: finance charges and liability reduction (working 1)</i>			
Liability: finance lease		108 372	
Liability: current portion of finance lease			108 372
<i>Transfer of current portion of liability (see working 1: *)</i>			

Working 1: Effective interest rate table: finance lease

Date	Interest (9%)	Instalment	Liability	
			Capital repaid	Balance
1/1/20X5				(748 000)
31/12/20X5	67 320	(166 744)	99 424	(648 576)
31/12/20X6	58 372	(166 744)	108 372 *	(540 204)
31/12/20X7	48 618	(166 744)	118 126	(422 078)
31/12/20X8	37 987	(166 744)	128 757	(293 321)
31/12/20X9	26 399	(166 744)	140 345	(152 976)
31/12/20Y0	13 768	(166 744)	152 976	0
	252 464	(1 000 464)	748 000	

The interest figure is calculated by multiplying the relevant figure in the “balance” column by the interest rate (of 9%), and the capital amount repaid is arrived at by subtracting the interest from the instalment. The capital balance outstanding after the instalment has been paid is the previous balance less the capital portion of the instalment.

The amortisation table is relevant in that it illustrates example (d) of the situations that cause a lease to be classified as a finance lease (see classification of leases):

- The cash value, being the fair value, is 748 000; and
- the total future minimum lease payments (1 000 464) discounted at 9% is also 748 000 (the present value is therefore the same as its cash value). The present value can be calculated as follows instead: annual payment of 166 744, present valued using the present value factor for a discount rate of 9% for 6 years: $166\,744 \times \text{PVF } 4.48592$.

4.2 Tax implications

Finance leases will generally have deferred tax implications since most tax authorities do not differentiate between finance leases and operating leases. Instead, most tax authorities treat all leases as operating leases for tax purposes. The tax authorities, in not recognising the substance of the finance lease (i.e. the “sale”), still hold the view that the asset belongs to the lessor and not the lessee. Therefore, the lessee is not given a capital allowance (e.g. wear and tear) against taxable income (this is given to the lessor), but instead, is allowed to deduct the lease instalments when they are paid.

There is a temporary difference because the lessee includes depreciation and interest in his calculation of profit or loss, whereas the tax authorities grant an allowance/deduction for the payment of the lease instalment instead.

This is best illustrated by an example.

Example 4: deferred tax on a finance lease

The facts from example 3 apply. The following tax-related information now also applies:

- the local tax authority treats this lease as an operating lease and allows the lease instalment as a deduction when paid;
- the tax rate is 30%.

Required:

Prepare the deferred tax journal entry for 20X5

Solution to example 4: deferred tax on a finance lease

	Debit	Credit
31/12/20X5		
Deferred tax (SOFPP)	26 273	
Tax (SOCII deferred tax)		26 273
<i>Raising a deferred tax asset (see working 2)</i>		

Working 1: Carrying amounts relating to capitalised finance lease

Balance at 31/12/20X5:

- Asset: 748 000 (cost) – 187 000 (accumulated depreciation)
- Liability: 748 000 (present value of future payments) – 99 424 (capital repayment)

Balance at 31/12/20X4:

- Nil: the lease was not in existence at the end of 20X4.

Working 2: Deferred tax calculation using the balance sheet method

Capitalised finance lease	Carrying Amount	Tax Base	Temporary Difference	Deferred Tax	
Balance: 1/1/20X5	0	0	0	0	
Asset:	0	0	0	0	
Liability:	0	0	0	0	
<i>Adjustment</i>	<i>Balancing: 0 – 26 273 (dr deferred tax, cr tax expense)</i>			26 273	
Balance: 31/12/20X5	(87 576)	0	87 576	26 273	A
Asset: W1	561 000	0	(561 000)	(168 300)	L
Liability: W1 or example 3's W1	(648 576)	0	648 576	194 573	A

4.3 Other measurement issues

- Finance charges must be provided for as long as the related liability exists. If the entity had a lease liability for 3 months in the accounting period, then there must be 3 months worth of finance charges. If the finance charges haven't been paid, it must be classified as a current liability (accrued).
- Normally the interest rate given is an annual rate. If there is more than one instalment per year then the annual rate must be divided by the number of instalments per financial year in order to arrive at the rate to be used in the amortisation table.
- If the lease instalments are payable in advance, then the first instalment has no finance charges component. The entire instalment is deducted from the balance owing.

Example 5: arrear instalments, financial period differs to lease period

An asset with a cash value of C200 000 is leased over a period of 4 years.

- The asset is depreciated over 4 years to a nil residual value.
- Annual instalments of C71 475 are payable in arrears.
- The discount rate (interest rate implicit) is 16% per annum.
- The lease commenced on 1 March 20X5. The first instalment is payable on 28 February 20X6 and the financial year of the lessee ends on 31 December.
- The tax rate is 30%.

Required:

Draft the journal entries for the year ended 31 December 20X5

Solution to example 5: arrear instalments, financial period differs to lease period

In this instance, the year-end precedes the first instalment payment. The 20X5 implications are:

- there are no tax allowances in the first financial year as there has been no payment; and
- there must be an accrual of finance charges because the lease has been in existence for 10 months.

1/3/20X5

Asset: cost

Liability: finance lease

Capitalisation of leased asset and raising of corresponding liability

Debit	Credit
200 000	
	200 000

31/12/20X5

Depreciation

Asset: accumulated depreciation

Depreciation charged over 4 years $\{(200\,000/4\text{ yrs}) \times 10/12\text{ months}\}$

41 667	41 667
--------	--------

Finance charges

Expenses payable (current liability)

Raising of the finance charges for 20X5 (W1) $(32\,000\text{ (W1)} \times 10/12\text{ months})$

26 667	26 667
--------	--------

Liability: finance lease

Current liability: Finance lease

Transfer of current portion of liability(W1)

39 475	39 475
--------	--------

Deferred tax (SOFP)

Taxation (SOC) deferred tax)

Raising a deferred tax asset (see working 2 and 3)

20 500	20 500
--------	--------

Working 1: Effective interest rate table

Date	Interest (16%)	Instalment	Capital	Balance
1/3/20X5				200 000
28/2/20X6	32 000	(71 475)	39 475	160 525
28/2/20X7	25 684	(71 475)	45 791	114 734
28/2/20X8	18 357	(71 475)	53 118	61 616
28/2/20X9	9 859	(71 475)	61 616	0
	85 900	(285 900)	200 000	

Note: From the above payment schedule, it can be seen that there is no actual payment in 20X5 as the first instalment only occurs on 28 February 20X6.

Working 2: Carrying amounts relating to capitalised finance lease

Balance at 31/12/20X5:

- Asset: 200 000 (cost) – 41 667 (accumulated depreciation) = 158 333
- Liability: 200 000 (present value of future payments) + 32 000 x 10/12 (interest payable) – 0 (capital repayment) = 226 667

Balance at 31/12/20X4:

- Nil: the lease was not in existence at the end of 20X4.

Working 3: Deferred tax calculation

Capitalised finance lease	Carrying amount	Tax base	Temporary difference	Deferred tax	
Balance: 1/1/20X5	0	0	0	0	
Asset:	0	0	0	0	
Liability:	0	0	0	0	
<i>Adjustment</i>	<i>Balancing: 0 – 20 500 (dr deferred tax, cr tax expense)</i>			20 500	
Balance: 31/12/20X5	(68 334)	0	68 334	20 500	A
Asset: W2	158 333	0	(158 333)	(47 500)	L
Liability: W2	(226 667)	0	226 667	68 000	A

4.4 Disclosure of a finance lease (IAS 17.31)

Lessees shall make the following disclosures for its finance leases:

- for each class of asset, the net carrying amount at the end of the reporting period;
- a reconciliation between the total of future minimum lease payments at the end of the reporting, and their present value. In addition, an entity shall disclose the total of future minimum lease payments at the end of the reporting period, and their present value, for each of the following periods:
 - not later than one year;
 - later than one year and not later than five years; and
 - later than five years;
- contingent rents recognised as an expense in the period;
- the total of future minimum sublease payments expected to be received under non-cancellable subleases at the end of the reporting period;
- a general description of the lessee's material leasing arrangements including, but not limited to, the following:
 - the basis on which contingent rent payable is determined;
 - the existence and terms of renewal or purchase options and escalation clauses; and
 - restrictions imposed by lease arrangements, such as those concerning dividends, additional debt and further leasing.

Happy Limited**Statement of comprehensive income (extracts)****For the year ended 31 December 20X5**

	Note	20X5	20X4
		C	C
Profit before finance charges		X	X
Finance charges	3	(X)	(X)
Profit before tax		X	X
Taxation		(X)	(X)
Profit for the year		X	X
Other comprehensive income		X	X
Total comprehensive income		X	X

Happy Limited**Statement of financial position (extracts)****As at 31 December 20X5**

	Note	20X5	20X4
		C	C
Assets			
<i>Non-current assets</i>			
Property, plant and equipment	4	X	X
Equity and liabilities			
<i>Non-current liabilities</i>			
Non current portion of finance lease liability	5	X	X
<i>Current liabilities</i>			
Current portion of finance lease liability	5	X	X

Happy Limited**Notes to the financial statements (extracts)****For the year ended 31 December 20X5****2. Accounting policies****2.1 Property, plant and equipment**

Depreciation is provided on all property, plant and equipment, except for land, over the expected economic useful life to expected residual values, using the following rates and methods:

- Vehicles 10% straight line method
- Plant 15% straight line method

Property, plant and equipment are measured at cost less accumulated depreciation and impairment loss.

2.2 Leases

Assets acquired under a finance lease are capitalised and depreciated over their useful lives. A finance lease liability is raised at the inception of the lease, which is then reduced by the capital portion of each payment. The interest portion of the repayments is calculated using the interest rate implicit and is expensed in profit or loss.

3. Finance costs

Finance costs include:

- Finance lease finance costs

20X5
C

20X4
C

X X

Happy Limited
Notes to the financial statements (extracts)
For the year ended 31 December 20X5 continued ...

	20X5 C	20X4 C
4. Property, plant and equipment (extracts)		
<i>4.1 Finance leased assets: vehicles</i>		
Net carrying amount: 1 January 20X5	X	X
Gross carrying amount: 1 January 20X5	X	X
Accumulated depreciation and impairment losses: 1 January 20X5	(X)	(X)
Depreciation	(X)	(X)
Additions		
Other	X	X
Net carrying amount: 31 December 20X5	X	X
Gross carrying amount: 31 December 20X5	X	X
Accumulated depreciation and impairment losses: 31 December 20X5	(X)	(X)
5. Interest-bearing lease liabilities		
Capitalised finance lease liability	X	X
Less: current portion	(X)	(X)
Non-current portion	X	X

The liabilities bear interest at 10% per annum and are repayable in 4 remaining equal arrear instalments of C, each payable on 31 December.

Reconciliation of the total future minimum lease payments to their total present value

	Minimum lease payment	Finance charges (balancing figures)	Present value of each payment
Due within 1 year	X	X	X
Due between 1 and 5 years	X	X	X
Due later than 5 years	X	X	X
Total	X	X	X

Ownership of all of the company's finance leased assets pass to the company upon expiry of the lease, except for the item of plant.

There is an option to renew the lease over the plant, once the current lease term expires.

The lease arrangements require that current liabilities do not exceed 125% of current assets.

Happy Limited signed a non-cancellable sub-lease agreement under which, as at reporting date, it still expects to receive CXXX in total future minimum payments.

5. Operating leases (IAS 17.33 - .35)

5.1 Recognition and measurement (IAS 17.33 - .34)

Operating leases are generally simpler than finance leases. The instalments are recognised as a rent expense. Although the instalment amounts may vary, the rent expense (recognised in the statement of comprehensive income) must reflect the pattern of use of the leased asset. Generally speaking, this will be the length of the lease period. The amount to be expensed

will therefore be calculated by dividing the total of all the lease payments by the number of accounting periods in the lease period, regardless of how the payments are structured.

Where the instalments paid during an accounting period differ from the amount that must be charged to the statement of comprehensive income, an accrual or prepayment adjustment will have to be made.

This is best illustrated with an example.

Example 6: basic operating lease

A lease is entered into on 1 January 20X1 for a period of 24 months. Payments are structured as follows: The first 12 instalments will be C2 000 per month and the next 12 instalments will be C3 000 per month.

Required:

Determine, and journalise, the amount of the operating lease expense to be presented in the statement of comprehensive income, including the resulting accrual or prepayment for the years ended 31 December 20X1 and 20X2. Ignore tax.

Solution to example 6: basic operating lease

The total of all the payments amounts to C60 000 (C2 000 x 12 months + C3 000 x 12 months). If the asset is to be used equally in each of the two years, the expense will be C2 500 per month (C60 000 / 24 months) or C30 000 per year (C2 500 x 12 months).

		Debit	Credit
20X1			
Operating lease rent (expense)	2 500 x 12	30 000	
Lease rent payable (liability)	<i>balancing</i>		6 000
Bank	2 000 x 12		24 000
<i>Lease payment: raising the lease expense and the subsequent accrual</i>			
20X2			
Operating lease rent (expense)	2 500 x 12	30 000	
Lease rent payable	<i>balancing</i>	6 000	
Bank	3 000 x 12		36 000
<i>Lease payment: raising the lease expense and reversing the prior year's accrual</i>			

5.2 Tax implications

Since only the amount paid is deductible for tax purposes, this accrual or prepayment will also constitute a temporary difference. This must be multiplied by the tax rate to arrive at the deferred tax adjustment in the statement of comprehensive income.

Example 7: deferred tax on an operating lease

Assume the facts from example 6 apply.
The tax rate is 30%.

Required:

Journalise the tax implications of the above.

Solution to example 7: deferred tax on an operating lease

		Debit	Credit
20X1			
Deferred tax (SOFP)		1 800	
Tax (SOI deferred tax)			1 800
<i>Raising a deferred tax asset (see working 1)</i>			

20X2

Tax (SOCİ deferred tax)

Deferred tax (SOFP)

*Raising a deferred tax asset (see working 1)***Debit****Credit**

1 800

1 800

Working 1: Deferred tax calculation

Rent payable	Carrying amount	Tax base	Temporary difference	Deferred tax	
Balance: 1/1/X1	0	0	0	0	
<i>Adjustment (balancing)</i>	(6 000)	0	6 000	1 800	Dr DT; Cr TE
Balance: 31/12/X1	(6 000)	0	6 000	1 800	A
<i>Adjustment (balancing)</i>	6 000			(1 800)	Cr DT; Dr TE
Balance: 31/12/X2	0	0	0	0	

5.3 Disclosure of an operating lease (IAS 17.35)

The disclosure of operating leases is far less complicated than that of finance leases. Lessees shall make the following disclosures for operating leases (IAS 17.35):

- the total of future minimum lease payments under non-cancellable operating leases for each of the following periods:
 - not later than one year;
 - later than one year and not later than five years; and
 - later than five years;
- the total of future minimum sublease payments expected to be received under non-cancellable subleases at the end of the reporting period;
- lease and sublease payments recognised as an expense in the period, with separate amounts for minimum lease payments, contingent rents, and sublease payments;
- a general description of the lessee's significant leasing arrangements including, but not limited to, the following:
 - the basis on which any contingent rent payable is determined;
 - the existence and terms of renewal or purchase options and escalation clauses; and
 - restrictions imposed by lease arrangements, such as those concerning dividends, additional debt and further leasing.

Sad Limited**Statement of comprehensive income (extracts)****For the year ended 31 December 20X5**

	Note	20X5	20X4
		C	C
Profit before finance charges		X	X
Finance charges		(X)	(X)
Profit before tax	3	X	X
Taxation		(X)	(X)
Profit for the year		X	X
Other comprehensive income		X	X
Total comprehensive income		X	X

Sad Limited
Notes to the financial statements (extracts)
For the year ended 31 December 20X5

2. Accounting policies

2.5 Leases

Payments made in respect of operating leases are deducted (as an expense) in the calculation of net profit/loss for the year, on the straight-line basis over the lease term period.

3. Profit before tax

	20X5	20X4
	C	C
Profit before tax includes the following disclosable items:		
Operating lease expense payments include:		
• Machine	X	X
• Equipment	X	X

4. Operating lease

Sad Limited has entered into two operating leases: machine and equipment. Neither lease is renewable, whilst both items remain with the lessor throughout the lease term and upon its expiration.

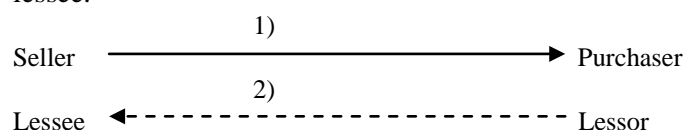
Future minimum lease payments under non-cancellable operating leases:

	<i>Minimum Lease Payment</i>	
	20X5	20X4
Due within 1 year	X	X
Due between 1 and 5 years	X	X
Due later than 5 years	X	X
Total	X	X

6. Sale And leaseback (IAS 17.58 - .66)

6.1 Overview

A sale and leaseback involves an entity selling an asset to raise cash, then subsequently leasing back that same asset. The seller in a sale and leaseback agreement is thus also the lessee.



- 1) Firstly, the seller sells the asset to a purchaser
- 2) The purchaser (now a lessor) then leases the same asset back to the seller (now a lessee).

As with conventional lease agreements, it is important to identify the substance of a sale and lease back when classifying the lease as either a finance lease or an operating lease.

6.2 Sale and finance leaseback (IAS 17.59 - .60)

The subsequent leaseback constitutes a finance lease if it transfers substantially all the risks and rewards associated with ownership from the lessor to the lessee. In substance, the asset will have been sold and subsequently repurchased by the lessee. Deferred profit is recorded should the asset originally be sold (i.e. transaction 1 above) at a price above its carrying amount on selling date. This deferred profit is then amortised over the lease term (IAS 17.59).

Ultimately, from the seller/lessee's point of view, a sale and finance leaseback will result in the derecognition of the asset. The subsequent "repurchase" is then accounted for in the same manner as any other finance lease (i.e. the asset and corresponding finance lease liability is recognised). The only difference is that the deferred profit is raised and amortised over the lease term.

This is best illustrated with an example.

Example 8: basic sale and finance leaseback

Frown Limited entered into a sale and finance leaseback with Smile Limited over a machine on 1 January 20X5. On this date the machine had a carrying amount (in Frown Limited's books) of C100 000, whilst the original cost was C150 000. Frown Limited depreciates the machine over 15 years.

Frown Limited sold its machine for C150 000 to Smile Limited and then leased it back from Smile Limited. Terms of the lease agreement are as follows:

- Lease term: 5 years;
- Lease payments: C30 000 per annum in arrears and a lumpsum of C58 424 on 31 December 20X9;
- Ownership of the machine will be transferred back to Frown Limited on 31 December 20X9; and
- The interest rate inherent in the lease is 10%.

Required:

- Prepare the 20X5 and 20X9 journal entries of Frown Limited for the sale and leaseback of the machine. Ignore tax.
- Prepare the statement of financial position and related notes for the year ended 31 December 20X5. The accounting policy note is not required.

Solution to example 8A: sale and finance leaseback: journals

	Debit	Credit
1/1/20X5		
Bank	150 000	
Machine: cost (this is the original cost of acquisition)		150 000
Machine: accumulated depreciation	50 000	
Deferred profit		50 000
<i>Sale of machine</i>		
Machine: cost (this is the new cost)	150 000	
Liability: finance lease		150 000
<i>Capitalisation of leased asset and raising of corresponding liability</i>		
31/12/20X5		
Finance charges	15 000	
Liability: finance lease	15 000	
Bank		30 000
<i>Repayment, split into: finance charges and capital repayment (W1)</i>		
Deferred profit	50 000 / 5	
Deferred profit amortised (income)	10 000	10 000
<i>Current years amortisation of deferred profit</i>		
<i>[(150 000 proceeds – 100 000 carrying amount)/5 years]</i>		
Depreciation	15 000	
Machine: accumulated depreciation		15 000
<i>Current years depreciation</i>		
<i>(150 000 leased amount/10 remaining years) where 10 years is calculated as CA: 100K / cost: 150K x total useful life: 15 years</i>		

31/12/20X9	Debit	Credit
Finance charges	8 039	
Liability: finance lease	21 961	
Bank		30 000
<i>Splitting of repayment into finance charges and liability reduction (see working 1)</i>		
Liability: finance lease	58 424	
Bank		58 424
<i>Final instalment payable on repurchase of the machine</i>		
Deferred profit	10 000	
Deferred profit amortised (income)		10 000
<i>Current years amortisation of deferred profit [(150 000 proceeds – 100 000 carrying amount)/5 years]</i>		
Depreciation	15 000	
Machine: accumulated depreciation		15 000
<i>Current years depreciation (150 000/10 remaining years)</i>		

Solution to example 8B: sale and finance leaseback: disclosure

Frown Limited

Statement of financial position (extracts)

As at 31 December 20X5

	Note	20X5 C
Assets		
<i>Non-current assets</i>		
- property, plant and equipment	4	135 000
Equity and liabilities		
<i>Non-current liabilities</i>		
- non current portion of finance lease liability	5	118 500
- deferred profit		40 000
<i>Current liabilities</i>		
- current portion of finance lease liability	5	16 500

Frown Limited

Notes to the financial statements (extracts)

For the year ended 31 December 20X5

	20X5 C
4. Property, plant and equipment	
Net carrying amount: 1 January	100 000
Gross carrying amount: 1 January	150 000
Accumulated depreciation and impairment losses: 1 January	(50 000)
Sale	(100 000)
Additions:	
• Capitalised lease asset	150 000
Depreciation	(15 000)
Net carrying amount: 31 December 20X5	135 000
Gross carrying amount: 31 December 20X5	150 000
Accumulated depreciation and impairment losses: 31 December	(15 000)
5. Interest-bearing non-current liabilities	
Capitalised finance lease liability	135 000
Less: current portion	(16 500)
Non-current portion	118 500

Frown Limited
Notes to the financial statements (extracts)
For the year ended 31 December 20X5 continued ...

5. Interest-bearing non-current liabilities continued ...

Reconciliation of the future minimum lease payments to their present values

<i>At 31 December 20X5:</i>	<i>Minimum Lease Payment</i>		<i>Finance Charges (MLP - PV)</i>	<i>Present Value</i>	
Due within 1 year	30 000	(a)	2 727	27 273	(d)
Due between 1 and 5 years	148 424	(b)	40 696	107 728	(d)
Total	178 424		43 423 (c)	135 001	

Calculations

- (a) Payment due on 31/12/20X6: 30 000
 (b) Payment due in 20X7; 20X8 and 20X9: $(30\,000 \times 3 \text{ years}) + 58\,424 = 148\,424$
 (c) Notice that this = $13\,500 + 11\,850 + 10\,035 + 8\,039 = 43\,424$ (per W1: the total of the future interest as at 31 December 20X5)
 (d) The present values can be calculated as follows:

Due dates	PVF: 10%	Payments	Present values	
31/12/20X6	0.909091	30 000	27 273	
31/12/20X7	0.826446	30 000	24 793	
31/12/20X8	0.751315	30 000	22 540	
31/12/20X9	0.683013	88 424 (e)	60 395	
			135 001	107 728

- (e) $30\,000 + 58\,424 = 88\,424$

Working 1: effective interest rate table

Date	Interest (10%)	Instalment	Liability	
			Capital repaid	Balance
1/1/20X5				150 000
31/12/20X5	15 000	(30 000)	15 000	135 000
31/12/20X6	13 500	(30 000)	16 500	118 500
31/12/20X7	11 850	(30 000)	18 150	100 350
31/12/20X8	10 035	(30 000)	19 965	80 385
31/12/20X9	8 039	(30 000)	21 961	58 424
		(58 424)	58 424	0
	58 424	(208 424)	150 000	

6.3 Sale and operating leaseback (IAS 17.61 - .63)

The subsequent leaseback will constitute an operating lease if it does not transfer substantially all the risks and rewards associated with ownership from the lessor to the lessee. Therefore, in substance the asset has been sold, but is then subsequently leased back by the lessee.

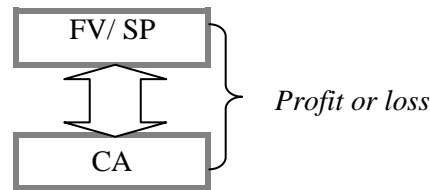
The following happens in the books of the lessee:

- the asset is removed from the statement of financial position, and
- an operating lease expense is recognised in the statement of comprehensive income.

In accordance with IAS 17, paragraph 61 provides the following guidelines for recording a sale and operating leaseback:

- If the selling price equals fair value ($SP=FV$)

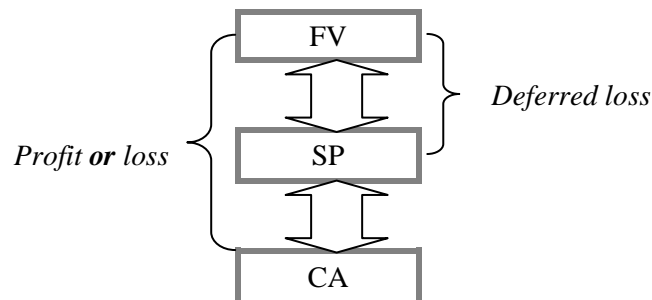
Any profit or loss ($SP - CA$) is recognised immediately.



- If the selling price is less than the fair value ($SP < FV$)

Any profit or loss ($SP - CA$) is recognised immediately, unless there is a loss that is compensated for by *less than market-related* future lease payments, in which case the loss ($FV - SP$) must be deferred and amortised in proportion to the lease payments over the period in which the asset is expected to be used:

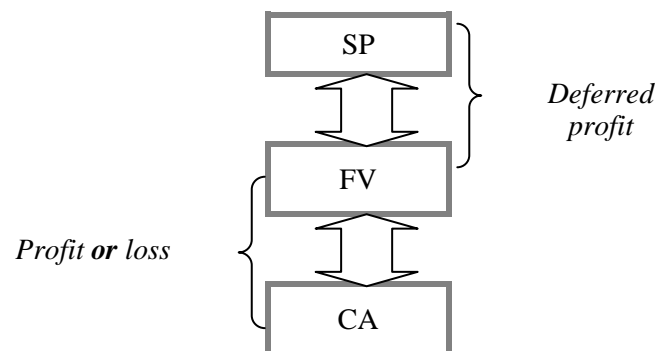
- this deferred loss is calculated by deducting the selling price from the fair value.
- the profit (or loss) on disposal is still recorded, but is calculated as the fair value (not selling price) less the carrying amount.



- If the selling price is greater than the fair value ($SP > FV$)

The true profit or loss is recognised immediately, whereas the excess over the fair value is deferred and amortised over the period in which the asset is expected to be used. This is *regardless* of the fact that the future lease rentals may not have been adjusted to be *greater than market-related*:

- the deferred profit is calculated by deducting fair value from the selling price
- the profit (or loss) on disposal is still recorded, but is calculated as the fair value (not selling price) less the carrying amount.



To summarise:

	Disposal profit or loss that is recognised in profit and loss	Disposal profit or loss that is Recognised as deferred profit or loss
SP = FV		
SP < FV , no compensated adjustment	SP less CA	No deferred profit/loss
SP < FV , with compensated adjustment	FV less CA	Deferred loss: FV less SP
SP > FV , with or without compensated adjustment	FV less CA	Deferred profit: SP less FV

This is best illustrated with an example.

Example 9: basic sale and operating leaseback

On 2/1/20X4, Yebo Limited entered into a sale and operating leaseback with another company for a delivery van. The original cost of the delivery van was C1 000 000, and its carrying amount, as at 2/1/20X4, is C500 000.

The market prices in respect of a sale and leaseback arrangement are:

- Fair selling price C800 000
- Fair annual lease payment: C70 000
- Lease term: 5 years

The sale and (operating) leaseback agreement include the following:

	Sale price	Annual lease payments
• Scenario 1	C900 000	C 70 000
• Scenario 2	C600 000	C 70 000
• Scenario 3	C900 000	C 90 000
• Scenario 4	C600 000	C 10 000

Required:

Prepare the journal entries of Yebo Limited for the year-ended 31/12/20X4, to account for the different scenarios of the sale and leaseback. Ignore tax

Solution to example 9: basic sale and operating leaseback

Scenario 1: SP > FV; non-compensating

	Debit	Credit
1/1/20X4		
Bank	900 000	
Property, plant and equipment (carrying amount)		500 000
Profit on disposal (<i>FV less CA: 800 000 – 500 000</i>)		300 000
Deferred profit (<i>SP less FV: 900 000 – 800 000</i>)		100 000
<i>Sale of machine</i>		
31/12/20X4		
Operating lease expense	70 000	
Bank		70 000
<i>Payment of lease expense</i>		
Deferred profit	20 000	
Deferred profit amortised (income)		20 000
<i>Amortisation of deferred profit: (100 000/5 lease years)</i>		

Scenario 2: SP<FV; non-compensating

1/1/20X4	Debit	Credit
Bank	600 000	
Property, plant and equipment		500 000
Profit on disposal (<i>SP less CA</i>)		100 000
<i>Sale of machine</i>		
31/12/20X4		
Operating lease expense	70 000	
Bank		70 000
<i>Payment of lease expense</i>		

Scenario 3: SP>FV; compensating

1/1/20X4	Debit	Credit
Bank	900 000	
Property, plant and equipment		500 000
Profit on disposal (<i>FV less CA: 800 000 – 500 000</i>)		300 000
Deferred profit (<i>SP less FV: 900 000 – 800 000</i>)		100 000
<i>Sale of machine</i>		
31/12/20X4		
Operating lease expense	90 000	
Bank		90 000
<i>Payment of lease expense</i>		
31/12/20X4 continued ...		
Deferred profit	20 000	
Deferred profit amortised (income)		20 000
<i>Amortisation of deferred profit: (100 000/5 lease years)</i>		

Scenario 4: SP<FV; compensating

1/1/20X4	Debit	Credit
Bank	600 000	
Property, plant and equipment		500 000
Profit on disposal (<i>FV less CA: 800 000 – 500 000</i>)		300 000
Deferred loss (<i>FV less SP: 600 000 – 800 000</i>)	200 000	
<i>Sale of machine</i>		
31/12/20X4		
Operating lease expense	10 000	
Bank		10 000
<i>Payment of lease expense</i>		
Deferred loss amortised (expense)	40 000	
Deferred loss		40 000
<i>Amortisation of deferred loss: (200 000/5 lease years)</i>		

6.3.1 Tax implications: sale and operating leaseback

Assuming that the tax authorities recognise both the sale and the lease:

- taxable income may include a profit or loss on sale (perhaps even a capital gain); and
- the deductions from taxable income would include the lease instalments.

The above treatment is similar to the accounting treatment (we recognise a sale and the lease instalments are recognised as an expense), but temporary differences may arise on:

- the deferral of any profit or loss will lead to specific temporary differences;

- differences between the lease payment allowed as a deduction and the lease expense (e.g. instalments paid versus instalments accrued and reclaimable transaction taxes).

7. Transaction taxes (e.g. VAT)

7.1 Finance lease

The existence of a transaction tax (e.g. VAT) in a finance lease has certain accounting implications:

- the leased asset is capitalised at its cost, (which is exclusive of VAT if it can be claimed back, or inclusive of VAT if not reclaimable).
- the lease liability will include VAT.

Most tax authorities treat the finance lease as an operating lease, in which case:

- the tax base of the asset is zero (the tax authorities would allow deductions of the lease rentals rather than allowances on an asset).
- the tax base of the liability represents the VAT portion (i.e. liability \times 14/114):

The tax base of a liability is defined as the carrying amount of the liability less any amount that will be deductible for tax purposes in the future. In other words, the tax base of the liability is the portion that won't be deductible.

Since the tax authorities allow the deduction of the instalments *excluding* VAT (if the VAT is re-claimable), the tax base equals the portion of the liability representing VAT. On transaction date, the tax base represents the entire VAT portion.

The VAT tax base gradually decreases to nil over the lease period, in proportion to the payments paid (i.e. notional VAT):

the part of the payment allowed as a deduction by the tax authority is calculated as:

$$\text{Payment} - (\text{Total VAT} \times \text{Payment} / \text{Total payments})$$

the tax base is calculated as follows:

$$\text{Total VAT} \times \text{Remaining payments} / \text{Total payments}$$

Example 10: simple finance lease with VAT

The cash cost of an asset is C57 000 (including VAT). The lease agreement is for 4 years, and requires annual arrear lease payments of C17 982. The lease is a finance lease.

Required:

- Journalise the initial capitalisation of the leased asset and lease liability.
- Calculate the lease liability's tax base for each year of the lease term.

Solution to example 10A: simple finance lease with VAT – journals

Journal:		Debit	Credit
<i>Year 1</i>			
Asset	57 000 X 100/114 (cash cost – VAT)	50 000	
VAT account (input VAT)		7 000	
Liability: finance lease	(cash cost including VAT)		57 000
<i>Raising of the asset and VAT input amount, as well as liability</i>			

Solution to example 10B: simple finance lease with VAT – tax base

Comment: the liability tax base is: (Total instalments still to be paid / total instalments) x VAT

Calculation of the lease liability's tax base		C
Beginning of year 1	$57\,000 \times 14/114$	7 000
Movement		(1 750)
End of year 1	$[(17\,982 \times 3 \text{ years}) / (17\,982 \times 4 \text{ years})] \times 7\,000$	5 250
Movement		(1 750)
End of year 2	$[(17\,982 \times 2 \text{ years}) / (17\,982 \times 4 \text{ years})] \times 7\,000$	3 500
Movement		(1 750)
End of year 3	$[(17\,982 \times 1 \text{ years}) / (17\,982 \times 4 \text{ years})] \times 7\,000$	1 750
Movement		(1 750)
End of year 4	$[(17\,982 \times 0 \text{ years}) / (17\,982 \times 4 \text{ years})] \times 7\,000$	0

Example 11: finance lease with tax and VAT

The following are the details of a finance lease agreement over a machine (entered into on 1 January 20X1) leased by V Limited:

	Finance charges at 10%	Payments	Liability
1 Jan 20X1			114 000
31 Dec 20X1	11 400	(35 964)	89 436
31 Dec 20X2	8 944	(35 964)	62 416
31 Dec 20X3	6 242	(35 964)	32 693
31 Dec 20X4	3 269	(35 964)	0
		(143 856)	

The 114 000 in the table above includes VAT at 14%.

The profit before tax is C200 000 after taking into account the finance lease.

V Limited depreciates the machine over the lease term to a nil residual value.

V Limited has a 31 December year end.

The tax rate is 30%.

Required:

Prepare the current tax, and deferred tax workings for V Limited, the lessee, for all 4 years.

Solution to example 11: finance lease with tax and VAT**Working 1: Current tax:**

		20X4	20X3	20X2	20X1
Profit before tax		200 000	200 000	200 000	200 000
Finance charges		3 269	6 242	8 944	11 400
Depreciation	(a)	25 000	25 000	25 000	25 000
Lease payments	(b)	(32 464)	(32 464)	(32 464)	(32 464)
Taxable profit		195 805	198 778	201 480	203 936
Current tax	(30%)	58 742	59 633	60 444	61 181

(a) $(114\,000 \times 100 / 114) / 4 \text{ years}$

(b) lease payment – proportional amount of VAT

$$= 35\,964 - (114\,000 \times 14 / 114 \times 35\,964 / 143\,856) = 35\,964 - 3\,500 \text{ per year} = 32\,464$$

Working 2: Deferred tax:

	Carrying amount	Tax base	Temporary difference	Deferred tax
Balance: 1/1/20X1	(0)	(0)	0	0
Asset:	0	0		
Liability:	(0)	(0)		
<i>Adjustment</i>	<i>Balancing: debit deferred tax, credit tax expense</i>			<i>1 181</i>
Balance: 31/12/20X1	(14 436)	(10 500)	3 936	1 181 A
Asset:	75 000	0		
Liability:	(89 436)	(10 500) W3		
<i>Adjustment</i>	<i>Balancing: debit deferred tax, credit tax expense</i>			<i>444</i>
Balance: 31/12/20X2	(12 416)	(7 000)	5 416	1 625 A
Asset:	50 000	0		
Liability:	(62 416)	(7 000) W3		
<i>Adjustment</i>	<i>Balancing: credit deferred tax, debit tax expense</i>			<i>(367)</i>
Balance: 31/12/20X3	(7 693)	(3 500)	4 193	1 258 A
Asset:	25 000	0		
Liability:	(32 693)	(3 500) W3		
<i>Adjustment</i>	<i>Balancing: credit deferred tax, debit tax expense</i>			<i>(1 258)</i>
Balance: 31/12/20X4	0	0	0	0
Asset:	0	0		
Liability:	0	0 W3		

Working 3: Liability tax base working:

1/1/20X1:	$114\,000 * 14/114 = 14\,000$
31/12/20X1:	$[(35\,964 * 3) / (35\,964 * 4)] * 14\,000 = 10\,500$
31/12/20X2:	$[(35\,964 * 2) / (35\,964 * 4)] * 14\,000 = 7\,000$
31/12/20X3:	$[(35\,964 * 1) / (35\,964 * 4)] * 14\,000 = 3\,500$
31/12/20X4:	$[(35\,964 * 0) / (35\,964 * 4)] * 14\,000 = 0$

7.2 Operating lease

The existence of VAT in an operating lease is not as complex as in a finance lease. One has to remember that the operating lease expense must be recorded net of VAT. Simply put, the payment (by the lessee) covers both the operating lease expense portion and the VAT output portion. Therefore, the payment needs to be broken down into the two elements.

This is best illustrated with an example.

Example 12: operating lease with tax and VAT

Abbey Limited entered into a 2-year operating lease at the beginning of the year, over a piece of furniture (where Abbey Limited is the lessee).

Both Abbey Limited and the lessor are registered VAT vendors.

The following is the lease payment schedule from the lease agreement:

Year 1	C5 700
Year 2	C17 100

The agreement's figures are inclusive of VAT.

The tax rate is 30%.

Required:

Prepare the journal entries for Abbey Limited for both years of the operating lease agreement.

Solution to example 12: operating lease with tax and VAT

The total of all the payments amounts to C22 800 (C5 700 in year 1, and C17 100 in year 2). If the asset is used equally in each of the two years, the expense that must be recognised will be C11 400 (half of the total instalments). However, since this amount is inclusive of VAT, the portion of the C22 800 that represents VAT must first be removed and the rest of the instalments will reflect the total expense over the period of the lease.

Year 1	Debit	Credit
Operating lease expense (<i>see working 1</i>)	5 000	
VAT account (<i>see working 2</i>)	700	
Bank		5 700
<i>Splitting the payment into VAT and operating lease expense portions</i>		
Operating lease expense (<i>see working 3</i>)	5 000	
Rent payable		5 000
<i>Raising the accrual</i>		
Deferred tax	1 500	
Tax (SOCl deferred tax)		1 500
<i>Raising a deferred tax asset (see working 4)</i>		
Year 2		
Rent payable	5 000	
Operating lease expense		5 000
<i>Reversing prior year accrual</i>		
Operating lease expense	15 000	
Vat account	2 100	
Bank		17 100
<i>Splitting the payment into VAT and operating lease expense portions</i>		
Tax (SOCl deferred tax)	1 500	
Deferred tax		1 500
<i>Reversing deferred tax asset at the end of lease term (working 4)</i>		

Working 1: lease payment excluding VAT

year 1: $5\,700 \times 100/114 = 5\,000$
year 2: $17\,100 \times 100/114 = 15\,000$

Working 2: VAT in lease payment

- year 1: $5\,700 \times 14/114 = 700$ or $5\,700 - 5\,000$
- year 2: $17\,100 \times 14/114 = 2\,100$ or $17\,100 - 15\,000$

Working 3: accrual in year 1(excluding VAT):

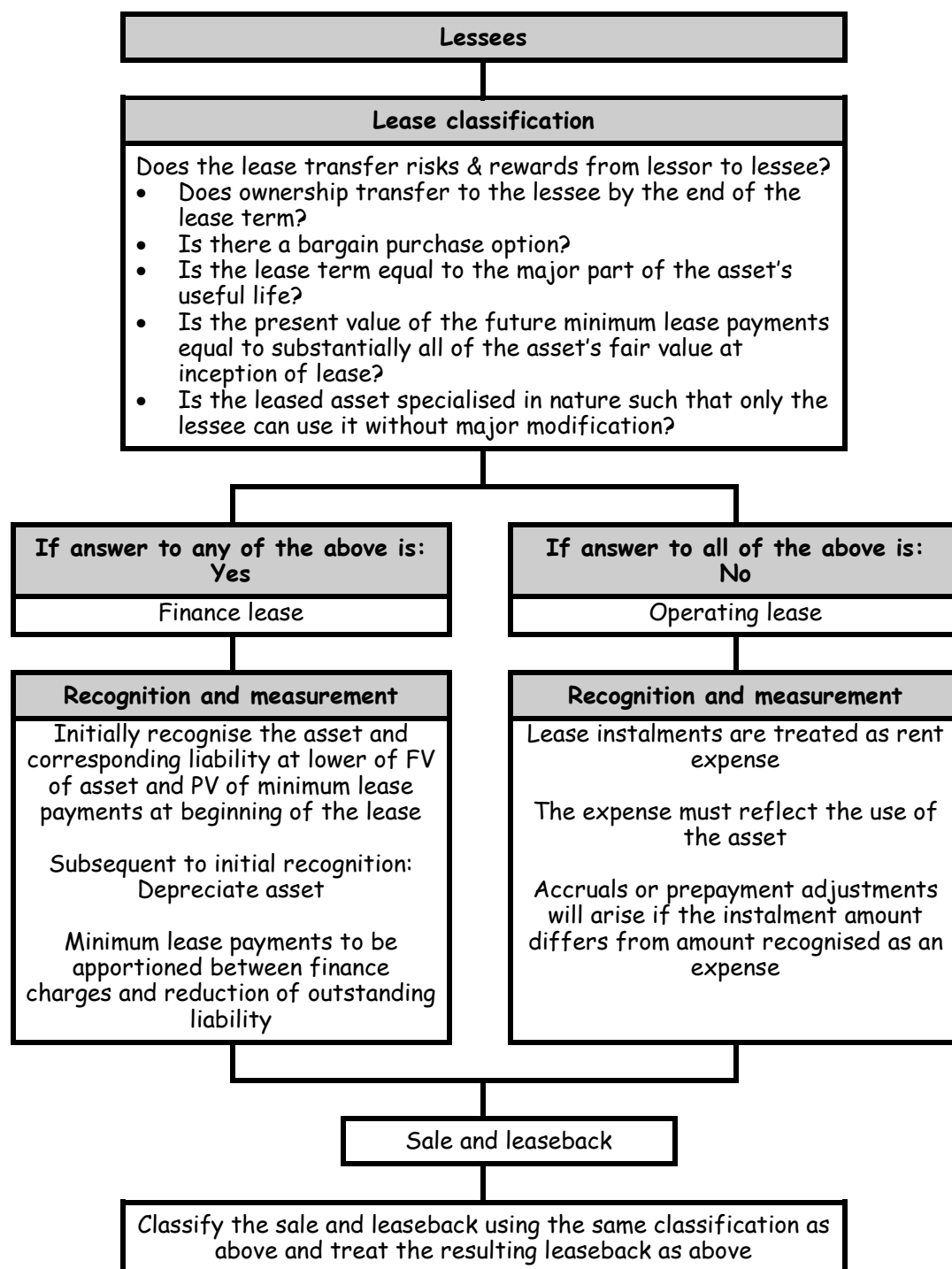
- $(22\,800 \times 100/114)/2 \text{ years} - 5\,000 \text{ actually paid} = 5\,000$

Working 4: deferred tax

Rent payable	Carrying Amount	Tax Base	Temporary Difference	Deferred Tax	
Balance: 1/1/Yr 1	0	0	0	0	
<i>Adjustment</i>	<i>Balancing: debit deferred tax, credit tax expense</i>			1 500	<i>Dr DT, Cr TE</i>
Balance: 31/12/Yr 1	(5 000)	0	5 000	1 500	Asset
<i>Adjustment</i>	<i>Balancing: debit tax expense, credit deferred tax</i>			(1 500)	<i>Cr DT, Dr TE</i>
Balance 31/12/Yr 2	0	0	0	0	

Both the rent payable and the deferred tax will reverse in the second year.

8. Summary



Chapter 14

Leases: Lessor Accounting

Reference: IAS 17

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1. Introduction

The principles explained in the chapter covering leases in the books of the lessees are essentially the same as those in the books of the lessor. The chief principle is substance over form. This means that where risks and rewards:

- *are transferred at the end of a lease, the agreement is really a sale agreement in which financing has been provided by the so-called lessor: a finance lease; or*
- *are not transferred at the end of the lease, the agreement is a true lease: an operating lease.*

The lease classification is therefore the same for a lessor as for a lessee.

2. Definitions

The definitions that are relevant to accounting for leases in the books of lessees are the same as those for lessors. Those definitions that apply to lessees are included in the chapter dealing with the accounting treatment of leases in the books of the lessee. This chapter includes only the extra definitions that apply only to the accounting treatment of leases in the books of the lessor.

- The ***interest rate implicit in the lease*** is the discount rate that, at the inception of the lease, causes the aggregate present value of (a) the minimum lease payments and (b) the unguaranteed residual value to be equal to the sum of (i) the fair value of the leased asset and (ii) any initial direct costs of the lessor.
- ***Minimum lease payments*** are the payments over the lease term that the lessee is or can be required to make, excluding contingent rent, costs for services and taxes to be paid by and reimbursed to the lessor, together with:
 - a) For a lessee, any amounts guaranteed by the lessee or by a party related to the lessee; or
 - b) For a lessor, any residual value guaranteed to the lessor by:
 - (i) The lessee;
 - (ii) A party related to the lessee; or
 - (iii) A third party unrelated to the lessor that is financially capable of discharging the obligations under the guarantee.
- ***Guaranteed residual value is***
 - a) For a lessee, that part of the residual value that is guaranteed by the lessee or by a party related to the lessee (the amount of the guarantee being the maximum amount that could, in any event, become payable); and
 - b) For a lessor, that part of the residual value that is guaranteed by the lessee or by a *third party unrelated to the lessor* that is financially capable of discharging the obligations under the guarantee.
- ***Unguaranteed residual value*** is that portion of the residual value of the leased asset, the realisation of which by the lessor is not assured or is guaranteed solely by a party related to the lessor.
- ***Initial direct costs*** are incremental costs that are directly attributable to negotiating and arranging a lease, except for such costs incurred by manufacturer or dealer lessors.
- ***Gross investment in the lease*** is the aggregate of:
 - a) The minimum lease payments receivable by the lessor under a finance lease; and
 - b) Any unguaranteed residual value accruing to the lessor.
- ***Net investment in the lease*** is the gross investment in the lease, discounted at the interest rate implicit in the lease.
- ***Unearned finance income*** is the difference between:
 - a) The gross investment in the lease; and
 - b) The net investment in the lease.

3. Finance leases (IAS 17.36 - .48)

3.1 Overview: recognition and measurement

Whereas a lessee *pays* instalments under a finance lease representing both the amount payable for the asset acquired and interest expense, a lessor *receives* instalments.

For lessors who are considered to be manufacturers or dealers, a sale is considered to have taken place when the lease is a finance lease. Therefore sales income and interest income would be recognised on such a lease. For other lessors, the income from the lease is simply recognised as interest income.

Measurement of all amounts is therefore affected by whether the lessor is considered to be a manufacturer or dealer or considered not to be a manufacturer or dealer.

The journal entries in the books of the lessor will therefore differ slightly depending on whether the lessor is a manufacturer or dealer or not. The journal entries relevant to each of these two categories of lessor (manufacturer/ dealer or non-manufacturer/ dealer) are covered in specific sections further on.

3.2 Disclosure (IAS 17.47)

Lessors involved with finance leases must disclose the following information (in addition to the disclosure requirements laid down in *IFRS 7: Financial Instruments: Disclosure*):

- a reconciliation between the gross investment in the lease and the present value of future minimum lease payments receivable at the end of the reporting period;
- an analysis of both the gross investment and the present value of future minimum lease payments receivable at the end of the reporting period into:
 - receivable within one year
 - receivable between one and five years
 - receivable later than five years;
- unearned finance income;
- unguaranteed residual values accruing to the benefit of the lessor;
- accumulated allowance for uncollectible minimum lease payments receivable;
- contingent rents recognised as income in the period;
- a general description of the lessor's material leasing arrangements.

The first three bullets listed above can be achieved by presenting a note such as the following:

Example Limited

Notes to the financial statements (extracts)

For the year ended 31 December 20X3

	20X3	20X2	20X1
	C	C	C
25. Finance lease debtor			
Gross investment in finance lease	xxx	xxx	xxx
Within 1 year	xxx	xxx	xxx
After 1 year but before 5 years	xxx	xxx	xxx
After 5 years	xxx	xxx	xxx
Unearned finance income	xxx	xxx	xxx
Present value of future minimum lease payments (capital):	xxx	xxx	xxx
Within 1 year	xxx	xxx	xxx
After 1 year but before 5 years	xxx	xxx	xxx
After 5 years	xxx	xxx	xxx

3.3 If the lessor is a manufacturer or dealer (IAS 17.38; and .44 - .46)

3.3.1 Recognition (IAS 17.36 - .38)

For lessors who are *manufacturers or dealers* offering finance leases (i.e. instead of a cash sale), the instalments received represent *two types of income*:

- sales income; and
- interest income.

3.3.2 Measurement (IAS 17.38 and .42 - .46)

If the lessor is a manufacturer or dealer:

- sales income:
is measured at the lower of (a) the fair value of the asset or (b) the present value of the minimum lease payments, computed using a market interest rate;
- interest income:
should be measured at (a) the *rate implicit* in the agreement, (or (b) the *market interest rate* if the present value of the minimum lease payments is less than the fair value of the asset sold), multiplied by the *cash sales price* of the asset sold;
- any costs incurred in securing or negotiating the lease:
are simply expensed at the time that the sales revenue is recognised.

3.3.3 Journals

Remember that if the lessor is a manufacturer or dealer, the finance lease is considered to be a sale. The basic journal entries will therefore be as follows:

Jnl 1.	Dr	Finance lease debtors: gross investment (instalments receivable)
	Cr	Finance lease debtors: unearned finance income
	Cr	Sales revenue
Jnl 2.	Dr	Cost of sales
	Cr	Inventory
Jnl 3.	Dr	Bank
	Cr	Finance lease debtors: gross investment (instalment received)
Jnl 4.	Dr	Finance lease debtors: unearned finance income
	Cr	Finance income (interest income earned)

Journal entry 1

At the commencement of the lease term, lessors shall record finance leases by recognising:

- an asset (finance lease debtor); and
- a corresponding income (sales income).

These items will be raised at amounts equal to the lower of the:

- fair value of the leased property; or
- the present value of the minimum lease payments.

The discount rate used to calculate the present value of the minimum lease payments is the market interest rate.

At the inception of the lease, the finance lease debtor (IAS 17 calls this the 'net investment in finance lease') will represent the amount that the debtor would have owed had he bought the leased asset for cash.

This debtors balance is separated into two accounts: a positive asset and a negative asset (much the same as an item of equipment is separated into cost and accumulated depreciation). The two accounts making up the finance lease debtor include the:

- gross portion: representing the total instalments that the debtor has agreed to pay
- less the unearned finance income portion, representing the interest that the debtor has not yet incurred, but will incur over the period of the lease.

The reason this account is split into these two accounts is for disclosure purposes. Notice that, on this first day of the transaction, only the sales income is owed to the lessor. This is because interest is recognised on a time basis and therefore no interest income could yet have been earned on the first day of the transaction.

Journal entry 2

Where the lessor is a manufacturer or dealer, *inventory* is sold in which case there is obviously a cost of sale that needs to be recognised too.

Journal entry 3

The lease payments received reduce the debtors account.

Journal entry 4

The debtors account is increased by the interest earned on the debtors balance during the period. The interest income is calculated by multiplying the balance owing by the debtor by the market interest rate.

Costs incurred by a manufacturer or dealer lessor in arranging a lease are not included in the definition of initial direct costs. They are therefore excluded from the debtors balance and are simply recognised as an expense when the sales and cost of sales are recognised.

Example 1: finance lease in the books of a manufacturer or dealer

Lemon Tree Limited is a dealer in machines, which it sells for cash or under a finance lease.

Lemon Tree Limited sold only one machine (which it purchased on 1 January 20X1 for C250 000), during 20X1. The machine was sold under a finance lease, but had a cash sales price of C320 000.

The terms of the lease are as follows:

- inception of lease: 1 January 20X1
- lease period: 5 years
- lease instalments: C100 000, annually in arrears, payable on 31 December of each year.

The market interest rate applicable is 16,9911%.

Required:

Prepare the journal entries and the disclosure for each of the years ended 31 December 20X1 to 20X5 in Lemon Tree Limited's books (the books of the lessor). Ignore tax

Solution to example 1: finance lease in books of a manufacturer or dealer

W1: Analysis of total amount receivable		C
Total future lease payments	100 000 x 5 years	500 000
Guaranteed residual value	Not applicable in this example	0
Gross investment		500 000
Selling price (net investment)	Given	320 000
Gross profit	320 000 – 250 000	70 000
Cost of asset	Given	250 000
Finance income	500 000 – 320 000	180 000

W2: Finance income measured using the effective interest rate method

Date	Instalment	Receipt in lieu of:		Debtors balance
		Interest	Capital	
1 Jan X1				320 000
31 Dec X1	100 000	54 372	45 628	274 372
31 Dec X2	100 000	46 618	53 382	220 990
31 Dec X3	100 000	37 549	62 451	158 539
31 Dec X4	100 000	26 938	73 062	85 477
31 Dec X5	100 000	14 523	85 477	0
	500 000	180 000	320 000	
	(a)	(b)	(c)	(d)

- (a) *Gross investment in finance lease: The total of this column represents the gross investment in the lease (the total amounts receivable from the lessee).*
- (b) *Unearned finance income: The total of this column represents the unearned finance income at the start of the lease and shows how this income is earned in each year.*
- (c) *The total of this column represents the sales price owed by the lessee at the start of the lease and shows how this capital sum is repaid by the lessee over the 5 years.*
- (d) *Net investment in finance lease: This column represents the actual balance owing by the lessee. This balance represents the present value of the future minimum lease payments (this balance equals the net investment in the lease, if the interest income earned is all received).*

1/1/20X1	Debit	Credit
Inventory	250 000	
Bank		250 000
<i>Purchase of inventory</i>		
Cost of sale	250 000	
Inventory		250 000
<i>Cost of machine sold under finance lease</i>		
Finance lease debtors – gross investment	W1	500 000
Finance lease debtors – unearned finance income	W1	180 000
Sale	W1	320 000
<i>Finance lease entered into, cash sales price of C320 000 and 5 years of arrear instalments of C100 000 each</i>		
31/12/20X1		
Bank	100 000	
Finance lease debtors – gross investment		100 000
<i>Instalment received under finance lease</i>		
Finance lease debtors – unearned finance income	54 372	
Finance income		54 372
<i>Interest income earned at 16.9911%, (effective interest rate table: W2)</i>		
31/12/20X2		
Bank	100 000	
Finance lease debtors – gross investment		100 000
<i>Instalment received under finance lease</i>		
Finance lease debtors – unearned finance income	46 618	
Finance income		46 618
<i>Interest income earned at 16.9911%, (effective interest rate table: W2)</i>		

31/12/20X3	Debit	Credit
Bank	100 000	
Finance lease debtors – gross investment		100 000
<i>Instalment received under finance lease</i>		
Finance lease debtors – unearned finance income	37 549	
Finance income		37 549
<i>Interest income earned at 16.9911%, (effective interest rate table: W2)</i>		
31/12/20X4		
Bank	100 000	
Finance lease debtors – gross investment		100 000
<i>Instalment received under finance lease</i>		
Finance lease debtors – unearned finance income	26 938	
Finance income		26 938
<i>Interest income earned at 16.9911%, (effective interest rate table: W2)</i>		
31/12/20X5		
Bank	100 000	
Finance lease debtors – gross investment		100 000
<i>Instalment received under finance lease</i>		
Finance lease debtors – unearned finance income	14 523	
Finance income		14 523
<i>Interest income earned at 16.9911%, (effective interest rate table: W2)</i>		

Lemon Tree Limited
Statement of financial position
As at 31 December 20X5

		20X5	20X4	20X3	20X2	20X1
	<i>Notes</i>	C	C	C	C	C
<i>Non-current assets</i>						
Lease debtors	25	0	0	85 477	158 539	220 990
<i>Current assets</i>						
Lease debtors	25	0	85 477	73 062	62 451	53 382

Lemon Tree Limited
Notes to the financial statements
For the year ended 31 December 20X5

		20X5	20X4	20X3	20X2	20X1
25. Finance lease debtor		C	C	C	C	C
Gross investment in finance lease		0	100 000	200 000	300 000	400 000
• Within 1 year	W2: (a)	0	100 000	100 000	100 000	100 000
• After 1 year but before 5 years	W2: (a)	0	0	100 000	200 000	300 000
• After 5 years	W2: (a)	0	0	0	0	0
Unearned finance income	W2: (b)	(0)	(14 523)	(41 461)	(79 010)	(125 628)
		(W5)	(W4)	(W3)	(W2)	(W1)
Present value of future minimum lease payments (capital):		0	85 477	158 539	220 990	274 372
Within 1 year	W2: (c)	0	85 477	73 062	62 451	53 382
After 1 year but before 5 years	W2: (c)	0	0	85 477	158 539	220 990
After 5 years	W2: (c)	0	0	0	0	0

(W1) 180 000 – 54 372 (W2) 125 628 – 46 618 (W3) 79 010 – 37 549

(W4) 41 461 – 26 938 (W5) 14 523 – 14 523

3.4 If the lessor is not a manufacturer or a dealer (IAS 17.36 - .41A)

3.4.1 Recognition (IAS 17.36 - .38)

For lessors who are *neither manufacturers nor dealers*, the instalments received represent:

- the cost of the asset disposed of (i.e. finance leased); and
- finance income.

Therefore, for lessors who are neither manufacturers nor dealers, only *one type of income* is recognised, being interest income.

3.4.2 Measurement (IAS 17.36 - .41A)

If the lessor is neither a manufacturer nor a dealer:

- interest income:
should be measured at the *rate implicit* in the agreement multiplied by the *cost of the asset* disposed of under the finance lease;
- any costs incurred in securing or negotiating the lease (initial direct costs):
are included in the calculation of the implicit interest rate (thus automatically reducing the interest income recognised over the period of the lease).

3.4.3 Journals

If the lessor is not a manufacturer or dealer, the basic journal entries will be as follows:

Jnl 1.	Dr	Finance lease debtors: gross investment (instalments receivable)
	Cr	Finance lease debtors: unearned finance income
	Cr	Asset disposed of under the finance lease (cost or carrying amount)
Jnl 2.	Dr	Bank
	Cr	Finance lease debtors: gross investment (instalment received)
Jnl 3.	Dr	Finance lease debtors: unearned finance income
	Cr	Finance income (finance income earned)

Journal entry 1

At the commencement of the lease term, lessors shall record finance leases by recognising an asset (finance lease debtor) and a corresponding asset disposal. These items will be raised at the present value of the net investment in the lease, being defined as:

- the minimum lease payments owing to the lessor; plus
- any unguaranteed residual that may accrue to the lessor.

The discount rate used to calculate the present value of the minimum lease payments is the interest rate implicit in the lease.

At the inception of the lease, the finance lease debtor (or otherwise called 'net investment in finance lease') will represent the capital portion owing by the debtor. This is separated into two accounts: a positive asset and a negative asset (much the same as an item of equipment is separated into cost and accumulated depreciation). The two accounts making up the net investment include the:

- gross investment: representing the total instalments that the debtor has agreed to pay
- less the unearned finance income portion, representing the interest that the debtor has not yet incurred, but will incur over the period of the lease.

The reason this account is split into these two accounts is purely for disclosure purposes. Notice that the lessor is not owed any interest income on the first day of the transaction.

Journal entry 2

The lease payments received reduce the debtors account.

Journal entry 3

The debtors account is increased by the interest incurred by the debtor on the balance he owed to the lessor during the period. The interest income is calculated by multiplying the balance owing by the debtor by the appropriate interest rate.

Costs incurred by a lessor in arranging a lease (e.g. legal costs) where the lessor is neither a manufacturer nor a dealer are included in the definition of initial direct costs. They are therefore included in the calculation of the implicit interest rate and thus automatically reduce both the debtors balance and the income recognised over the period. There is therefore no need to add these costs separately.

Example 2: finance lease in the books of a lessor who is not a manufacturer or dealer

Orange Tree Limited is neither a dealer nor a manufacturer. Orange Tree Limited entered into an agreement under which Orange Tree Limited leased a machine to Beanstalk Limited.

Orange Tree Limited purchased this machine on 1 January 20X1 at a cost of C210 000. The lease is a finance lease, the terms of which are as follows:

The terms of the lease are as follows:

- inception of lease: 1 January 20X1
- lease period: 3 years
- lease instalments: C90 000, annually in arrears, payable on 31 December of each year
- guaranteed residual value: C10 000, payable on 31 December 20X3.

The interest rate implicit in the agreement is 15.5819%.

Required:

Prepare the journal entries and disclosure for each of the years ended 31 December 20X1 to 20X3 in Orange Tree Limited's books (the books of the lessor).

Ignore tax

Solution to example 2: finance lease in books of a lessor who is not a manufacturer or dealer

W1: Analysis of total amount receivable			C
Total future lease payments	$90\,000 \times 3 \text{ years}$		270 000
Guaranteed residual value	Given		10 000
Gross investment			280 000
Cost of asset	Given		210 000
Finance income	$280\,000 - 210\,000$		70 000

W2: Finance income measured using the effective interest rate method

Date	Instalment	Receipt in lieu of:		Debtors balance
		Interest	Capital	
1 Jan X1				210 000
31 Dec X1	90 000	32 722	57 278	152 722
31 Dec X2	90 000	23 797	66 203	86 519
31 Dec X3	100 000	13 481	86 519	0
	280 000	70 000	210 000	
	(a)	(b)	(c)	(d)

- (a) *Gross Investment in Finance Lease: the total of this column represents the gross investment in the lease (the total amounts receivable from the lessee)*
- (b) *Unearned Finance Income: the total of this column represents the unearned finance income at the start of the lease and shows how this income is then earned each year*
- (c) *The total of this column represents the sales price owed by the lessee at the start of the lease and shows how this capital sum is repaid by the lessee*
- (d) *Net Investment in Finance Lease: this column represents the actual balance owing by the lessee. This balance represents the present value of the future minimum lease payments (this balance equals the net investment in the lease, if the interest income earned is all received).*

Journals		Debit	Credit
1/1/20X1			
Machine	Given	210 000	
Bank			210 000
<i>Purchase of machine</i>			
Finance lease debtors – gross investment	W2 (a)	280 000	
Finance lease debtors – unearned finance income	W2 (b)		70 000
Machine	W3 (c)		210 000
<i>Finance lease entered into over machine costing C210 000; total receivable: C280 000 (90 000 x 3 years + 10 000 residual value)</i>			
31/12/20X1			
Bank		90 000	
Finance lease debtors – gross investment			90 000
<i>Finance lease instalment received</i>			
Finance lease debtors – unearned finance income		32 722	
Finance income			32 722
<i>Interest income earned, (effective interest table, W2)</i>			
31/12/20X2			
Bank		90 000	
Finance lease debtors – gross investment			90 000
<i>Finance lease instalment received</i>			
Finance lease debtors – unearned finance income		23 797	
Finance income			23 797
<i>Interest income earned, (effective interest table, W2)</i>			
31/12/20X3			
Bank	90 000 + 10 000	100 000	
Finance lease debtors – gross investment			100 000
<i>Finance lease instalment received and guaranteed residual</i>			
Finance lease debtors – unearned finance income		13 481	
Finance income			13 481
<i>Interest income earned, (effective interest table, W2)</i>			

Orange Tree Limited

Statement of financial position as at 31 December

20X3

		20X3	20X2	20X1
	Notes	C	C	C
<i>Non-current assets</i>				
Finance lease debtors	16	0	0	86 519
<i>Current assets</i>				
Finance lease debtors	16	0	86 519	66 203

Orange Tree Limited
Notes to the financial statements
For the year ended 31 December 20X3

		20X3	20X2	20X1
		C	C	C
16. Finance lease debtor				
Gross investment in finance lease		0	100 000	190 000
• Within 1 year	W2: (a)	0	100 000	90 000
• After 1 year but before 5 years	W2: (a)	0	0	100 000
• After 5 years	W2: (a)	0	0	0
Unearned finance income	W2: (b)	(0) (3)	(13 481) (2)	(37 278) (1)
Present value of future minimum lease payments		0	86 519	152 722
• Within 1 year	W2: (c)	0	86 519	66 203
• After 1 year but before 5 years	W2: (c)	0	0	86 519
• After 5 years	W2: (c)	0	0	0
(1) 70 000 – 32 722	(2) 37 278 – 23 797	(3) 13 481 – 13 481		

3.5 Instalments receivable in advance instead of in arrears

Instalments may be receivable in *advance* rather than in *arrears*. This needs to be taken into consideration when *calculating* the interest income using our effective interest rate table. Obviously the very first instalment will reduce the capital balance owing (i.e. it will only reduce the capital balance owing by the lessee and will not include a repayment of interest).

If the instalments are payable at the end of a period (arrears), the balance owing by the debtor at the end of that period (i.e. the net investment in finance lease) will simply be the portion of the original capital sum that he still owes to the lessor (i.e. the balance of the cash sum that he would have paid had he bought the asset instead of leased it under a finance lease): the debtor's balance will not include any interest.

If, however, the instalments are receivable during a period (advance), the balance owing by the debtor at the end of the period will include not only the remaining capital sum still owing by the debtor (present value of future minimum lease payments) but also the interest owing between the date of the last instalment made and the end of the period.

Depending on whether the instalments are payable in advance or in arrears will also affect the *disclosure* of the finance lease debtors in the notes to the financial statements, since the gross investment in the finance lease must be reconciled to the present value of the future minimum lease payments (capital outstanding) – which is now no longer equal to the balance on the finance lease debtors account (net investment in the finance lease).

Example 3: finance lease instalments receivable in advance

Pear Tree Limited is neither a dealer nor a manufacturer. Pear Tree Limited entered into an agreement in which Pear Tree leased a machine to Giant Limited (cost C210 000). The lease is a finance lease, the terms of which are as follows:

- inception of lease: 1 January 20X1
- lease period: 3 years
- lease instalments: C80 000, annually in advance, payable on 1 January of each year
- guaranteed residual value: C10 000, payable on 31 December 20X3;
- interest rate implicit in the agreement: 18.7927%.

Required:

Prepare the journal entries and disclosure for each of the years ended 31 December 20X1 to 20X3 in Pear Tree Limited's books (the books of the lessor). Ignore tax

Solution to example 3: finance lease instalments receivable in advance

W1: Analysis of total amount receivable		C
Total future lease payments	$80\,000 \times 3 \text{ years}$	240 000
Guaranteed residual value	<i>Given</i>	10 000
Gross investment		250 000
Cost of asset	<i>Given</i>	210 000
Finance income	$250\,000 - 210\,000$	40 000

W2: Finance income using effective interest rate method

Date	Instalment A	Interest B	Receipt in lieu of: Capital C	Capital Balance 210 000 – C	Debtors Balance 210 000 – A + B
01 January X1				210 000	210 000
01 January X1	80 000	0	80 000	130 000	130 000
31 December 20X1		24 431		130 000	154 431
01 January X2	80 000		55 569	74 431	74 431
31 December 20X2		13 988		74 431	88 419
01 January X3	80 000		66 012	8 419	8 419
31 December 20X3		1 581		8 419	10 000
31 December 20X3	10 000		8 419	0	0
	250 000	40 000	210 000		
	(a)	(b)	(c)	(d)	(e)

- (a) *Gross investment in finance lease: The total of this column represents the gross investment in the lease (the total amounts receivable from the lessee)*
- (b) *Unearned finance income: The total of this column represents the unearned finance income at the start of the lease and shows how this income is then earned each year*
- (c) *The total of this column represents the selling price owed by the lessee at the start of the lease and shows how this capital sum is repaid by the lessee*
- (d) *Present value of minimum lease payments (capital balance): This column represents the capital balance receivable from the lessee.*
- (e) *Net investment in finance lease: This column represents the total balance receivable from the lessee. It includes both the capital owing and the interest owing for the year, which in this example, will be paid as part of the next instalment. The net investment is no longer equal to the present value of future minimum payments (capital sum receivable) since the net investment includes interest income that is receivable.*

Journals	Debit	Credit
1/1/20X1		
Machine	210 000	
Bank		210 000
<i>Purchase of machine</i>		
Finance lease debtors – gross investment	250 000	
Finance lease debtors – unearned finance income		40 000
Machine		210 000
<i>Finance lease entered into over machine costing C210 000; total receivable: C250 000 (80 000 x 3 years + 10 000 residual value)</i>		
Bank	80 000	
Finance lease debtors – gross investment		80 000
<i>Finance lease instalment received</i>		

31/12/20X1	Debit	Credit
Finance lease debtors – unearned finance income	24 431	
Finance income		24 431
<i>Interest income earned, (effective interest table, W2)</i>		
1/1/20X2		
Bank	80 000	
Finance lease debtors – gross investment		80 000
<i>Finance lease instalment received</i>		
31/12/20X2		
Finance lease debtors – unearned finance income	13 988	
Finance income		13 988
<i>Interest income earned, (effective interest table, W2)</i>		
1/1/20X3		
Bank	80 000	
Finance lease debtors – gross investment		80 000
<i>Finance lease instalment received</i>		
31/12/20X3		
Finance lease debtors – unearned finance income	1 581	
Finance income		1 581
<i>Interest income earned, (effective interest table, W2)</i>		
Bank	10 000	
Finance lease debtors – gross investment		10 000
<i>Finance lease instalment received</i>		

Pear Tree Limited**Notes to the financial statements****For the year ended 31 December 20X3**

	20X3	20X2	20X1
	C	C	C
7. Finance lease debtors			
Gross investment in finance lease	0	90 000	170 000
• Within 1 year W2 (a)	0	90 000	80 000
• After 1 year but before 5 years W2 (a)	0	0	90 000 (1)
• After 5 years W2 (a)	0	0	0
Unearned finance income W2 (b)	0 (4)	(1 581) (3)	(15 569) (2)
Net investment in finance lease (debtors balance)	0	88 419	154 431

Represented by:

Finance income earned but receivable W2 (b)	0	13 988	24 431
Present value of future minimum payments (i.e. capital)	0	74 431	130 000
• Within 1 year W2 (c)	0	74 431 (5)	55 569
• After 1 year but before 5 years W2 (c)	0	0	74 431 (5)
• After 5 years W2 (c)	0	0	0

(1) W2 (a): 80 000 + 10 000

(2) W2 (b): 40 000 – 24 431

(3) W2 (b): 15 569 – 13 988

(4) W2 (b): 1 581 – 1 581

(5) W2 (c): 66 012 + 8 419

Pear Tree Limited
Statement of financial position
As at 31 December 20X3

		20X3	20X2	20X1
		C	C	C
<i>Non-current assets</i>	<i>Notes</i>			
Finance lease debtors: capital receivable	7	0	0	74 431
<i>Current assets</i>				
Finance lease debtors: capital receivable	7	0	74 431	55 569
Finance lease debtors: interest receivable	7		13 988	24 431

3.6 Instalments receivable during the year

Instalments may be receivable during the year rather than on either the first or last day of the year. The best way to approach this is to, when drawing up the effective interest rate table, plot all the payments on the dates on which they fall due. The interest that belongs to the year on which you are reporting is then simply apportioned in a separate calculation.

Example 4: finance lease instalments receivable during the period

Avocado Tree Limited is a dealer in machines.

Avocado Tree Limited entered into an agreement under which Avocado Tree Limited leased a machine to Giant Limited.

This machine was purchased by Avocado Tree Limited on 1 July 20X1 at a cost of C100 000.

The cash sales price of this machine is C210 000.

The lease is a finance lease, the terms of which are as follows:

- inception of lease: 1 July 20X1
- lease period: 5 years
- lease instalments: C60 000, annually in advance, payable on 1 July of each year
- interest rate implicit in the agreement: 21.8623%.

Required:

Prepare the journal entries and disclosure for each of the years ended 31 December 20X1 to 20X5 in Avocado Tree Limited's books (the books of the lessor).

Ignore tax

Solution to example 4: finance lease instalments receivable during the period

W1: Analysis of total amount receivable		C
Total future lease payments	<i>60 000 x 5 years</i>	300 000
Guaranteed residual value	<i>Not applicable in this example</i>	0
Gross investment		300 000
Selling price (net investment)	<i>Given</i>	210 000
Gross profit	<i>210 000 – 100 000</i>	110 000
Cost of asset	<i>Given</i>	100 000
Finance income	<i>300 000 – 210 000</i>	90 000

W2: Finance income using effective interest rate method					
Date	Instalment	Receipt in lieu of:		Capital Balance	Debtors Balance
	A	Interest B	Capital C	210 000 – C	210 000 – A + B
1 July 20X1					210 000
1 July 20X1	60 000	0	60 000	150 000	150 000
1 July 20X2	60 000	32 793	27 207	122 793	122 793
1 July 20X3	60 000	26 845	33 155	89 638	89 638
1 July 20X4	60 000	19 598	40 402	49 236	49 236
1 July 20X5	60 000	10 764	49 236	0	0
	300 000	90 000	210 000		
	(a)	(b)	(c)	(d)	(e)

The following **alternative table** has been adapted to show the balances at year-end:

W3: Finance income using effective interest rate method						
Date		Instalment	Receipt in lieu of:		Capital Balance	Debtors Balance
		A	Interest B	Capital C	210 000 – C	210 000 – A + B
1 July 20X1						210 000
1 July 20X1		60 000		60 000	150 000	150 000
31 Dec 20X1	32 793 X 6/12		16 397		150 000	166 397
1 July 20X2	32 793 X 6/12	60 000	16 396	27 207	122 793	122 793
31 Dec 20X2	26 845 X 6/12		13 423		122 793	136 216
1 July 20X3	26 845 X 6/12	60 000	13 422	33 155	89 638	89 638
31 Dec 20X3	19 598 X 6/12		9 799		89 638	99 437
1 July 20X4	19 598 X 6/12	60 000	9 799	40 402	49 236	49 236
31 Dec 20X4	10 764 X 6/12		5 382		49 236	54 618
1 July 20X5	10 764 X 6/12	60 000	5 382	49 236	0	0
		300 000	90 000	210 000		
		(a)	(b)	(c)	(d)	(e)

- (a) *Gross investment in finance lease: The total of this column represents the gross investment in the lease (the total amounts receivable from the lessee)*
- (b) *Unearned finance income: The total of this column represents the unearned finance income at the start of the lease and shows how this income is then earned each year*
- (c) *The total of this column represents the selling price owed by the lessee at the start of the lease and shows how this capital sum is repaid by the lessee*
- (d) *Present value of future minimum lease payments: This column represents the capital balance receivable from the lessee.*
- (e) *Net investment in finance lease: This column represents the total balance receivable from the lessee. It includes both the capital owing and the interest owing for the year, which in this example, will be paid as part of the next instalment.*

1/7/20X1		Debit	Credit
Inventory		100 000	
Bank			100 000
<i>Purchase of inventory</i>			
Cost of sale		100 000	
Inventory			100 000
<i>Inventory sold under finance lease</i>			

		Debit	Credit
1/7/20X1 continued ...			
Finance lease debtors – gross investment	W1	300 000	
Finance lease debtors – unearned finance income	W1		90 000
Sale	W1		210 000
<i>Sale of machine under finance lease</i>			
Bank		60 000	
Finance lease debtors – gross investment			60 000
<i>Finance lease instalment received</i>			
31/12/20X1			
Finance lease debtors – unearned finance income		16 397	
Finance income			16 397
<i>Finance income earned, effective interest rate table</i>			
<i>W2: 32 793 x 6/12 or W3: 16 397</i>			
1/7/20X2			
Bank		60 000	
Finance lease debtors – gross investment			60 000
<i>Finance lease instalment received</i>			
31/12/20X2			
Finance lease debtors – unearned finance income		29 819	
Finance income			29 819
<i>Finance income earned, effective interest rate table:</i>			
<i>W2: 32 793 x 6/12 + 26 845 x 6/12; or W3: 16 396 + 13 423</i>			
1/7/20X3			
Bank		60 000	
Finance lease debtors – gross investment			60 000
<i>Finance lease instalment received</i>			
31/12/20X3			
Finance lease debtors – unearned finance income		23 221	
Finance income			23 221
<i>Finance income earned, effective interest rate table</i>			
<i>W2: 26 845 x 6/12 + 19 597 x 6/12; or W3: 13 422 + 9 799</i>			
1/7/20X4			
Bank		60 000	
Finance lease debtors – gross investment			60 000
<i>Finance lease instalment received</i>			
31/12/20X4			
Finance lease debtors – unearned finance income		15 181	
Finance income			15 181
<i>Finance income earned, effective interest rate table</i>			
<i>W2: 19 597 x 6/12 + 10 764 x 6/12; or W3: 9 799 + 5 382</i>			
1/7/20X5			
Bank		60 000	
Finance lease debtors – gross investment			60 000
<i>Finance lease instalment received</i>			
31/12/20X5			
Finance lease debtors – unearned finance income		5 382	
Finance income			5 382
<i>Finance income earned, effective interest rate table</i>			
<i>W2: 10 764 x 6/12; or W3: 5 382</i>			

Avocado Tree Limited
Statement of financial position
As at 31 December 20X5

		20X5	20X4	20X3	20X2	20X1
<i>Non-current assets</i>	C	C	C	C	C	C
Finance lease debtors: capital	15	0	0	49 236	89 639	122 793
<i>Current assets</i>						
Finance lease debtors: capital	15	0	49 236	40 402	33 155	27 207
Finance lease debtors: interest	15	0	5 382	9 799	13 423	16 397

Avocado Tree Limited
Notes to the financial statements
For the year ended 31 December 20X5

		20X5	20X4	20X3	20X2	20X1
15. Finance lease debtor		C	C	C	C	C
Gross investment in finance lease		0	60 000	120 000	180 000	240 000
Within 1 year	W2/3 (a)	0	60 000	60 000	60 000	60 000
After 1 year but before 5 years	W2/3 (a)	0	0	60 000	120 000	180 000
After 5 years	W2/3 (a)	0	0	0	0	0
Unearned finance income	W2/3 (b)	(0)	(5 382)	(20 563)	(43 784)	(73 603)
		(5)	(4)	(3)	(2)	(1)
Net investment in finance lease	W3 (e)	0	54 618	99 437	136 216	166 397
<i>Represented by:</i>						
Finance income earned but receivable		0	5 382	9 799	13 423	16 397
W2/3 (b)						
Present value of future minimum lease payments: capital repayable		0	49 236	89 638	122 793	150 000
Within 1 year	W2/3 (d)	0	49 236	40 402	33 155	27 207
Due after 1 year but before 5 years	W2/3 (d)	0	0	49 236	89 639	122 793
After 5 years	W2/3 (d)	0	0	0	0	0
(1) 90 000 – 16 397 (Jnl/ W3)	(2) 73 603 – 29 819 (Jnl/ W3)	(3) 43 784 – 23 221 (Jnl/ W3)				
(4) 20 563 – 15 181 (Jnl/ W3)	(5) 5 382 – 5 382 (Jnl/ W3)					

3.7 Tax implications

Finance leases will generally have deferred tax implications since most tax authorities do not differentiate between finance leases and operating leases. Rather, most tax authorities treat all leases as operating leases for income tax purposes. The tax authorities, in not recognising the substance of the finance lease (i.e. the 'sale'), hold the view that the asset belongs to the lessor and not the lessee. Therefore, the lessor is taxed on the lease instalments received less an annual deduction based on the leased asset's cost (e.g. a capital allowance of 20% of the cost of the leased asset per year). This creates a temporary difference because the lessor:

- expenses the cost of the asset in full against the income from the lease (not deducted piecemeal as is the case with capital allowances based on the cost of the leased asset); and
- recognises the instalments as sale income (if a manufacturer or dealer) and interest income using an effective interest rate table (whereas the tax authorities tax the instalments received on a cash basis).

To complicate matters further, some tax authorities do not allow the capital allowances to exceed the taxable lease income in any one period. This issue is best illustrated by an example.

Example 5: deferred tax on a finance lease

The facts from example 3 apply, repeated here for your convenience:

Pear Tree Limited is neither a dealer nor a manufacturer. Pear Tree Limited entered into an agreement in which Pear Tree leased a machine to Giant Limited (cost C210 000 on 1 January 20X3). The lease is a finance lease, the terms of which are as follows:

- inception of lease: 1 January 20X1
- lease period: 3 years
- lease instalments: C80 000, annually in advance, payable on 1 January of each year
- guaranteed residual value: C10 000, payable on 31 December 20X3;
- interest rate implicit in the agreement: 18.7927%.

Assume further that the tax authorities:

- tax lease instalments when received;
- allow the deduction of the cost of the asset over three years (capital allowance);
- the normal income tax rate is 30%.

This is the only transaction in the years ended 31 December 20X1, 20X2 and 20X3.

Required:

Prepare the current tax and deferred tax journal entry for each of the years affected. Ignore VAT.

Solution to example 5: deferred tax on a finance lease

Comment: this example is based on the same basic facts as given in example 3. The effective interest rate table for example 3 has been repeated here for your convenience. Please see example 3 for any other calculation and/ or for the journals.

W1: Finance income using effective interest rate method

Date	Instalment A	Receipt in lieu of: Interest B	Capital C	Capital Balance 210 000 – C	Debtors Balance 210 000 – A + B
01 January X1				210 000	210 000
01 January X1	80 000	0	80 000	130 000	130 000
31 December 20X1		24 431		130 000	154 431
01 January X2	80 000		55 569	74 431	74 431
31 December 20X2		13 988		74 431	88 419
01 January X3	80 000		66 012	8 419	8 419
31 December 20X3		1 581		8 419	10 000
31 December 20X3	10 000		8 419	0	0
	250 000	40 000	210 000		

W2: Deferred tax on the machine		Carrying Amount	Tax base	Temporary difference	Deferred taxation	
Opening balance	20X1	0	0	0	0	
Purchase		210 000	210 000			
Finance lease disposal		(210 000)	0			
Capital allowance		0	(70 000)			
Closing balance	20X1	0	140 000	140 000	42 000	A
Capital allowance		0	(70 000)			
Closing balance	20X2	0	70 000	70 000	21 000	A
Capital allowance		0	(70 000)			
Closing balance	20X3	0	0	0	0	

W3: Deferred tax on the finance lease debtor		Carrying amount	Tax base	Temporary difference	Deferred taxation
Opening balance	20X1	0	0	0	0
New lease		210 000	0		
Movement (W1)		(55 569)	0		
Closing balance (W1)	20X1	154 431	0	(154 431)	(46 329) L
Movement (W1)		(66 012)	0		
Closing balance	20X2	88 419	0	(88 419)	(26 526) L
Movement (W1)		(88 419)	0		
Closing balance (W1)	20X3	0	0	0	0

W4: Deferred tax summary		Machine (W2)	Finance lease Debtor (W3)	Total
Opening balance	20X1	0	0	0
Adjustment	20X1			(4 329) cr DT; dr TE
Closing balance	20X1	42 000	(46 329)	(4 329) L
Adjustment	20X2			(1 197) cr DT; dr TE
Closing balance	20X2	21 000	(26 526)	(5 526) L
Adjustment	20X3			5 526 dr DT; cr TE
Closing balance	20X3	0	0	0

W5: Current tax summary	20X3 C	20X2 C	20X1 C	Total C
Profit before tax:				
- Finance income earned	1 581	13 988	24 431	40 000
Adjust for permanent differences	0	0	0	0
	1 581	13 988	24 431	40 000
Adjust for temporary differences				
- less finance income	(1 581)	(13 988)	(24 431)	(40 000)
- add lease instalment received	90 000	80 000	80 000	250 000
- less capital allowance	(70 000)	(70 000)	(70 000)	(210 000)
Taxable income	20 000	10 000	10 000	40 000
Current normal tax at 30%	6 000	3 000	3 000	12 000

Journals: 31/12/20X1

	Debit	Credit
Tax expense: normal tax	3 000	
Current tax payable: normal tax		3 000
<i>Current tax charge (W5)</i>		

Tax expense: normal tax	4 329	
Deferred tax: normal tax		4 329
<i>Deferred tax adjustment (W4)</i>		

31/12/20X2

Tax expense: normal tax	3 000	
Current tax payable: normal tax		3 000
<i>Current tax charge (W5)</i>		

Tax expense: normal tax	1 197	
Deferred tax: normal tax		1 197
<i>Deferred tax adjustment (W4)</i>		

31/12/20X3	Debit	Credit
Tax expense: normal tax	6 000	
Current tax payable: normal tax		6 000
<i>Current tax charge (W5)</i>		
Deferred tax: normal tax	5 526	
Tax expense: normal tax		5 526
<i>Deferred tax adjustment (W4)</i>		

4. Operating leases (IAS 17.49 - .57)

4.1 Recognition (IAS 17.49 - .51)

An operating lease is a 'pure lease' since ownership of the asset is not transferred at any stage during the lease. The lessor therefore keeps his asset in his statement of financial position (and presents his asset according to its nature, as he would normally, e.g. as property, plant and equipment), and recognises:

- costs incurred on the lease as expenses over the period (e.g. depreciation on the leased asset where the leased asset is a depreciable asset); and
- lease instalments as income over the period of the lease.

4.2 Measurement (IAS 17.50 - .55)

The total lease income receivable should be recognised as income evenly over the period of the lease. Measurement of the income should be on the straight-line basis over the period of the lease (irrespective of the actual instalments receivable in each period). Only if there is a systematic basis that more accurately reflects the pattern in which the asset is used, should a basis other than the straight-line basis be used.

Costs (such as depreciation and impairment losses) are measured in terms of the relevant standard (e.g. IAS 16 and IAS 36 respectively).

Costs that are considered to be initial direct costs incurred in connection with the negotiating and arranging the operating lease should be added to the cost of the leased asset and thereby be expensed as the leased asset is expensed (e.g. through depreciation).

Example 6: operating lease – recognition and measurement

Banana Tree Limited entered into an operating lease with Frond Limited on 1 January 20X1. Frond Limited agreed to lease a plant from Banana Tree Limited (which had cost Banana Tree Limited C300 000 on 1 January 20X1) on the following terms:

- inception of lease: 1 January 20X1
- lease period: 3 years
- lease instalments, payable as follows:
 - 31 December 20X1: C100 000
 - 31 December 20X2: C110 000
 - 31 December 20X3: C150 000
- Frond Limited may purchase the leased asset at its market price on 31 December 20X3
- Unguaranteed residual value: C30 000.

Frond Limited purchased the plant on 31 December 20X3 at its market price of C30 000.

Banana Tree Limited depreciates its plant over three years on the straight-line basis.

This is the only transaction in the years ended 31 December 20X1, 20X2 and 20X3.

Required:

Prepare the journal entries for each of the years affected. Ignore tax.

Solution to example 6: operating lease – recognition and measurement

		Debit	Credit
1/1/20X1			
Plant: cost	<i>Given</i>	300 000	
Bank			300 000
<i>Purchase of plant for C300 000</i>			
31/12/20X1			
Depreciation – plant	$(C300\,000 - 30\,000) / 3\text{ years}$	90 000	
Plant: accumulated depreciation			90 000
<i>Depreciation of plant</i>			
Bank	<i>Given</i>	100 000	
Lease income receivable		20 000	
Lease income	$(100\,000 + 110\,000 + 150\,000) / 3\text{ years}$		120 000
<i>Lease income received (average rental income over three years)</i>			
31/12/20X2			
Depreciation – plant	$(C300\,000 - 30\,000) / 3\text{ years}$	90 000	
Plant: accumulated depreciation			90 000
<i>Depreciation of plant:</i>			
Bank	<i>Given</i>	110 000	
Lease income receivable		10 000	
Lease income	$(80\,000 + 130\,000 + 150\,000) / 3\text{ years}$		120 000
<i>Lease income received (average rental income over three years)</i>			
31/12/20X3			
Depreciation – plant	$(C300\,000 - 30\,000) / 3\text{ years}$	90 000	
Plant: accumulated depreciation			90 000
<i>Depreciation of plant:</i>			
Bank	<i>Given</i>	150 000	
Lease income receivable			30 000
Lease income	$(80\,000 + 130\,000 + 150\,000) / 3\text{ years}$		120 000
<i>Lease income received (average rental income over three years)</i>			
Plant: accumulated depreciation	$90\,000 \times 3\text{ years}$	270 000	
Plant: cost	<i>Given</i>		300 000
Bank	<i>Given</i>	30 000	
<i>Sale of plant at market value (also equal to residual value)</i>			

4.3 Tax implications

The tax consequences of operating leases are relatively simple to understand. The tax authorities generally:

- charge tax on the lease instalments as they are received;
- allow a deduction of the cost of the leased asset over a period of time (e.g. an annual capital allowance of 20% on the cost of the asset).

The accounting treatment involves:

- recognising income evenly over the lease period (generally on the straight-line basis);
- recognising expenses evenly over the lease period (although the rate of depreciation expense may differ from the rate of the capital allowance granted by the tax authorities).

Deferred tax consequences may therefore arise if, for example:

- the taxable lease instalment received differs from the lease income recognised;
- the costs are allowed as a tax deduction at a faster or slower rate than they are recognised as expenses;

- the initial direct costs are allowed as a tax deduction in full in the year in which they are paid while being capitalised and recognised as expenses over the lease period from an accounting profit perspective.

Example 7: operating lease – tax implications

The facts from example 8 apply, repeated here for your convenience:

FronD Limited agreed to lease a plant from Banana Tree Limited (the plant cost Banana Tree Limited C300 000 on 1 January 20X1) on the following terms:

- inception of lease: 1 January 20X1
- lease period: 3 years
- lease instalments, payable as follows:
 - 31 December 20X1: C100 000
 - 31 December 20X2: C110 000
 - 31 December 20X3: C150 000
- FronD Limited may purchase the leased asset at its market price on 31 December 20X3
- Unguaranteed residual value: C30 000.

FronD Limited decided to purchase the plant on 31 December 20X3 (the market price was C30 000 on this date).

Banana Tree Limited depreciates its plant over three years on the straight-line basis.

This is the only transaction in the years ended 31 December 20X1, 20X2 and 20X3.

The tax authorities:

- charge tax on the lease instalments that are received;
- allow the deduction of the cost of the leased asset over three years;
- the normal income tax rate is 30%.

Required:

Prepare the related tax journals for each of the years 20X1, 20X2 and 20X3. Ignore VAT.

Solution to example 7: operating lease – tax implications

31/12/20X1

No current tax journal because there is no current tax charge (W4)

	Debit	Credit
Tax expense: normal tax	9 000	
Deferred tax: normal tax		9 000

Deferred tax adjustment (W3)

Check: tax expense in 20X1: be C9 000 (CT: 0 + DT: 9 000 = 30% x accounting profit: 30 000)

31/12/20X2

Tax expense: normal tax	3 000	
Current tax payable: normal tax		3 000

Current tax charge (W4)

Tax expense: normal tax	6 000	
Deferred tax: normal tax		6 000

Deferred tax adjustment (W3)

Check: tax expense in 20X2: C9 000 (CT: 3 000 + DT: 6 000 = 30% x accounting profit: 30 000)

31/12/20X3

Tax expense: normal tax	24 000	
Current tax payable: normal tax		24 000
<i>No current tax journal because there is no current tax charge (W4)</i>		

Deferred tax: normal tax	15 000	
Tax expense: normal tax		15 000
<i>Deferred tax adjustment (W3)</i>		

Check: tax expense in 20X3: C9 000 (CT: 24 000 – DT: 15 000 = 30% x accounting profit: 30 000)

W1: Deferred tax on the plant		Carrying amount	Tax base	Temporary difference	Deferred taxation
Opening balance	20X1	0	0	0	0
Purchase		300 000	300 000		
Depreciation and Capital allowance (cost / 3years)		(90 000)	(100 000)		
Closing balance	20X1	210 000	200 000	(10 000)	(3 000) L
Depreciation and Capital allowance (cost / 3years)		(90 000)	(100 000)		
Closing balance	20X2	120 000	100 000	(20 000)	(6 000) L
Depreciation and Capital allowance (cost / 3years)		(90 000)	(100 000)		
Carrying amount of asset that is sold (300 000 – 90 000x 3yrs)		(30 000)			
Closing balance	20X3	0	0	0	0

W2: Deferred tax on the operating lease accrual		Carrying amount	Tax base	Temporary difference	Deferred taxation
Opening balance	20X1	0	0	0	0
Movement		20 000	0		
Closing balance	20X1	20 000	0	(20 000)	(6 000) L
Movement		10 000	0		
Closing balance	20X2	30 000	0	(30 000)	(9 000) L
Movement		(30 000)	0		
Closing balance	20X3	0	0	0	0

W3: Deferred tax summary		Plant (W1)	Operating lease accrual (W2)	Total	
Opening balance	20X1	0	0	0	
Adjustment	20X1			(9 000)	cr DT; dr TE
Closing balance	20X1	(3 000)	(6 000)	(9 000)	L
Adjustment	20X2			(6 000)	cr DT; dr TE
Closing balance	20X2	(6 000)	(9 000)	(15 000)	L
Adjustment	20X3			15 000	dr DT; cr TE
Closing balance	20X3	0	0	0	L

W4: Current tax summary	20X3	20X2	20X1	Total
Lease rental income	120 000	120 000	120 000	360 000
Less depreciation	(90 000)	(90 000)	(90 000)	(270 000)
Add profit on sale of plant	0	0	0	0
- Proceeds on sale of plant	30 000	0	0	30 000
- Less carrying amount of plant sold	(30 000)	0	0	(30 000)
Profit before tax	30 000	30 000	30 000	90 000
Adjust for permanent differences	0	0	0	0
Adjust for temporary differences:				
- less accounting profit	(30 000)	(30 000)	(30 000)	(90 000)
- add lease instalment received	150 000	110 000	100 000	360 000
- less capital allowance	(100 000)	(100 000)	(100 000)	(300 000)
- add Profit on sale (proceeds: 30 000 – tax base: 0)	30 000	0	0	30 000
Taxable income	80 000	10 000	0	90 000
Current normal tax at 30%	24 000	3 000	0	27 000

4.4 Disclosure (IAS 17.56)

As with finance leases, operating leases require additional disclosure over and above the requirements laid down in *IFRS 7: Financial Instruments: Disclosures*. The disclosure requirements listed in IAS 17 include:

- with respect to non-cancellable operating leases: the total future minimum lease payments receivable at the end of the reporting period; and
- with respect to non-cancellable operating leases: an analysis of the future minimum lease payments receivable at the end of the reporting period into:
 - receivable within one year
 - receivable between one and five years
 - receivable later than five years;
- the total contingent rents recognised as income;
- a general description of the lessor's leasing arrangements.

The disclosure of the leased asset must be done in accordance with the standard that applies to the nature of the asset, (e.g. leased equipment will require that the equipment be disclosed in accordance with *IAS 16: Property, plant and equipment* and *IAS 36: Impairment of assets*).

Example 8: operating lease – disclosure

The facts from example 9 apply. These are repeated below for your convenience.

Banana Tree Limited entered into an operating lease with Frond Limited on 1 January 20X1. Frond Limited agreed to lease a plant from Banana Tree Limited (which had cost Banana Tree Limited C300 000 on 1 January 20X1) on the following terms:

- inception of lease: 1 January 20X1
- lease period: 3 years
- lease instalments, payable as follows:
 - 31 December 20X1: C100 000
 - 31 December 20X2: C110 000
 - 31 December 20X3: C150 000
- Frond Limited may purchase the leased asset at its market price on 31 December 20X3
- Unguaranteed residual value: C30 000.

Frond Limited decided to purchase the plant on 31 December 20X3 (the market price was C30 000 on this date).

Banana Tree Limited depreciates its plant over three years on the straight-line basis.

This is the only transaction in the years ended 31 December 20X1, 20X2 and 20X3.

Banana Tree Limited owns only this one plant.

The tax authorities:

- charge tax on the lease instalments that are received;
- allow the deduction of the cost of the leased asset over three years;
- the normal income tax rate is 30%.

Required:

Prepare the disclosure for each of the years ended 31 December 20X1, 20X2 and 20X3.

Solution to example 8: operating lease – disclosure

This is the same as example 6 and 7. Please see example 7 for the tax workings. All other workings are in example 7.

Banana Tree Limited
Statement of financial position (extracts)
As at 31 December 20X3

		20X3	20X2	20X1
		C	C	C
<i>Non-current assets</i>	<i>Notes</i>			
Plant	14	0	120 000	210 000
<i>Current assets</i>				
Operating lease income receivable (20 000 + 10 000)		0	30 000	20 000
<i>Non-current liabilities</i>				
Deferred taxation: normal tax	15	0	15 000	9 000
<i>Current liabilities</i>				
Current tax payable: normal tax		24 000	3 000	0

Banana Tree Limited
Statement of comprehensive income (extracts)
For the year ended 31 December 20X3

		20X3	20X2	20X1
		C	C	C
	<i>Notes</i>			
Profit before tax		30 000	30 000	30 000
Taxation expense	19	9 000	9 000	9 000
Profit for the year		21 000	21 000	21 000

Banana Tree Limited
Notes to the financial statements (extracts)
For the year ended 31 December 20X3

	20X3	20X2	20X1
	C	C	C
14. Plant			
Net carrying amount – 1 January	120 000	210 000	0
Gross carrying amount – 1 January	300 000	300 000	0
Less accumulated depreciation -1 January	(180 000)	(90 000)	0
• Purchase	0	0	300 000
• Depreciation	(90 000)	(90 000)	(90 000)
• Sale	(30 000)	0	0
Net carrying amount – 31 December	0	120 000	210 000
Gross carrying amount – 31 December	0	300 000	300 000
Less accumulated depreciation – 31 December	0	(180 000)	(90 000)

15. Deferred tax liability

The deferred tax constitutes temporary differences from:

	0	(15 000)	(9 000)
• Plant	0	(6 000)	(3 000)
• Operating lease receivable	0	(9 000)	(6 000)

16. Future minimum lease payments

Total future minimum lease payments due:

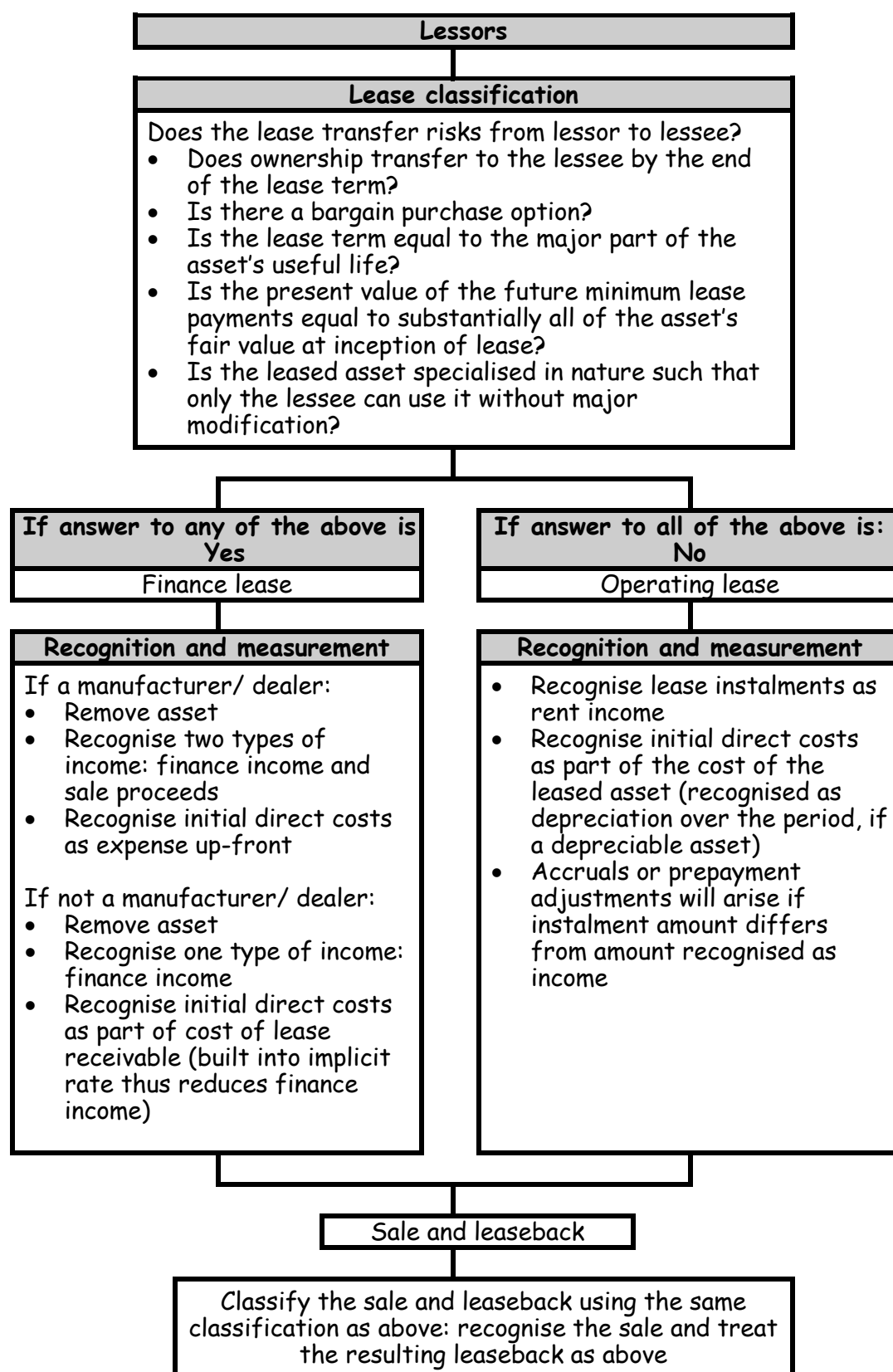
	0	150 000	260 000
• Within 1 year	0	150 000	110 000
• After 1 year but before 5 years	0	0	150 000
• After 5 years	0	0	0

19. Taxation expense

Total normal tax expense

	9 000	9 000	9 000
• Current normal tax – current year (<i>Example 9 W4</i>)	24 000	3 000	0
• Deferred tax – current year (<i>Example 9 W3</i>)	(15 000)	6 000	9 000

5. Summary



Chapter 15

Revenue Recognition

Reference: IAS 18 and IFRIC 13

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1. Introduction (IAS 18.1)

Income, which is defined in the Framework, may be divided into the following two categories:

- revenue (see below for definition); and
- gains

A gain is a type of income, but is not part of revenue and is thus not covered within the ambit of IAS 18. Gains include, for instance, the surplus on the revaluation of property, plant and equipment.

There are five *types of revenue*, which are generally referred to in three categories as follows:

- sale of goods;
- rendering of services; and
- use of the entity's assets:
 - interest income;
 - royalty income; and
 - dividend income.

There are different *recognition criteria* for each of the different types of revenue, each of which will be discussed separately. It is interesting to note before continuing, that a transaction frequently includes more than one type of revenue, although this may not be immediately obvious. What is important to remember is that the substance of the transaction must be recognised rather than the legal form (i.e. despite a legal document stating that a transaction is a sale with no interest charged to the customer, we may need to recognise the transaction as a sale and interest income).

Similarly, although some measurement aspects are common to all types of revenue, some types of revenue have their own specific measurement techniques.

2. Definitions (Framework and IAS 18.7 - .8)

Income (as defined in the Framework)

- an increase in economic benefits
- during the accounting period
- in the form of inflows or enhancements of assets or decreases in liabilities
- that results in increases in equity, other than those relating to contributions from equity participants.

Revenue (IAS 18)

- the gross inflows of economic benefits
- during the period
- arising in the course of ordinary activities of an entity
- when those inflows result in increases in equity, other than increases relating to contributions from equity participants.

Please note that the main differences between the definition of revenue and income are that:

- *revenue is an income earned through ordinary activities and*
- *should always be reflected as a gross amount (i.e. never netted against related expenses).*

Fair value (IAS 18)

- the amount for which an asset could be exchanged (or a liability settled)
- between knowledgeable, willing parties
- in an arm's length transaction.

3. Measurement: general (IAS 18.9 - .12; .13; .18; .22 and .34 and Circular 9/2006)
3.1 Overview

According to IAS 18, revenue should be measured at the *fair value* of the *consideration* received or receivable.

The 'fair value' is the amount agreed upon between the buyer and the seller. This then means that the amount of revenue should:

- be net of discounts offered;
- be net of rebates offered, where the rebates have been offered to reduce the selling price;
- be net of transaction taxes (and other receipts on behalf of third parties); and
- exclude interest income earned on extended credit terms offered.

The consideration refers to the manner of settlement (payment) and may take the form of cash or could be received in the form of another asset or services received (barter transaction).

It frequently happens that a single revenue transaction combines multiple revenue types (e.g. a sale may be combined with a service or interest income may be hidden in the transaction). The transaction must be measured based on its substance rather than its form.

If the inflow of economic benefits becomes improbable *after* the revenue has been recognised, the amount that is no longer probable of being received should be recognised as an expense rather than as an adjustment to revenue (e.g. a doubtful or bad debt expense).

3.2 Discounts offered (IAS 18.9 - .10)

There are a variety of discounts that you could offer on a revenue transaction:

- trade discount or bulk discount: this is usually offered to regular customers or customers buying in bulk; and
- cash discount: this may be offered to encourage an immediate cash payment;
- settlement discount: this may be offered to encourage early settlement of the invoice.

The amount of revenue recognised will be net of trade and bulk discounts only (i.e. the marked price less discounts offered). Cash discount is an indication of interest income in list price applicable on credit sale, if such discount is offered across the board to all customers. In such circumstances, revenue may be recorded net of cash discounts. However, if cash discount is offered to some selected customers, it indicates credit risk management. Therefore, this discount should not be netted off.

Example 1: discounts

An entity sold inventory. Details of the sale was as follows:	C
• Marked price (no VAT is charged on these goods)	9 000
• Trade discount	1 000

Required:

Show the ledger accounts (ignore the cost of sale journal entry) assuming:

- A. The customer pays in cash on transaction date and receives a cash discount of C500.
- B. The entity has agreed to allow an early settlement discount of C400: the customer pays within the required settlement period.
- C. The entity has agreed to allow an early settlement discount of C400: the customer does not pay within the required settlement period.

Solution to example 1A: discounts including a cash discount

Bank	Sales (income)
Sale ⁽¹⁾ 7 500	Bank ⁽¹⁾ 7 500

- (1) The marked price is reduced by the trade discount and the cash discount: 9 000 – 1 000 – 500 , assuming this cash discount is offered to all customers.

Solution to example 1B: discounts including a settlement discount

Debtor (asset)		Sales (income)	
Sale/ Settlement disc allowance ⁽¹⁾	8 000		Debtor ⁽¹⁾ 7 600
	Bank ⁽²⁾ 7 600		
	Settlement disc allowance ⁽³⁾ 400		
Settlement discount allowance (negative asset)		Bank	
Debtor ⁽³⁾ 400	Debtor ⁽¹⁾ 400	Debtor ⁽²⁾ 7 600	

- (1) The sale is recognised at the marked price less the trade discount and the estimated settlement discount: $9\,000 - 1\,000 - 400 = 7\,600$. The settlement discount is an *estimated* discount until the customer pays within the required period, at which point the discount becomes an *actual* discount. Until then, the debtor's account is debited with the full amount receivable and an allowance for possible settlement discount of C400 is credited (this reduces the carrying amount of the debtors presented in the statement of financial position).
- (2) Since the debtor paid within the required settlement period, the debtor earned his settlement discount and only has to pay C7 600.
- (3) Since the debtor pays within 20 days, the settlement discount becomes a reality (i.e. the *estimated* discount becomes an *actual* discount). The settlement discount allowance is thus transferred to the debtors account (thus reducing the debtors account to zero).

Solution to example 1C: discounts including a settlement discount

Debtor (asset)		Sales (income)	
Sale & finance income ⁽¹⁾	8 000		Debtor ⁽¹⁾ 7 600
	Bank ⁽²⁾ 8 000		
Settlement discount allowance (negative asset)		Finance income (income)	
Finance inc ⁽³⁾ 400	Debtor ⁽¹⁾ 400		Settlement disc allowance ⁽³⁾ 400
		Bank	
		Debtor ⁽²⁾ 8 000	

- (1) The sale is recognised at the marked price less the trade discount and the estimated settlement discount: $9\,000 - 1\,000 - 400 = 7\,600$. The settlement discount is an *estimated* discount until the customer pays within the required period, at which point the discount becomes an *actual* discount. Until then, the debtor's account is debited with the full amount payable and an allowance for possible settlement discount of C400 is credited (this reduces the carrying amount of the debtors presented in the statement of financial position).
- (2) The debtor does not pay within the required settlement period and thus has to pay C8 000 (i.e. thus forfeits the settlement discount of C400, which the entity had offered).
- (3) Since the debtor does not pay within the required settlement period, the debtor forfeits his discount and the entity recognises it as finance income. The settlement discount allowance is thus transferred to income, and is recognised as finance income (not part of sales income).

3.3 Rebates offered (IAS 18.9 - .10 and Circular 9/2006)

The entity that is earning the revenue, may offer its customer a rebate of sorts. There are many different types of rebates possible. The rule is, however, that if the rebate is offered as a reduction of the selling price, then the revenue must be reduced by the rebate. Some rebates, although connected to the revenue, are not really a direct reduction in the selling price but a refund of certain of the customer's costs. In this case, the rebate offered should be recognised as an expense instead.

Example 2: rebate

An entity sells inventory for cash. The details thereof were as follows:	C
• Marked price (no VAT is charged on these goods)	9 000
• Rebate given to the customer	1 000

Required:

Show the ledger accounts (ignoring the cost of sale journal) assuming that the terms of the agreement made it clear that:

- A. the rebate was a reduction to the selling price of the inventory; and
- B. the rebate was a refund of the customer's expected selling costs.

Solution to example 2A: rebate reduces revenue

Bank	Sale
Sale ⁽¹⁾ 8 000	Bank ⁽¹⁾ 8 000

(1) The rebate reduces the revenue: 9 000 – 1 000

Solution to example 2B: rebate does not reduce revenue

Bank	Sale
Sale ⁽¹⁾ 8 000	Bank & rebate ⁽¹⁾ 9 000

Rebates (Expense)
Sale ⁽¹⁾ 1 000

(1) The revenue is measured at 9 000 even though only 8 000 is received. This is because the rebate of C1 000 is not connected to the revenue but the customer's future expected selling costs. The rebate is recognised as an expense instead.

3.4 Transaction taxes and other third party receipts (IAS 18.8)

The fair value will also be net of transaction taxes. In many cases the total invoice price will include the transaction tax. In such a case, the invoice price, excluding the transaction tax must be calculated. If the transaction tax is VAT levied at 14%, the revenue excluding VAT will be calculated as follows:

$$\text{Invoice price (including VAT)} \times 100 / 114$$

This is because the entity has only earned the portion excluding VAT and the remainder is owing to the tax authorities. Any amounts received by the entity on behalf of a tax authority should not be recognised as revenue but rather as a liability owed to the tax authority.

This principle above applies equally to amounts collected by an agent on behalf of any other party. A typical example of this sort of arrangement would be an estate agent collecting rentals on a property on behalf of the property owner.

Example 3: collection of revenue by agents

Estate Agent Limited provides a service to a client whereby it collects monthly rentals of C15 000 on the last day of each month. The agent is entitled to a commission calculated at 10% of the rental and the remainder is paid over to the property owner on the first day of the next month.

Required:

Provide the journal entries to show the collection of the rental and the revenue earned in the accounting records of Estate Agent Limited.

Solution to example 3: collection of revenue by agents

		Debit	Credit
Bank	<i>Given</i>	15 000	
Revenue	$15\,000 \times 10\%$		1 500
Rental liability to property owners	$15\,000 - 1\,500$		13 500
<i>Recording the collection of rentals and the portion of revenue</i>			
Rental liability to property owners		13 500	
Bank			13 500
<i>Recording the payment of the amount due to the owners</i>			

3.5 Extended credit terms (IAS 18.9 and .11 and Circular 9/2006)

Where a revenue transaction is entered into with a customer who is offered extended credit terms, the measurement of the revenue must reflect the time value of money, if material.

This means that, even if the revenue transaction states that there is no interest charged (or reflects a very low interest charge), interest income should be separated from the total revenue to be received and measured using the effective interest rate method, apportioned for time.

For example, a sale on extended credit, where the legal documents are entitled 'SALE' and include a clause to the effect that no interest is charged and another clause that states that the customer need only pay for the goods in three years time, is in substance two transactions:

- Sale of goods: to be measured at the cash price (or present value of future receipts);
- Interest income: to be measured using the effective interest method, apportioned over time, using an imputed rate of interest (a market interest rate or simply the rate that discounts the future receipts to the cash sales price).

In other words, in the above example, the statement by the seller that there is no interest included in the sale agreement is assumed to be nonsense: income from a sale and income from interest is recognised.

The following is a basic example. A more complex example is included under 'measurement: interest income'.

Example 4: sale on extended credit terms

On 30 June 20X1 Howa Limited sells goods to a customer on extended credit terms. The customer is required to pay C1 000, in full and final settlement, on 30 June 20X2. The cash sales price is C909 (present value using a discount rate of 10%). The financial year-end is 31 December.

Required:

Provide all related journal entries in Howa Limited's general journal assuming that:

- The effects of the extended credit terms *are not* considered to be material.
- The effects of the extended credit terms *are* considered to be material.

Solution to example 4A: sale on extended credit terms – not material

20X1 Journals	Debit	Credit
30 June 20X1		
Accounts receivable	1 000	
Sales income		1 000
<i>Recording the sale of goods (extended credit terms immaterial)</i>		
20X2 Journals		
30 June 20X2		
Bank	1 000	
Accounts receivable		1 000
<i>Recording the receipt of the amount due by the customer</i>		

Solution to example 4B: sale on extended credit terms – material

20X1 Journals		Debit	Credit
30 June 20X1			
Accounts receivable	Given	909	
Sales income			909
<i>Recording the sale of goods (extended credit terms material)</i>			
31 December 20X1			
Accounts receivable	$(1\,000 - 909) \times 6 / 12$; OR	45	
Interest income	$(909 \times 10\% \times 6/12)$		45
<i>Recording the interest earned on sale on extended terms: $300 / 10 \times 6m$</i>			
20X2 Journals			
30 June 20X2			
Accounts receivable	$(1\,000 - 909) \times 6 / 12$; OR	46	
Interest income	$(909 \times 10\% \times 6/12)$		46
<i>Recording the interest earned on sale on extended terms: $300 / 10 \times 4m$</i>			
Bank		1 000	
Accounts receivable			1 000
<i>Recording the receipt of the amount due by the customer</i>			

3.6 Consideration (IAS 18.10 - .12)

The ‘consideration’ is generally received in the form of cash or cash equivalents, in which case this is normally the revenue that is recognised. However, when a barter transaction takes place, revenue is received in the form of goods or services.

3.6.1 The exchange of goods and services that are similar

When the goods and services that are exchanged are similar (similar value and nature), then no profit or loss can be made and the earnings process is considered to be incomplete. No entry is required for such a transaction. Therefore if two milk supply companies exchanged inventory in order to meet the demands in various locations on a timely basis no transaction will be recorded because no revenue has been generated by the exchange.

3.6.2 The exchange of goods and services that are dissimilar

When the goods and services that are exchanged are not similar, then a transaction *has* occurred and revenue will have been generated. Revenue should be measured at the fair value of the goods or services received (adjusted for any cash or cash equivalents that change hands). If the fair value of the goods and services received cannot be ascertained then the revenue will be measured at the fair value of the goods and services given up, (adjusted for any cash and cash equivalents that changed hands).

Example 5: exchange - fair value is known

Goods with a fair value of C100 and a cost of C80 were given to a customer who repaired a machine in return. The fair value of the repair is C120.

Required:

Calculate the amount of sales revenue and show the related journal entries.

Solution to example 5: exchange - fair value is known

	Debit	Credit
Cost of sales (E)	80	
Inventories		80
<i>Recording the cost of sale</i>		
Repairs (E)	120	
Revenue - sales (I)		120
<i>Recording the sale (FV of the service received given as C120)</i>		

Example 6: exchange - fair value is unknown

Goods with a fair value of C100 and a cost of C80 were given to a customer in exchange for a machine in return. The fair value of the machine is not known.

Required:

Show the related journal entries

Solution to example 6: exchange - fair value is unknown

	Debit	Credit
Cost of sales (E)	80	
Inventories		80
<i>Recording the cost of sale</i>		
Machine: cost (A) <i>Fair value of goods given up</i>	100	
Sales (I) <i>Fair value of goods given up because fair value of goods received is unknown</i>		100
<i>Recording the sale (FV of the machine – assumed value)</i>		

Example 7: exchange - fair value is unknown and cash given

C30 in cash was given to and inventory with a fair value of C100 (and a cost of C80) was sold to a customer in exchange for a machine of unknown fair value.

Required:

Calculate the amount of sales revenue and show the related journal entries.

Solution to example 7: exchange - fair value is unknown and cash given

	Debit	Credit
Cost of sales (E)	80	
Inventories		80
<i>Recording the cost of sale</i>		
Machine (A) <i>Fair value of assets given up: 100 + 30</i>	130	
Bank <i>Given</i>		30
Revenue - sales (I) <i>Fair value of goods sold</i>		100
<i>Recording the sale</i>		

Example 8: exchange - fair value is unknown and cash received

Inventory with a fair value of C100 (and a cost of C80) was sold to a customer in exchange for a machine of unknown fair value and C30 in cash.

Required:

Calculate the amount of sales revenue and show the related journal entries.

Solution to example 8: exchange - fair value is unknown and cash received

		Debit	Credit
Cost of sales (E)		80	
Inventories			80
<i>Recording the cost of sale</i>			
Machine (A)	<i>Fair value of assets given up: 100 - 30</i>	70	
Bank	<i>Given</i>	30	
Revenue - sales (I)	<i>Fair value of goods received incl cash: 70 + 30</i>		100
<i>Recording the sale</i>			

3.7 Substance over form (IAS 18.11 and .13)

A common example of a transaction that, in substance, actually involves more than one transaction, is a sale that takes place on extended credit terms, either without charging interest or charging an unusually low rate of interest. The substance of the single transaction is, in fact, that two transactions have occurred:

- a sale has taken place: which is measured at the present value of the cash received;
- interest at a market related rate is being charged: which is measured as the amount to be received less the present value thereof (measured using the effective interest rate method and apportioned over time).

An example of this calculation is included under ‘measurement: interest income’.

Another typical example is where a single amount is paid for an item, where a ‘free service’ is included with the item purchased.

4. Revenue from sales (IAS 18.14 - .19)**4.1 Recognition: sales (IAS 18.14 – 19)**

Revenue from the sale of goods may only be recognised when *all* of the following five criteria have been met:

- The significant risks and rewards associated with ownership have been transferred from the seller to the buyer;
- Managerial involvement to the extent normally associated with ownership of an asset must have ceased, as should the effective control thereof;
- Revenue is reliably measurable;
- Costs related to the sale are reliably measurable; and
- It is probable that future economic benefits resulting from the sale will flow to the entity.

It may happen that only a portion of the risks and rewards of ownership are transferred from the seller to the buyer. Revenue may, however, only be recognised once at least a *significant* portion (i.e. almost all) of the risks and rewards have been transferred. If a significant portion of the risks and rewards *have not yet been* transferred, the revenue from the sale must not yet be recognised. Recognition of this revenue is deferred (delayed) until a significant portion of the risks and rewards are transferred. When considering whether the risks and rewards have been transferred, the main factor is generally the passing of legal title from seller to buyer.

Some examples in IAS 18 where significant risks and rewards *have not yet been transferred*:

- the sale of goods subject to the installation of the asset, where the installation thereof is a substantial part of the contract and has not yet been performed;
- the sale of goods on condition that the buyer manages to sell the asset (a consignment sale) and where the buyer has not yet been able to sell the goods;
- the sale of goods subject to approval (buying/ selling on 'appro') such that the buyer may return the goods before a certain date and where the buyer has not yet formally approved the goods and the time period for rejection has not yet elapsed;
- the sale of goods on a lay away (lay-bye) basis, requiring the buyer to pay all instalments before taking possession of the goods, and where all instalments have not yet been received. If, however, the entity has experience that suggests that most buyers pay all instalments, then the revenue may be recognised as soon as a significant portion of the instalments has been received (and of course, assuming that the goods are on hand and ready for delivery);
- when the seller retains an obligation for unsatisfactory performance, which covers the buyer further than normal warrantee provisions;
- the buyer has the right to rescind the contract due to terms that are stated within the contract and the seller is unsure of the probability of return.

Some examples in IAS 18 where significant risks and rewards *have been transferred include*:

- where a seller retains only the legal title to the goods and where this is retained solely to ensure collection of the amount due by the customer (i.e. the customer has been given all other risks and rewards of ownership)
- where a seller makes a sale whereby he offers a refund if the customer is unsatisfied and where the seller is able to reliably estimate the potential effect of refunds and recognises a liability for these potential future refunds (IAS 37 should be applied in this regard).

Revenue and its related costs must be recognised simultaneously and in the same period. If the costs relating to the revenue are not yet reliably measurable, then the recognition of the revenue must be deferred until they are reliably measurable. Any amounts received should then be recognised as a liability until such time as the costs are reliably measurable.

If the seller provides a guarantee but cannot reliably estimate the provision for refunds, then revenue may not be recognised until after the guarantee period expires.

Example 9: sale where payment not yet received

Inventory with a cost of C80 is sold to a customer for C100.

Required:

Discuss whether the sale should be recognised assuming the:

- seller retains physical possession of the inventory until all instalments are received (lay away sale);
- seller allows buyer to take possession of the inventory immediately and pay the sales price in instalments (instalment sale).

Solution to example 9A: sale where payment not yet received – lay away sale

The risks and rewards have not been transferred to the buyer (the seller is still responsible for safe-keeping and insurance of the inventory and thus still has all the risks and since the buyer does not have possession of the inventory, the buyer cannot yet reap the rewards associated with it and thus the rewards have not yet transferred either). The sale may therefore not be recognised.

Solution to example 9B: sale where payment not yet received – instalment sale

The risks and rewards have been transferred to the buyer (the buyer now has possession of the inventory and is therefore responsible for safe-keeping and insurance thereof and is also able to reap the rewards associated with the inventory). The sale must therefore be recognised.

Example 10: sale where legal title retained

Dash Limited sold a truck to Walker Limited for C100 000. Walker Limited is to pay the sales price in instalments over a period of six months but took possession of the truck on the date that the sale agreement was signed. In order to ensure that full payment would be received, Dash Limited retained legal title.

Required:

Discuss whether the sale should be recognised by Dash Limited.

Solution to example 10: sale where legal title retained

Since the only reason that Dash Limited retained legal title to the truck was to ensure that full payment would be received, the significant risks and rewards of ownership of the truck are considered to have transferred to Walker Limited. The sale should therefore be recognised by Dash Limited on the date that the sale agreement is signed, being the date that Walker Limited took possession of the truck.

4.2 Measurement: sales (IAS 18.9 - .12)

The measurement of a sale of goods simply follows the general measurement guidelines: it shall be measured at the fair value of the consideration received or receivable.

5. Revenue from services (IAS 18.20 - .28)**5.1 Recognition: services (IAS 18.20)**

Revenue from services rendered is recognised when all of the following criteria are met:

- the revenue can be reliably measured;
- the costs can be reliably measured (costs incurred to date and costs still to be incurred);
- it is probable that the economic benefits expected will flow to the entity; and
- the stage (percentage) of completion can be reliably measured.

Example 11: revenue from services

Scrubbers Limited signed an agreement with a blue chip company whereby it is to scrape and re-plaster 50 buildings for a total contract price of C80 000. The cost to Scrubbers Limited of performing this job is expected to be C50 000. Scrubbers Limited has entered into many such contracts and has a good cost projection system. At 31 December 20X1, Scrubbers Limited had scraped and re-plastered 30 buildings.

Required:

Discuss whether Scrubbers Limited may recognise any revenue in the financial statements for the year ended 31 December 20X1.

Solution to example 11: revenue from services

- The revenue can be reliably measured:
It is stipulated in the contract at C80 000
- The costs can be reliably measured:
The costs incurred to date will be supported by invoices and the future costs are reliably measurable based on a past history of similar contracts and with a good cost projection system.
- It is probable that the economic benefits will flow to Scrubbers Limited:
The customer is a blue chip company, so it is unlikely that the customer will default on payment.
- The stage of completion can be reliably measured:
A variety of methods of calculating the stage of completion are allowed, of which either the 'cost method' or the 'number of services method' would be suitable. The cost method can be used since the costs are reliably measurable. The number of services method can be used, assuming that the work on each building is similar, since we know that 30 of the 50 buildings have been completed.

A portion of the revenue should therefore be recognised at 31 December 20X1 since all recognition criteria are met. The revenue to be recognised is therefore C48 000 (C80 000 x 30 / 50 buildings).

5.2 Measurement: services (IAS 18.21 – 28)

Apart from the general measurement considerations, services are peculiar in that they take a period of time to be completed. It may happen, therefore, that financial statements need to be prepared before a service has been completed. It is therefore necessary to be able to estimate the stage of completion.

5.2.1 Stage of completion (IAS 18.21 – .24)

The stage of completion may be difficult to estimate in practice. The following are the three methods available:

- surveys of work performed;
- services already performed as a percentage of the total services to be performed; and
- the costs incurred to date as a percentage of the total costs to be incurred.

Although IAS 18 specifically excludes revenue from construction contracts, the principles applied to the recognition of revenue from the construction contract (IAS 11) are the same.

Example 12: revenue from services: stage of completion

Scrubbers Limited signed an agreement whereby it is to scrape and re-plaster 50 buildings. The total contract price is C80 000. The expected contract cost is C50 000.

The following details are available as at year-end, 31 December 20X3:

- according to the surveyor, C50 000 of the work had been done and may be invoiced;
- according to Scrubbers Limited, 30 buildings had been scraped and re-plastered;
- costs of C35 000 have been incurred to date (the total expected cost remains C50 000).

The contract is satisfactorily completed during March 20X4 (according to both the surveyor and Scrubbers Limited), after a further cost of C15 000 has been incurred.

All 50 buildings had been scraped and re-plastered by the end of 20X4.

Required:

Show the revenue related journal entries for 20X3 and 20X4 assuming that the percentage of completion is based on:

- surveys of work performed
- services already performed as a percentage of total services to be performed
- costs incurred to date as a percentage of total expected costs.

Solution to example 12A: revenue from services: stage of completion

20X3		Debit	Credit
Debtor (A)	<i>Given</i>	50 000	
Revenue from services (I)			50 000
<i>Revenue from services: surveyed value</i>			
20X4			
Debtor (A)	<i>80 000 – 50 000</i>	30 000	
Revenue from services (I)			30 000
<i>Revenue from services: total contract price – survey value in prior year</i>			

Solution to example 12B: revenue from services: stage of completion

20X3		Debit	Credit
Debtor (A)	<i>30 / 50 buildings x 80 000</i>	48 000	
Revenue from services (I)			48 000
<i>Revenue from services: services performed method</i>			

20X4		Debit	Credit
Debtor (A)	$50 / 50 \text{ buildings} \times 80\,000 - 48\,000$	32 000	
Revenue from services (I)			32 000
<i>Revenue from services: services performed method</i>			

Solution to example 12C: revenue from services: stage of completion

20X3		Debit	Credit
Debtor (A)	$35\,000 / 50\,000 \times 80\,000$	56 000	
Revenue from services (I)			56 000
<i>Revenue from services: costs to date method</i>			

20X4			
Debtor (A)	$(35\,000 + 15\,000) / 50\,000 \times 80\,000$	24 000	
Revenue from services (I)	$- 56\,000$		24 000
<i>Revenue from services: costs to date method</i>			

5.2.2 Indeterminate number of acts (IAS 18.25)

In some instances, it may happen that the service to be rendered involves the performance of an unknown number of 'acts' over a certain period of time, in which case the above methods of estimating the stage of completion would not be appropriate. In such a case, it is acceptable to recognise the revenue on the straight-line basis over the period that the 'acts' will be performed. If, however, there is one very significant 'act' that will be performed during this period, then revenue should not be recognised before this 'act' has been performed.

Example 13: revenue from services: unknown number of acts

Plastic House of Beauty is a Hollywood-styled company offering cosmetic surgery. Miss Terry purchased a three-year contract from Plastic House of Beauty for C60 000. The contract requires that Plastic House of Beauty maintains Miss Terry's complexion in flawless condition for a period of three years.

Required:

Explain when the receipt of C60 000 should be recognised in the accounting records of Plastic House of Beauty assuming that

- the contract requires free treatment for blemishes as and when they occur;
- the contract requires free treatment for blemishes as and when they occur plus a complete plastic surgery makeover, valued at C54 000.

Solution to example 13A: revenue from services: unknown number of acts

Since there are an indeterminate number of acts to be performed over a period of three years with no one significant act, the C60 000 must be recognised evenly over the period of three years.

Solution to example 13B: revenue from services: unknown number of acts

Since there is one significant act, being the plastic surgery makeover, the revenue from this act must be recognised on the date that this act is performed. The balance of C6 000 relating to the indeterminate number of acts should be recognised evenly over the period of three years.

5.2.3 Outcome not reliably measurable (IAS 18.26 - .28)

If the outcome is not able to be reliably estimated (i.e. recognition criteria not met), the costs are recognised as they are incurred but revenue is only recognised to the extent of the costs that the entity believes will probably be recovered.

Example 14: revenue from services: unknown outcome

Fiddlers Limited signed an agreement for a total contract price of C80 000:

- At year-end (31 December 20X3) Fiddlers Limited had completed 40% of the contract (based on the costs incurred to total expected costs) but estimates that it will not complete the project on time.
- Costs of C35 000 have been incurred to date (the total expected cost remains C87 500).

Required:

Calculate the revenue that may be recognised (using the number of services performed to date) and show all related journal entries assuming that the contract stipulated that, if the contract is not completed on time:

- A. the customer would only be liable to pay C20 000
- B. the customer would only be liable to pay C50 000
- C. the customer would not be forced to pay the contract price at all.

Solution to example 14A: revenue from services: unknown outcome

20X3	Debit	Credit
Contract costs (E)	35 000	
Creditors/ bank		35 000
<i>Costs incurred on the contract</i>		
Debtors (A)	20 000	
Revenue from services		20 000
<i>Revenue recognised on the contract 40% x 80 000, but limited to 20 000, being the probable amount that would be recovered</i>		

Solution to example 14B: revenue from services: unknown outcome

20X3	Debit	Credit
Contract costs (E)	35 000	
Creditors/ bank		35 000
<i>Costs incurred on the contract</i>		
Debtors (A)	32 000	
Revenue from services		32 000
<i>Revenue recognised on the contract: 40% x 80 000 (not limited because the probable amount recoverable is more: 50 000)</i>		

Solution to example 14C: revenue from services: unknown outcome

20X3	Debit	Credit
Contract costs (E)	35 000	
Creditors/ bank		35 000
<i>Costs incurred on the contract</i>		

No revenue is recognised because it is currently not probable that the costs will be recovered.

6. Revenue from use by others of the entity's assets (IAS 18.29 - .34)**6.1 Overview**

It may happen that entities or persons outside of the business use the assets owned by the business. In this instance, the business would charge some type of fee. The fees that are classified as revenue for the purposes of this standard include:

- interest income;
- royalty income; and
- dividend income.

6.2 Recognition: use of entity's assets (IAS 18.29)

Interest, royalties and dividend income may be recognised when:

- it is probable that economic benefits associated with the transaction will flow to the entity; and
- the amount of the revenue can be measured reliably.

6.2.1 Recognition: interest income (IAS 18.30)

Interest income must be recognised when an entity makes a sale, for example, on extended credit terms, even where low or no interest is charged.

6.2.2 Recognition: royalty income (IAS 18.30)

Royalty income to be recognised depends on the terms of the royalty agreement. This impacts on the amount of revenue to be measured.

6.2.3 Recognition: dividend income (IAS 18.30)

Dividend income must be recognised when the right to receive the dividend has been established. This is usually the last date to register as a shareholder (i.e. the last day to acquire shares in order to receive the dividend payout). This affects the probability of the inflow of economic benefits.

Example 15: dividend income

Shareholder Limited owns shares in Share Limited on 28 December 20X1, on which date Share Limited declared a dividend of C1 per share. This dividend is to be paid on 31 January 20X2 to those who are registered as shareholders of Share Limited as at 15 January 20X2.

Shareholder Limited was a registered shareholder of 10 000 shares on:

- 28 December 20X1 (declaration date);
- 31 December 20X1 (its year-end); and on
- 15 January 20X2 (last date to register).

Shareholder Limited sold the shares on 29 January 20X2 (before dividend payment date).

Required:

Should this dividend income be recognised in Shareholder Limited's financial statements ended 31 December 20X1? Explain and provide the journals that would be necessary for the recognition thereof (if any).

Solution to example 15: dividend income

The dividend income may not be recognised in Shareholder Limited's financial statements ended 31 December 20X1 because the right to receive the dividends will only be established on 15 January 20X2. Since Shareholder Limited still owns the shares on 15 January 20X2 (being the last day to register as a shareholder), the right to the dividend is established. The dividend income is therefore recognised as revenue on 15 January 20X2. The dividend will be paid to Shareholder Limited even though it sold the shares before payment date.

20X2 Journals

15 January 20X2

Debtors

Revenue from dividends (I)

Dividend income: 10 000 x C1

31 January 20X2

Bank

Debtors

Receipt of cash dividend

	Debit	Credit
	10 000	
		10 000
	10 000	
		10 000

6.2.4 Recognition: pre-acquisition dividend income (IAS 18.32)

IAS 18 states that where dividends are declared by a company in which the entity is invested, where this declaration of dividends is funded by profits earned prior to the investor having acquired his investment (pre-acquisition profits), this dividend should be deducted from the cost of the investment rather than be recognised as revenue. The logic behind this is that if the dividends are to be paid from pre acquisition profits, these are not in actual fact earned by the investor but were rather bought. If dividends are received and have not been earned (i.e. pre-acquisition dividends), they are treated as a reduction in the purchase price of the investment.

Example 16: pre-acquisition dividends

Red Limited purchased 100 shares in Blue Limited on 1 January 20X5 for C50 per share. On 2 January 20X5, the directors of Blue Limited declared and paid a dividend of C10 per share to all the shareholders registered on this date.

Required:

How should the purchase of the shares and the dividend be accounted for in the books of Red Limited? Show the related journal entries.

Solution to example 16: pre-acquisition dividends

Since the dividend is declared only a day after Red Limited invested in Blue Limited's shares, the dividend is clearly being funded by profits earned by Blue Limited before 2 January 20X5. Red Limited has therefore not earned these dividends and therefore the dividend to be received is set-off against the cost of the investment (instead of being credited to income). The transaction must be recorded on the last day to register for the shares, being 2 January 20X5.

	Debit	Credit
1 January 20X5		
Investment in Blue Ltd	5 000	
Bank		5 000
<i>Purchase of 100 shares in Blue Ltd @ C50</i>		
2 January 20X5		
Dividend receivable/ Bank	1 000	
Investment in Blue Ltd		1 000
<i>Receipt of cash dividend</i>		

The cost of the investment in Blue Ltd will therefore be measured at C4 000 and not at C5 000 originally paid for the shares, as per IAS 18.

6.3 Measurement: use of entity's assets (IAS 18.30 - .34)

6.3.1 Measurement: interest income (IAS 18.30(a) and .31 - .32)

Interest income is measured on the effective interest rate method, apportioned over time.

In the case of a sale on extended credit where low or no interest is charged, despite the legal form (being low or no interest), the substance of the transaction includes two transactions: the sale of goods (or lending of money) and the financing of the sale.

The sale of goods:

- The revenue from the sale is measured as:
 - the present value of the future cash receipts or
 - the normal cash sales price, if this is available.
- This amount is recognised based on the recognition criteria relevant to the revenue from the sale of goods.

The interest income:

- The total interest income is measured as:
 - The difference between the total cash that will be received and the present value thereof (revenue from the sale of goods).
- The portion of the total interest income to be recognised in each year is measured:
 - using a combination of the effective interest rate method and a time basis.

The effective interest rate method entails using the interest rate that was used to calculate the present value multiplied by the amount still outstanding.
This is then apportioned based on the period over which the amount was still outstanding.

This is best explained by way of example.

Example 17: sales income and interest income

A customer purchases an item, on 2 January 20X1, to be paid for over a period of 3 years:

End of year 20X1	40 000
End of year 20X2	50 000
End of year 20X3	29 700

The present value of these payments (using a discount rate of 10%) amounts to 100 000. All the recognition criteria are met. The year end is 31 December.

Required:

- Calculate the amount of sales revenue from the sale transaction and interest revenue from the financing transaction to be recognised over the period of three years.
- Show the related journal entries for the year ended 31 December 20X1, 20X2 and 20X3

Solution to example 17A: sales income and interest income (calculations)

Year	(a) (a) + (b) – (c) Amount outstanding at the beginning of the year	(b) (a) x 10% x 1 year Interest recognised per year	(c) given Repayment at the end of the year
1	100 000 (given)	10 000	(40 000)
2	70 000	7 000	(50 000)
3	27 000	2 700	(29 700)
	0	19 700	119 700

Notice that the receipt of C119 700 over the three years constitutes interest revenue of C19 700 (recognised over the 3 years) and sales revenue of C100 000 (recognised in 20X1).

Solution to example 17B: sales income and interest income (journals)

20X1 Journals

1 January 20X1

	Debit	Credit
Debtors (A)	100 000	
Sales (I)		100 000

Sales revenue recognised at the beginning of 20X1

31 December 20X1

	Debit	Credit
Debtors (A)	10 000	
Interest (I)		10 000

Interest revenue recognised over the period of 20X1

	Debit	Credit
Bank	40 000	
Debtors (A)		40 000

Receipt of first instalment in 20X1

<i>20X2 Journals</i>	Debit	Credit
31 December 20X2		
Debtors (A)	7 000	
Interest (I)		7 000
<i>Interest revenue recognised over the period of 20X2</i>		
Bank	50 000	
Debtors (A)		50 000
<i>Receipt of instalment in 20X2</i>		
20X3 Journals		
31 December 20X3		
Debtors (A)	2 700	
Interest (I)		2 700
<i>Interest revenue recognised over the period of 20X3</i>		
Bank	29 700	
Debtors (A)		29 700
<i>Receipt of instalment in 20X3</i>		

Example 18: sales income and interest income: apportioned over time

A customer purchases an item, on 1 April 20X1, to be paid for over a period of 3 years as follows:

On 31 March 20X2	40 000
On 31 March 20X3	50 000
On 31 March 20X4	29 700

Assume that the present value of these payments (using a discount rate of 10%) amounts to 100 000.

All the recognition criteria are met. The company's year end is 31 December.

Required:

Show the related journal entries for the year ended 31 December 20X1 to 20X4.

Solution to example 18: sales income and interest income: apportioned over time

The previous effective interest rate table provided in example 17A is still relevant, but the interest must now be apportioned on a time basis since the transaction took place on 1 April 20X1 (i.e. the transaction date did not coincide with the year-end). The interest must simply be apportioned for the number of months falling in each year.

<i>20X1 Journals</i>	Debit	Credit
1 April 20X1		
Debtors (A)	100 000	
Sales income (I)		100 000
<i>Sales revenue recognised at the beginning of 20X1</i>		
31 December 20X1		
Debtors (A)	7 500	
Interest income (I)		7 500
<i>Interest revenue recognised over 20X1: 10 000 x 9/12</i>		

<i>20X2 Journals</i>	Debit	Credit
31 March 20X2		
Bank	40 000	
Debtors (A)		40 000
<i>Receipt of first instalment in 20X2</i>		
31 December 20X2		
Debtors (A)	7 750	
Interest income (I)		7 750
<i>Interest revenue recognised over the period of 20X2:</i> <i>10 000 x 3/12 + 7 000 x 9/12</i>		
<i>20X3 Journals</i>		
31 March 20X3		
Bank	50 000	
Debtors (A)		50 000
<i>Receipt of second instalment in 20X3</i>		
31 December 20X3		
Debtors (A)	3 775	
Interest income (I)		3 775
<i>Interest revenue recognised over the period of 20X3:</i> <i>7 000 x 3/12 + 2 700 x 9/12</i>		
<i>20X4 Journals</i>		
31 March 20X4		
Bank	29 700	
Debtors (A)		29 700
<i>Receipt of third instalment in 20X4</i>		
31 December 20X4		
Debtors (A)	675	
Interest income (I)		675
<i>Interest revenue recognised over the period of 20X4:</i> <i>2 700 x 3/12</i>		

6.3.2 Measurement: royalty income (IAS 18.30(b) and .33)

Royalties may be earned by a business through the use by another of, for example, a patented formula belonging to the business. Royalties should be measured based on the accrual system with reference to the substance of the relevant agreement.

Example 19: royalty income

Yewser Limited produces cold-drinks under licence to Trademark Limited. The terms of the agreement are such that a royalty of C2 is payable by Yewser Limited to Trademark Limited for every can of cold-drink sold at 31 December of a year, with a minimum royalty payment of C100 000 in any one year, irrespective of the cans produced and sold. The following information was relevant in 20X1 and 20X2:

	Cans produced	Cans sold
12 months ended 20X1	80 000	70 000
12 months ended 20X2	30 000	35 000

Required:

Show the journals relating to the royalty income earned in the books of Trademark Limited for the years ended 31 December 20X1 and 20X2.

Solution to example 19: royalty income

20X1 Journals		Debit	Credit
Debtors/ bank (A)	70 000 cans (sold) x C2	140 000	
Revenue from royalties (I)			140 000
<i>Royalty income</i>			
20X2 Journals			
Debtors/ bank (A)	35 000 cans (sold) x C2 = C70 000, but	100 000	
Revenue from royalties (I)	minimum annual payment is C100 000		100 000
<i>Royalty income</i>			

6.3.3 Measurement: dividend income (IAS 18.30(c) and .31 - .32)

Dividends may be earned as a result of an investment of cash in the shares of another business. Dividends should be measured at the dividend per share declared multiplied by the number of shares owned by the entity on the last date to register for these shares (i.e. last date to acquire these shares for purposes of receiving the dividend).

Example 20: dividend income

Kombuis Limited owns 10 000 shares in Food Limited on 3 January 20X2, on which date Food Limited declared a dividend of C1 per share. This dividend is to be paid on 31 January 20X2 to those who are registered as shareholders of Food Limited as at 15 January 20X2. Kombuis Limited sold 2 000 shares on 11 January 20X2. The dividend was paid by Food Limited on 31 January 20X2.

Required:

Provide any journal entries necessary in the books of Kombuis Limited. Ignore the journal entries regarding the sale of the shares

Solution to example 20: dividend income

The dividend may only be recognised as revenue on 15 January 20X2, being the last day to register as a shareholder.

15 January 20X2		Debit	Credit
Debtors		8 000	
Revenue from dividends (I)			8 000
<i>Dividend income: (10 000 – 2 000) x C1</i>			
31 January 20X2			
Bank		8 000	
Debtors			8 000
<i>Receipt of cash dividend</i>			

7. Revenue from customer loyalty programmes (IFRIC 13)

7.1 Overview

Many businesses have customer loyalty programmes in place to reward regular customers. The business will offer incentives for customers to buy their goods or services. Normally, the customer receives 'points' or 'award credits' for buying goods and services, which can be redeemed (exchanged) for free or discounted goods or services. Such programmes can come in a variety of ways, including situations where the programme is operated by a third party and not by the company at all.

IFRIC 13 was issued in July 2007 and entities must apply this interpretation for annual periods beginning on or after 1 July 2008.

7.2 Recognition and measurement

In terms of the interpretation, award credits must be accounted for as a separately identifiable component of the sales transaction, with the fair value of the total consideration received or receivable being allocated between the award credits and the other components of the sale. The award credits shall be measured by reference to their fair value (i.e.: the amount for which the award credits could be sold separately). The recognition of the revenue relating to the award credits differs depending on whether the entity or a third party supplies the awards.

7.2.1 *If the entity supplies the awards*

The revenue allocated to the award credits will be recognised when:

- the award credits are redeemed; and
- the entity fulfils its obligations to supply awards.

The amount of revenue recognised shall be based on the number of award credits that have been redeemed in exchange for awards, relative to the total number expected to be redeemed.

Example 21: Entity supplies the awards

A local retail store has a customer loyalty programme that awards points to customers in possession of a store card. Each C10 spent is awarded with one award point. Each award point can be redeemed for items in the retail store to the value of C1. The store sold C100 000 worth of goods to customers with store cards during 20X7. It expects that 95% of the points earned on these sales will be redeemed by customers in the future.

- 50% of the points earned in 20X7 were redeemed in 20X7.
- 30% of the points were redeemed in 20X8.
- 10% of the points were redeemed in 20X9.

In 20X9, management revised their estimate to that of only expecting 90% of the points earned in 20X7 to ever be redeemed.

Required:

Provide the journal entries for 20X7, 20X8 and 20X9 relating to the points earned in 20X7. Ignore all cost of sales journal entries.

Solution to example 21: entity supplies the awards

There are 10 points awarded in 20X7 (C100 000 / C10 x 1 point). Each point is worth C1 and therefore C10 000 of the total revenue of C100 000 must be deferred since these relate to the sales of customer loyalty points.

In 20X7 and 20X8, only 95% of these points are expected to be redeemed: 9 500 points. In 20X9, however, this estimate of points that will be redeemed drops to only 90%: 9 000 points.

20X7		Debit	Credit
Bank	Given	100 000	
Revenue from sales (I)	Balancing		90 000
Deferred revenue (L)	$C100\,000 / C10 \times C1$		10 000
<i>Sales made in 20X7; customer loyalty points earned thereon are deferred</i>			
Deferred revenue (L)	$50\% \times 10\,000 \text{ points} / 9\,500 \text{ points} \times C10\,000$	5 263	
Revenue from sales (I)			5 263
<i>Sales from customer loyalty points that are redeemed</i>			
20X8		Debit	Credit
Deferred revenue (L)	$(80\% \times 10\,000 \text{ points} / 9\,500 \text{ points} \times C10\,000) -$	3 158	
Revenue from sales (I)	$5\,263 \text{ revenue already recognised}$		3 158
<i>Sales from customer loyalty points that are redeemed</i>			
Deferred revenue (L)	$(90\% \times 10\,000 \text{ points} / 9\,000 \text{ points} \times C10\,000) -$	1 579	
Revenue from sales (I)	$(5\,263 + 3\,158 \text{ revenue already recognised})$		1 579
<i>Sales from customer loyalty points that are redeemed</i>			

7.2.2 If a third party supplies the awards

The recognition of the revenue will depend on whether the consideration allocated to the award credits is to be collected for the entity's own account or on behalf of a third party.

7.2.2.1 Collecting revenue for the entity's own account

Revenue relating to the award credits shall be recognised when the entity fulfils its obligations in respect of the awards (i.e. redeemed the 'points' by giving the awards).

The revenue shall be measured as the gross consideration allocated to the award credits.

7.2.2.2 Collecting revenue on behalf of a third party

Revenue relating to the award shall be recognised when the third party:

- becomes obliged to supply the awards ;and
- becomes entitled to receive the consideration for doing so (normally as soon as award credits are granted).

The revenue will be measured as the net amount retained for its own account (i.e. the difference between the consideration allocated to the award credits and the amount payable to the third party for supplying the awards).

If the customer can choose to claim awards from either the entity or a third party, then it is possible that the revenue may only be recognised when the customer chooses to claim awards from the third party.

Example 22: third party supplies the awards

A local retail store has a customer loyalty programme that awards points to customers in possession of a store card. Each C10 spent is awarded with one point. Each point can be redeemed for items in a local pharmacy to the value of C1. The retail store sold C100 000 worth of goods to customers with store cards during 20X7. The retail store paid the local pharmacy C0,75 per point. The consideration earned from these sales is for the benefit of the retail store.

Required:

Provide the journal entries for 20X7 in the books of the retailer.

Solution to example 21: third party supplies the awards

20X7		Debit	Credit
Bank	<i>Given</i>	100 000	
Revenue from sales (I)	<i>Balancing</i>		90 000
Deferred revenue (L)	<i>C100 000 / C10 x C1</i>		10 000

Sales made in 20X7; customer loyalty points earned thereon are deferred

20X7 continued ...		Debit	Credit
Loyalty programme exp	<i>C100 000 / C10 x C0.75</i>	7 500	
Bank			7 500
<i>Payment to local pharmacy for participating in loyalty programme</i>			
Deferred revenue (L)	<i>100% x 10 000 points x C1</i>	10 000	
Revenue from sales (I)			10 000

Deferred revenue from loyalty points is recognised immediately as the retailer's obligation to the customer are fulfilled

7.3 Onerous contracts

If at any time the unavoidable costs of meeting the obligations to supply the awards are expected to exceed the consideration received and receivable for them, then entity shall recognise an onerous contract liability in accordance with IAS 37. The liability will be equal to the excess.

8. Disclosure (IAS 18.35)**8.1 Accounting policies**

The entity should disclose the following under accounting policies:

- accounting policy for recognising revenue (e.g. revenue from the rendering of services is recognised based on the stage of completion); and
- the methods used to calculate the stage of completion in respect of the recognition of services rendered (e.g. the stage of completion is calculated using costs incurred to date as a percentage of total costs expected to be incurred).

8.2 Statement of comprehensive income and supporting notes

The total revenue recognised must be disclosed in the statement of comprehensive income (this is a disclosure requirement of the Framework and not a requirement of IAS 18). This amount should be supported by a note that details the amount of revenue recognised per significant category of revenue including the following:

- sale of goods;
- rendering of services;
- interest;
- royalties; and
- dividends

The amount of revenue for each of the above categories that was earned through the exchange of goods and services should be separately disclosed.

8.3 Sample disclosure involving revenue

Company name Statement of comprehensive income (extracts) For the year ending 31 December 20X2			
	Note	20X2 C	20X1 C
Revenue	15	Xxx	xxx
Cost of sales		(xxx)	(xxx)
Cost of distribution		(xxx)	(xxx)
Cost of administration		(xxx)	(xxx)
Cost of other operations		(xxx)	(xxx)
Finance costs		(xxx)	(xxx)
Profit before tax		Xxx	xxx
Tax		(xxx)	(xxx)
Profit for the period		Xxx	xxx
Other comprehensive income		Xxx	xxx
Total comprehensive income		Xxx	xxx

Company name Notes to the financial statements (extracts) For the year ended 31 December 20X2	
---	--

2. Accounting policies

2.1 Revenue recognition and measurement

2.1.1 Revenue in general

Revenue is measured at the fair value of the consideration received or receivable. Revenue represents the amounts receivable for goods and services provided in the normal course of business, net of discounts and refundable transaction taxes.

2.1.2 Sales revenue

Sales income is recognised when the goods are delivered and the title has passed (when risks and rewards have passed).

2.1.3 Interest revenue

Interest income is recognised on a time basis, by reference to the principle outstanding and the effective interest rate applicable, which is the rate that exactly discounts estimated future cash receipts through the expected life of the financial asset to the asset's carrying amount.

2.1.4 Dividend revenue

Dividend income from investments is recognised when the right to receive payment has been established.

2.1.5 Service revenue

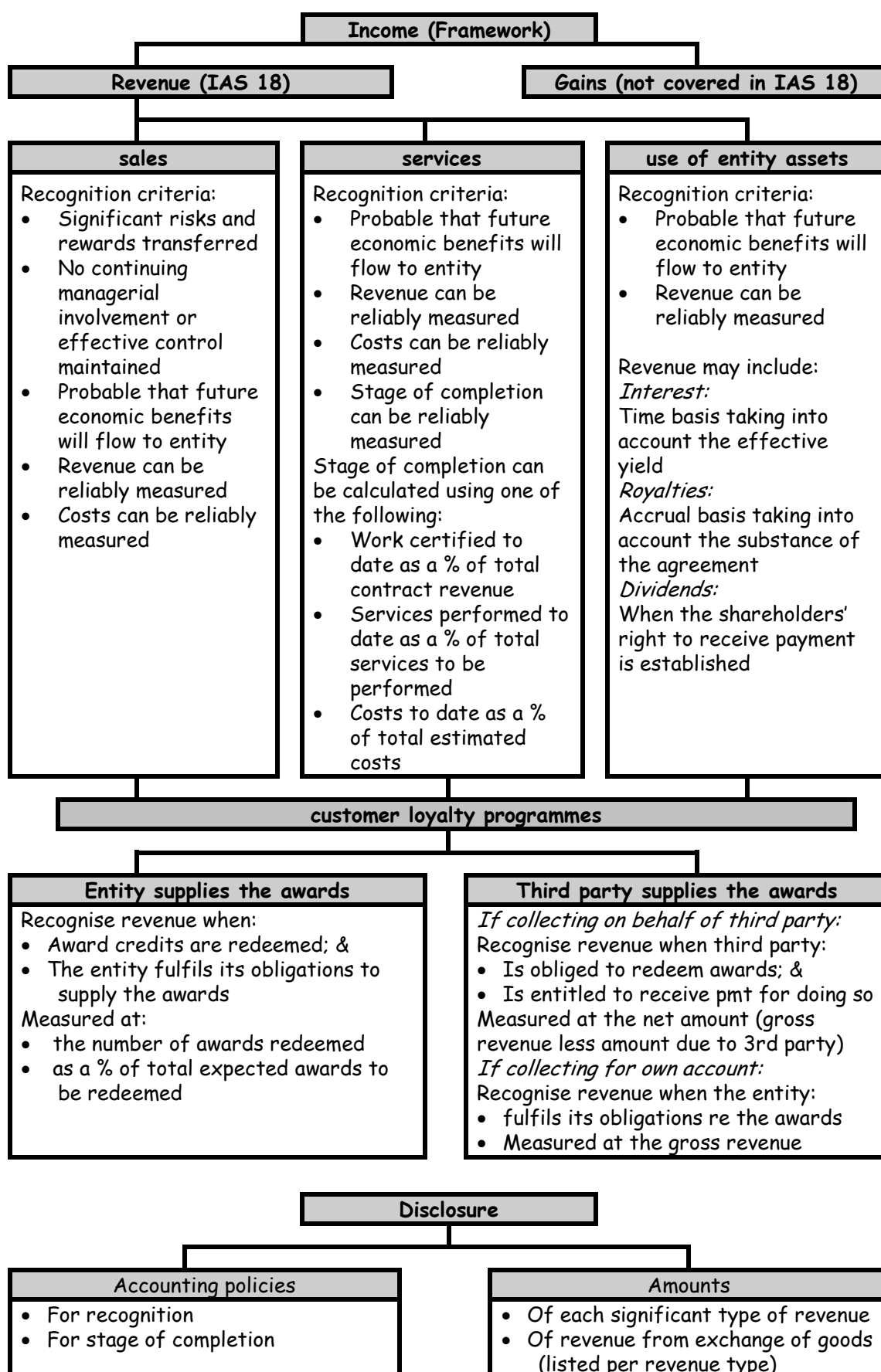
Income from services rendered is recognised when the revenue, costs and the outcome can be reliably measured. Where the outcome of the contract cannot be measured reliably the revenue is recognised to the extent of costs incurred to date, and to the extent of costs recoverable. When it is expected that the costs of service contracts will exceed the revenue, the loss is recognised immediately.

Revenue from services is measured on the stage of completion basis. The percentage of completion is measured by the portion of costs incurred to date as to the total expected costs.

15. Revenue

	20X2 C	20X1 C
Revenue comprises of:		
Sale of goods	Xxx	xxx
Rendering of services	Xxx	xxx
Interest income	Xxx	xxx
Royalty income	Xxx	xxx
Dividend income	Xxx	xxx
	Xxx	xxx

9. Summary



Chapter 16

Employee Benefits

Reference: IAS 19; IFRIC 14

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1 Introduction

Why do we work? Apart from philosophical reasons (that are unfortunately beyond the scope of this book), we generally work for rewards.

In the mid 1890's a Russian scientist, by the name of Ivan Pavlov, began investigating the gastric function of dogs. He very importantly noticed that dogs tend to salivate before food was delivered to their mouths. He called this a 'psychic secretion'. He became so interested in this phenomena that his research, which began as a scientific study of the chemistry of their saliva, mutated into a psychological study and led to the establishment of what is commonly referred to as 'conditional reflexes' or 'Pavlovian response'.

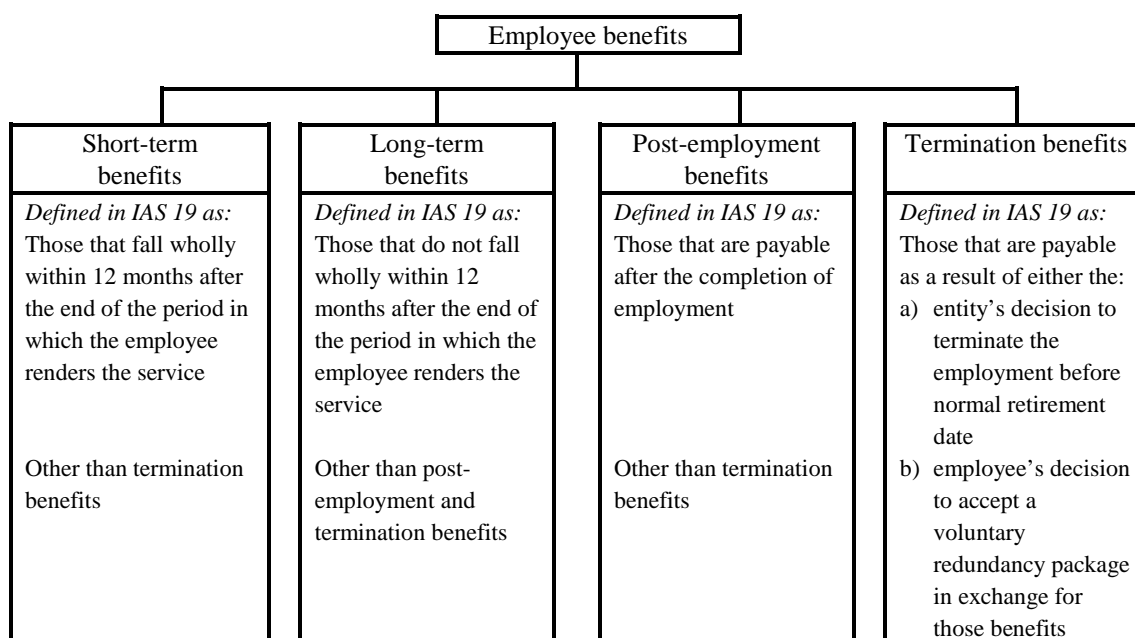
The answer to 'why do we work' lies in this Pavlovian theory of conditional reflexes – we work because we expect to receive a benefit – a bit like the dog salivating in expectation of food.

The term '*employee*' includes all categories: full-time, part-time, permanent, casual, temporary, management and even directors.

The benefit we, as employees, expect to receive may be summarised into four categories:

- benefits in the *short-term* (benefits payable to us while employed and shortly after we provide the service, e.g. a salary);
- benefits in the *long-term* (benefits payable to us while employed but where the benefits may become payable long after we provide the service e.g. a long-service award);
- benefits *post employment* (i.e. after we have retired from employment e.g. a pension); and/ or
- *termination* benefits (those that would be receivable if our employment were to be terminated before normal retirement age (e.g. a retrenchment package).

The definitions of these four categories of employee benefits are as follows:



Employee benefits include settlements made to employees, both past and present. They even include the situation where the employee's spouse, children or others are paid. The only criteria is that the payments were made in exchange for services provided by the employee.

Employee benefits apply to any type of *settlement* – with the exception of share-based payments. These payments were previously included within this standard (IAS 19: *Employee benefits*) but are now covered by its very own standard, IFRS 2: *Share based payments*. Employee benefits therefore include settlements made by an entity in the form of:

- cash (e.g. cash salary);
- goods (e.g. free products); or
- services (e.g. free medical check-ups).

Post-employment benefits could come in the form of defined *contribution* plans or defined *benefit* plans. Defined benefit plans are relatively complex to account for and require lots of disclosure. Although defined benefit plans are not as commonly encountered in practice as defined contribution plans, it is still important for you to understand how to account for them.

IAS 19 requires a lot of disclosure for post-employment benefits where they are defined *benefit* plans whereas there is either little or no disclosure required for the other types of benefits. There are, however, other disclosure requirements that emanate from other standards such as:

- IAS 1 *Presentation of Financial Statements*:
 - requiring disclosure of the employee benefit expense
- IAS 24 *Related Party Disclosures*:
 - requiring disclosure of each type of benefit provided to key management personnel
- IAS 37 *Provisions, Contingent Liabilities and Contingent Assets*:
 - which may require that a contingent liability be disclosed.

In addition to other standards requiring disclosure relating to the employee benefit/s, other disclosure may be required by the:

- Companies Ordinance, 1984 : in respect of directors' remuneration (see Part III of Schedule)
- Code of Corporate Governance.

2 Short-term employee benefits (IAS 19.8 – 19.23)

2.1 Overview of short-term benefits

Short-term employee benefits include benefits that are due within twelve months of the end of the period during which the employee provided the service. IAS 19.8 lists some of the items included under short-term employee benefits as follows:

- Wages, salaries and social security contributions;
- Short-term compensated absences (such as paid annual leave and paid sick leave) where the absences are expected to occur within twelve months after the end of the period in which the employees rendered the related employee service;
- Profit-sharing and bonuses payable within twelve months after the end of the period in which the employees rendered the related service; and
- Non-monetary benefits (such as medical care, housing, car and free or subsidised goods or services) for current employees.

The accrual concept of accounting is applied when *recognising* a short-term employee benefit:

- an expense is recognised (debit) ; and
- a liability is recognised (credit) to the extent that any amount due has not been paid.

This accrual approach is evident in the following journals shown overleaf:

Step 1: The employee benefit is raised as a liability when incurred:

	Debit	Credit
Employee benefit expense	XXX	
Account payable (e.g. wages payable) (L)		XXX
<i>Recognising short-term employee benefits incurred (e.g. wages)</i>		

Step 2: When the benefit is paid, the journal entry is:

Account payable (e.g. wages payable) (L)	XXX	
Bank		XXX
<i>Payment of short-term employee benefit (e.g. wages/ company car etc)</i>		

Step 3: If the expense has been *underpaid*, there will be a credit balance on the account payable. But if the expense has been *overpaid*, there will be a debit balance on the account payable. If an overpayment cannot be recovered from the employee (e.g. the employee is not obligated to return the cash or a future payment to the employee may not be reduced by the overpayment) then the overpayment is expensed:

	Debit	Credit
Employee benefit expense	XXX	
Account payable (e.g. wages payable) (L)		XXX
<i>Over-payment of short-term employee benefit (e.g. wages) expensed</i>		

It is also possible that another standard allows or requires that the employee cost be *capitalised* instead of expensed. This may happen if, for example, an employee is used on the construction of another asset such as inventory. In this case, the benefits payable to this employee (or group of employees) will be capitalised to inventory (IAS 2) instead of expensed (see *Step 1* above).

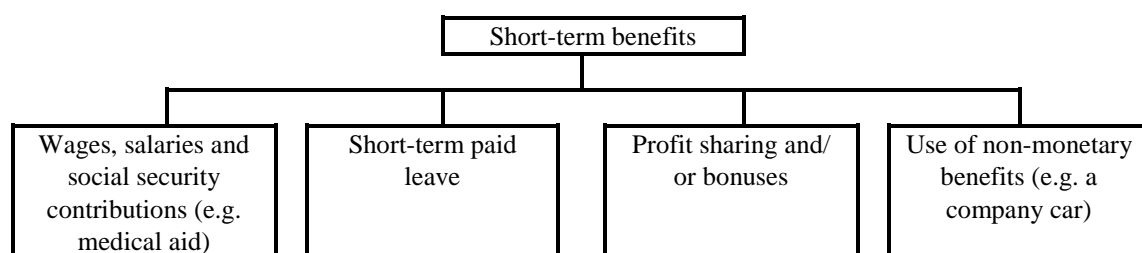
	Debit	Credit
Inventory (or other asset)	XXX	
Account payable (e.g. wages payable) (L)		XXX
<i>Capitalisation of short-term employee benefit (e.g. wages)</i>		

Measurement of the short-term employee benefit is relatively simple because:

- no actuarial assumptions are required to measure either the obligation or the cost; and
- no discounting is applied to short-term employee benefit obligations – for the simple reason that the time between the receiving of the service and the payment of the benefit is short.

As mentioned earlier, IAS 19 does not require any *disclosure* of a short-term benefit although other standards may require certain limited disclosure.

In summary, although we may work in order to earn more than one type of benefit, most of us start working in order to earn basic short-term benefits. These can be summarised as follows:



Whereas we are all probably capable of processing the journals for wages (or salaries etcetera), the following other types of short-term benefits warrant a bit more attention:

- short-term compensated absences;
- profit sharing and bonuses.

2.2 Short-term compensated absences (IAS 19.11 – 19.16)

Short-term compensated absences refer to paid leave. In other words, these absences are those when employers pay employees during periods during which no work is done. The leave offered to an employee may be taken or may remain unused at the end of the period.

2.2.1 Leave taken

The cost of an employee's short-term absence is recognised as part of his salary expense. For example, if you were to take paid annual leave, your salary would be paid to you while you were on holiday: there would be no extra amount owing to you and therefore the leave that you have taken is simply absorbed into the usual salary expense journal (i.e. there is no extra journal entry).

2.2.2 Unused leave

If there was any leave that was owed to an employee during the year that was *not taken* by the employee, a distinction will need to be made between whether the leave was:

- accumulating: where unused leave can be carried forward to another period; or
- non-accumulating: where unused leave cannot be carried forward (i.e. falls away if not used in the current period).

2.2.2.1 Non-accumulating leave

Non-accumulating leave is recognised, as part of the salary expense, when the leave is taken (i.e. when the absence occurs). If an employee fails to take non-accumulating leave that was owed to him, any unused leave will be simply forfeited (since it is non-accumulating). Since the entity has no obligation to provide the unused leave in future years, (i.e. it is forfeited), no liability for unused leave is raised.

Example 1: short-term paid leave: non-accumulating leave: single employee

Mitch Limited has one employee. His name is Guy. Guy is owed 30 days leave per year. Guy is paid C90 000 per year. The year is 365 days and Guy is expected to work 5 days a week. Guy took 20 days leave in 20X1. Guy's leave is non-accumulating.

Required:

Show all related journal entries and calculate any leave pay provision as at the 20X1 year-end.

Solution to example 1: short-term paid leave: non-accumulating leave: single employee

Comment: Of the 30 days leave that was offered to Guy, 20 days were used and 10 days remained unused. No provision is made for the 10 days that Guy did not take because the leave is non-accumulating, which means that Mitch Limited is not obliged to give him this leave. The following journal would be processed as 12 individual journals over the year ($90\,000 / 12 = 7\,500$ per month):

		Debit	Credit
Employee benefit expense	Total salary processed over the year	90 000	
Salaries payable			90 000
<i>Salary owed to Guy for 20X1 (includes leave taken)</i>			

Example 2: short-term paid leave: non-accumulating: group of employees

Lee Limited operates a five-day working week. At Lee Limited's financial year ended 31 December 20X4 (a year with 365 days):

- there were 50 similarly paid employees
- each earning an average salary of C50 000
- and earning 20 days annual leave per year of service.

The leave entitlement of 20 days has remained the same for years and will remain the same for years to come. Similarly, the salary of C50 000 has remained unchanged for years and no significant changes are expected in the next few years.

The following are the *actual* average leave statistics to date:

- end of prior year 20X3: an average of 10 days was used, all earned in 20X3
- end of current year 20X4: an average of 12 days was used, all earned in 20X4

The *estimated* future leave statistics for the year ended 31 December 20X5:

- an average of 14 days will be taken, all earned in 20X5

Ignore public holidays.

Required:

Calculate the leave pay provision for Lee Limited's financial year ended 31 December 20X4 assuming that the annual leave does not accumulate (and therefore does not vest).

Solution to example 2: short-term paid leave: non-accumulating: group of employees

Comment: this example is similar to example 1, with the difference being that the provision calculated in this example is for a group of employees whereas the provision in example 1 is calculated for an individual employee.

No provision is made at 31 December 20X4 since the leave is non-accumulating. This therefore means that any leave that is *not taken* is simply forfeited by the employee at the end of the year. The employee therefore lost 10 days in 20X3 (20 – 10 days) and 8 days in 20X4 (20 – 12 days taken). Non-accumulating leave is recognised as the leave is taken. The leave that *was taken* was simply recognised as part of the salary of C50 000 (which would have been debited to salaries and credited to bank over the year). The entity does not owe the employee any leave that the employee fails to take.

If the company policy was to pay out any unused leave at the end of each year, an accrual would still have to be recognised. In this case, the unused 20X3 leave would have been paid to employees at the end of 20X3. Any unused leave at 31 December 20X4 would, however, be due to the employees on this date. Since the amount owed to the employee would be based on unused leave to 31 December 20X4, it would only be possible to make payment for unused leave in the next year. An accrual liability would therefore need to be raised at 31 December 20X4 for:

$$C191.78 \times (20 \text{ days} - 12 \text{ days taken}) \times 50 \text{ employees} = C76\,712$$

2.2.2.2 Accumulating leave

Accumulating leave is recognised, as part of the salary expense, when the leave is taken (i.e. when the absence occurs). If an employee fails to take accumulating leave that was owed to him, any unused leave remains owing to him (since it is accumulating). Since the entity has an obligation to provide the unused leave in future years, a liability for unused leave must be raised. This liability is recognised when the employee has rendered the service that then entitles him to that leave. This type of leave may be either (IAS 19.13):

vesting: unused leave can be taken in the future or can be exchanged for cash; or

non-vesting: unused leave can be taken in the future but cannot be exchanged for cash.

Whether accumulating leave has to be taken in the future or can be converted into cash in the future, an obligation still exists at year end for any unused leave. This must be measured based on the average expected salary per day (on the basis that, even if the leave is not vesting, the entity will effectively be losing this value on the days that the employee stays away from work).

Example 3: short-term paid leave: accumulating and vesting

Mark Limited has one employee. His name is Jack. Jack is owed 30 days leave per year. Jack is paid C365 000 per year. The year is 365 days and Jack is expected to work 5 days a week. Jack took 20 days leave in 20X1. Jack's leave is accumulating. Jack may convert leave that he does not wish to take into cash. The financial year end is 31 December 20X1.

Required:

Show all related journal entries and calculate any leave pay provision at 31 December 20X1.

Solution to example 3: short-term paid leave: accumulating and vesting

Comment: The provision is based on the effective daily cost of employing Jack multiplied by the total number of outstanding days (Jack will either take this leave or will be paid out for it). The cost per day is calculated as follows:

Basic cost per day: C365 000 / 365 days = C1 000

Effective cost per day: C1 000 x 7/5 = C1 400 (since he not required to work every day but rather 5 days out of every 7 days, the effective cost per day is a little higher)

		Debit	Credit
Employee benefit expense	Total salary processed over the year	365 000	
Salaries payable			365 000
<hr/> Salary owed to Jack for 20X1 (includes leave taken) *			
Employee benefit expense	(30 – 20 days) x C1 400 per day	14 000	
Provision for leave pay			14 000
<hr/> Leave still owing to Jack at 31 December 20X1			

* this journal would actually be processed as 12 individual journals over the year (365 000 / 12 = 30 416)

Example 4: short-term paid leave: accumulating and non-vesting

William Limited has one employee. His name is Roger. Roger is paid C365 000 per year. Roger is owed 30 days leave per year. He took 20 days leave in 20X1. The year is 365 days and Roger is expected to work 5 days a week. His leave is accumulating and he may *not* convert leave that he does not wish to take into cash.

Required:

Show all related journal entries and calculate any leave pay provision to be raised at the year ended 31 December 20X1, assuming that:

A. the leave is allowed to accumulate indefinitely

B. the leave is allowed to accumulate for one year only, after which it will be forfeited: it is expected that Roger will take a further 3 days leave from his 20X1 leave entitlement in 20X2.

Solution to example 4A: short-term paid leave: accumulating indefinitely, non-vesting

Comment: Even though the 20X1 leave not taken by 31 December 20X1 cannot be converted into cash, a liability must be raised to reflect the cost that the company will incur due to the days of work that will be lost when Roger does take this leave in the future. Since the leave accumulates indefinitely, **all outstanding days** are provided for.

The provision is based on the effective daily cost of employing Roger ($C365\,000 / 365 \times 7 / 5$ days = C1 400 per day).

		Debit	Credit
Employee benefit expense	Total salary processed over the year	365 000	
Salaries payable			365 000
<hr/> Salary owed to Roger for 20X1 (includes leave taken)*			
Employee benefit expense	(30 - 20 days) x C1 400 per day	14 000	
Provision for leave pay			14 000
<hr/> Leave still owing to Roger at 31 December 20X1			

* this journal would actually be processed as 12 individual journals over the year ($365\,000 / 12 = 30\,416$)

Solution to example 4B: short-term paid leave: accumulating for a period, non-vesting

Comment: Even though the 20X1 leave not taken by 31 December 20X1 cannot be converted into cash, a liability must be raised to reflect the cost that the company will incur due to the days of work that will be lost when Roger does take this leave in the future. Since the 20X1 leave not taken by 31 December 20X1 only accumulates for another year, we must base the liability on only the **estimated number of days** that Roger will actually take in 20X2 (3 days) – any leave not taken will be forfeited (30 – 20 – 3 = 7 days will be forfeited) and will therefore not cost the company anything.

The provision is based on the effective daily cost of employing Roger ($C365\,000 / 365 \times 7 / 5$ days = C1 400 per day).

		Debit	Credit
Employee benefit expense	Total salary processed over the year	365 000	
Salaries payable			365 000
<hr/> Salary owed to Roger for 20X1 (includes leave taken) *			
Employee benefit expense	3 days x C1 400 per day	4 200	
Provision for leave pay			4 200
<hr/> Leave still owing to Roger at 31 December 20X1			

* this journal would actually be processed as 12 individual journals over the year ($365\,000 / 12 = 30\,416$)

In practice, there are many more employees than just one employee. It is normally impractical to estimate the leave pay provision (liability) for each employee and this is therefore estimated on an average basis. When calculating the leave pay provision on an average basis, we will need to:

- identify the number of employees within a certain salary/ leave bracket;
- calculate the average salary per employee within this salary bracket;
- calculate the average employee salary per day; and then
- estimate the average days leave that the entity owes each employee at year-end (either in days or in cash).

The provision will therefore be:

the estimated average days leave that the entity owes to each employee,
multiplied by the average employee salary cost per day.

Example 5: short-term paid leave: accumulating, vesting and non-vesting

Lee Limited operates a five-day working week. At Lee Limited's financial year ended 31 December 20X4 (a year with 365 days):

- there were 50 similarly paid employees
- each earning an average salary of C50 000
- and earning 20 days annual leave per year of service.

The leave entitlement of 20 days has remained the same for years and will remain the same for years to come. Similarly, the salary of C50 000 has remained unchanged for years and no significant changes are expected in the next few years.

The following are the *actual* average leave statistics per employee:

- end of prior year 20X3: an average of 10 days of the 20X3 leave were unused
- end of current year 20X4: an average of 12 days was used, and on average this came from:
 - the 20X3 leave entitlement: 4 days
 - the 20X4 leave entitlement: 8 days.

The *estimated future* leave statistics per employee for the year ended 31 December 20X5:

- an average of 14 days will be taken and on average this is expected to come from:
 - 20X3: 0 days
 - 20X4: 5 days
 - 20X5: 9 days

Ignore public holidays.

Required:

Calculate the leave pay provision for Lee Limited's financial year ended 31 December 20X4 if:

- A. annual leave is carried forward and available for use in the next financial year (i.e. accumulating) and is paid out in cash at the end of the next financial year if not used (i.e. vested: can be converted into cash).
- B. annual leave is carried forward to the next financial year (i.e. accumulates) but expires if not used by the end of the next financial year end (i.e. non-vesting: can't be converted into cash).

Solution to example 5A and B: short-term paid leave

Comment: this example involves a calculation for a group of employees rather than for just one employee.

The average rate per day is:

$$\text{C50 000} / 365 = \text{C136.99 per actual day}$$

But, only 5 out of every 7 days are worked, therefore, the effective rate per day is actually higher:

$$\text{C136.99} \times 7 / 5 \text{ days} = \text{C191.78 per working day}$$

Solution to example 5A: short-term paid leave – accumulating and vesting

20X3 leave: No provision: unused leave will have been paid out in full by the end of 31 December 20X4

There were 10 days still due to the employee at end of 20X3: 4 of these days were taken in 20X4 and the remaining 6 days from 20X3 would have been *paid out* at the end of 20X4. No provision is therefore made in respect of 20X3 leave since there is no further obligation with regard to the 20X3 leave.

20X4 leave: Provision to be raised for 12 days leave

The entity is still obligated in terms of the unused 20X4 leave entitlement at 31 December 20X4 (12 days per employee: 20 days – 8 days), since this leave may still be taken in the future. The provision is:

$$\text{Provision: } C191.78 \times (20 \text{ days} - 8 \text{ days taken}) \times 50 \text{ employees} = C115\,068$$

20X5 leave: No provision: the 20X5 services have not been provided and therefore there is no obligation

Since the 20X5 leave has not yet been earned by the employees (because the services in 20X5 have not yet been provided by the employees), there is no past event that obligates the entity to provide any of the 20X5 leave). If there is no past event, there can be no obligation at 31 December 20X4.

$$\text{Total provision: } 20X3 \text{ leave: } C0 + 20X4 \text{ leave: } C115\,068 + 20X5 \text{ leave: } C0 = C115\,068$$

Solution to example 5B: short-term paid leave – accumulated and non-vesting

20X3 leave: No provision: unused 20X3 leave will have been forfeited by 31 December 20X4

There were 10 days still due to the employee at end of 20X3: 4 of these days were taken in 20X4 and the remaining 6 days from 20X3 would have been *forfeited* at the end of 20X4. No provision is therefore made in respect of 20X3 leave since there is no further obligation with regard to the 20X3 leave.

20X4 leave: Provision to be raised for 5 days leave

The employee is owed 20 days leave per year. Of the 20 days owed to the employee in 20X4, 8 days were taken as leave in 20X4 (P.S. another 4 days were also taken, but these came out of the 20X3 leave entitlement). This means that at 31 December 20X4, the entity owes the employee another 12 days. Since the employee has already rendered the service that entitles him to this leave, a past event has occurred and there is therefore an obligation at 31 December 20X4. A liability must therefore be recognised for at 31 December 20X4.

The liability will, however, be measured based on the number of 20X4 days that the employee will *probably* take in 20X5: only 5 days – not the full 12 days (we are therefore expecting that the employees will forfeit an average of 7 days of their 20X4 leave: $20 - 8 - 5 \text{ days} = 7 \text{ days}$). Compare this to part A where the liability was based on the full 12 days since the terms of part A's leave entitlement was that the employee would be paid out for *every* day that he does not take.

Although the entity will not be paying the employee out in cash, the cost to the entity is still C191.78 per day since the entity will effectively lose this value on the days that the employee stays at home.

$$\text{Provision: } C191.78 \times 5 \text{ days (20X4 unused leave expected to be used in 20X5)} \times 50 \text{ employees} = C47\,945$$

20X5 leave: No provision: the 20X5 services have not been provided and therefore there is no obligation

The 20X5 leave entitlement of 20 days of which 9 days will probably be taken in 20X5 is ignored since the employee has not yet provided the 20X5 services that would entitle him to the 20X5 leave. Since there is no past event (services rendered) there can not be a present obligation. No liability is therefore recognised for any of the 20X5 leave entitlement.

$$\text{Total provision: } 20X3 \text{ leave: } C0 + 20X4 \text{ leave: } C47\,945 + 20X5 \text{ leave: } C0 = C47\,945$$

2.3 Profit sharing and bonus plans (IAS 19.17 – 19.22)

Where employees are rewarded for services rendered with an offer of profit sharing or bonuses, these would also be considered to be employee benefits. If these are payable within 12 months of the year-end in which the employee provided the services, these would be considered to be *short-term employee benefits* (otherwise they would be *other long-term employee benefits*).

Recognition of these benefits should only occur when:

- there is a present obligation at year end (i.e. the settlement cannot realistically be avoided);
- resulting from a past event (the provision of the agreed upon services); and
- the obligation can be reliably estimated.

The obligation can be either a legal obligation or constructive obligation. For instance:

- a *legal obligation* would arise if the employment contract detailed the profit-sharing or bonus arrangement, and if all conditions of service were met;
- a *constructive obligation* could arise if the entity *created* an obligation for itself through, for instance, a past practice of paying bonuses (or sharing in profits). Therefore, even though the employment contract may be silent on such profit-sharing or bonuses (in which case there would be no legal obligation), it is possible for the entity to create a *constructive obligation* through its past practices, policies, actions or public announcements etc.

In accordance with IAS19.20, a reliable estimate can only be made if:

- the terms of the formal plan contains a formula for determining the amount of the benefit;
- the entity determines the amounts to be paid before the financial statements are authorised for issue; or
- past practice gives clear evidence of the amount of the entity's constructive obligation.

A characteristic of profit sharing and bonuses are that they often accrue over a period of time, and may end up being only partially earned or even forfeited if an employee leaves before the payment date. This characteristic will impact on the measurement of the provision: the probability that the employee/s may leave before they become entitled to the benefit must be factored into the calculation.

Example 6: bonuses – raising the bonus provision

During 20X2, Luke Limited created an obligation to pay a bonus of C120 000 to each employee for the year. There were 6 employees at 1 January 20X2, and 2 more employees were hired on 1 April 20X2 (resulting in 8 employees at 31 December 20X2). It was expected that 3 employees would resign during 20X3.

Required:

Calculate the provision to be recognised in the financial statements of Luke Limited for the year ended 31 December 20X2 and show the journal entry if the terms of the agreement are such that:

- the bonus accrues to those employees still employed at year-end (31 December 20X2)
- the bonus accrues proportionately based on the number of months worked during 20X2;
- the 20X2 bonus accrues to only those employees still employed at 31 December 20X3 (i.e. the end of the *next* year).

Solution to example 6 A, B and C: bonuses – raising the provision

Liability balance at year-end:	Calculation	C		
Part A:	$120\,000 \times 8 \text{ employees}$	960 000		
Part B:	$120\,000 \times 6 \text{ employees} \times 12 / 12 + 120\,000 \times 2 \text{ employees} \times 9 / 12$	900 000		
Part C:	$120\,000 \times (8 - 3 \text{ employees})$	600 000		
31 December 20X2		Part A	Part B	Part C
		Dr/ (Cr)	Dr/ (Cr)	Dr/ (Cr)
Employee benefit expense		960 000	900 000	600 000
Provision for bonuses		(960 000)	(900 000)	(600 000)
<i>Bonuses provided for</i>				

Example 7: bonuses – paying the bonus

Assume the same information as that in the previous example and that the C120 000 bonus accrued to those employees still employed on 31 December 20X3 (i.e. example 6C). Assume that no employees resigned during 20X3 and that the bonus was paid on 31 December 20X3.

Required:

Show the journal entries to be processed by Luke Limited for the year ended 31 December 20X3.

Solution to example 7: bonuses – paying the bonus

31 December 20X3		Debit	Credit
Employee benefit expense	$8 \times 120\,000 - 600\,000$	360 000	
Provision for bonuses			360 000
<i>Increase in 20X2 bonus provision</i>			
Provision for bonuses	$8 \times 120\,000$; OR	960 000	
Bank	$600\,000 + 360\,000$		960 000
<i>Payment of bonuses at 31 December 20X3</i>			

Example 8: profit sharing

John Limited has 5 directors at 31 December 20X2 with whom it has employment contracts that provide for a 20% share of 10% of the profits that exceed a pre-determined target. The target is set at the end of each year for the next year's profit sharing calculation.

- At 31 December 20X1 it was decided that the target profit for 20X2 was C1 000 000. The actual profit achieved in 20X2 was C1 200 000.
- The targeted profit for 20X3, set on 31 December 20X2, is C1 400 000. Before the 20X2 financial statements were authorised for issue it looked probable that this profit target will also be achieved.

Each of the directors still employed on 31 March of the year after the target is achieved is entitled to their 20% of the total 10% profit share.

Required:

Journalise any provision to be recognised in the financial statements of John Limited for the year ended 31 December 20X2 assuming:

- A. John Limited expects that no directors will resign before 31 March 20X3.
 B. John Limited expects that one director will resign before 31 March 20X3.

Solution to example 8A: profit sharing

31 December 20X2		Debit	Credit
Employee benefit expense	$20\% \times 10\% \times (1\,200\,000 - 1\,000\,000) \times 5$	20 000	
Provision for profit sharing (L)			20 000
<i>Profit share provision: no directors are expected to resign before 31/3/20X3</i>			

Solution to example 8B: profit sharing

31 December 20X2		Debit	Credit
Employee benefit expense	$20\% \times 10\% \times (1\,200\,000 - 1\,000\,000) \times 4$	16 000	
Provision for profit sharing (L)			16 000
<i>Profit share provision: 1 director expected to resign before 31/3/20X3</i>			

Note: no provision is made for the expected profit share related to the 20X3 targeted profit (in either part A or part B) even though it seems probable that the target will be met, because the profit share depends on the actual and final achievement of the profit – this has not yet happened and therefore there is no past event and therefore there is no present obligation at 31 December 20X2.

3 Post-employment benefits (IAS 19.24 – 19.125)

3.1 Overview of post-employment benefits

If the employee remains employed by the entity until normal retirement age (i.e. does not terminate his employment before this date) he may be entitled to further benefits. Since these benefits would accrue while he was no longer employed, they would be referred to as ‘post-employment’ benefits.

It is important to note that it is the services that he provided whilst employed that entitle him to these benefits after employment. Therefore, there is a past event for which the entity has an obligation. As such, a journal entry to record the obligation and related cost must be recognised *as the services are provided*:

	Debit	Credit
Employee benefit expense	XXX	
Provision for post-employment benefits (L)		XXX
<i>Post-employment benefit provided for</i>		

As mentioned in the introduction, post-employment benefits are categorised into two basic types:

- defined contribution plans; and
- defined benefit plans.

Defined contribution plans are easier to recognise, measure and require almost no disclosure whereas defined benefit plans are more complex to measure and require lots of disclosure.

The post-employment plan may be a simple single employer plan or may be a:

- multi-employer plan: explained in IAS 19.29-32B;
- group administration plan: explained in IAS 19.33;
- common control shared-risk plan: explained in IAS 19.34-34B;
- state plan: explained in IAS 19.36-38; or an
- insured benefit plan: explained in IAS 19.39-42.

The accounting and disclosure of such plans, although not complicated, are not covered further in this chapter. This chapter focuses on single-employer plans only.

3.2 Defined contribution plans (IAS 19.43 – 19.47)

Defined contribution plans are post-employment benefit plans in which the entity and the employee agree to make contributions to a fund. On resignation or retirement, the contributions together with any gains (or less any losses) are paid to the employee. What is important here is that defined contribution plans *limit* the entity’s obligation to the contributions that it agreed to make to the plan (or to the separate insurance company that runs the plan).

The economic substance of a defined contribution plan is therefore that:

- the obligation is limited to the agreed upon contributions; and
- the risks (that the benefits will be less than expected) belong to the employee.

The amount recognised as an expense in the statement of comprehensive income is the contribution payable by the employer to the defined contribution fund.

	Debit	Credit
Employee benefit expense	XXX	
Contributions payable (L)		XXX
<i>Post-employment benefit: defined contributions provided for</i>		

The expense is recognised as and when the employee provides the services. The amount to be recognised is relatively easy to measure:

- no actuarial assumptions are needed; and
- it is normally undiscounted (but it will need to be discounted if the contributions become payable after 12 months from the end of the period in which the employee provides the service).

Example 9: defined contribution plans

Matthew Limited's annual salary expense for 20X4 is as follows:

- gross salary of C4 000 000: 30% is payable to the tax authorities, 7% is payable to a defined contribution plan (provident fund) and the balance is payable to the employees
- company contributions to the defined contribution plan: 10% of gross salaries

Required:

Show the relevant journals (on an annual basis despite normally being journalised on a monthly basis) and profit before tax note in the financial statements of Matthew Limited for the year ended 31 December 20X4.

Solution to example 9: defined contribution plans

		Debit	Credit
Employee benefit expense	Given	4 000 000	
Current tax payable: employees tax (L)	$4\,000\,000 \times 30\%$		1 200 000
Defined contributions payable (L)	$4\,000\,000 \times 7\%$		280 000
Employees payable (L): net salary	Balance (paid to the employee)		2 520 000
<i>Gross salaries for the period (including tax and the employees' contributions to the defined contribution plan)</i>			
Employee benefit expense	$4\,000\,000 \times 10\%$	400 000	
Defined contributions payable (L)			400 000
<i>Matthew Limited's (employer) contribution to the defined contribution plan</i>			

Matthew Limited

Notes to the financial statements (extracts)

For the year ended 31 December 20X4

		20X4 C	20X3 C
3. Profit before tax			
Profit before tax is stated after taking into account the following disclosable expense/ (income) items:			
• Employee benefit expenses	$4\,000\,000 + 400\,000$	4 400 000	xxx
Included in employee benefit expenses are the following:			
• Defined contribution plan costs	<i>Employer contribution only</i>	400 000	xxx

Note: Both the employer and the employees contributed to the plan: the employees contributed C280 000 over the year whereas the employer contributed C400 000. However, it is only the employer's contribution that is separately disclosable as a defined contribution plan cost (although both the employees' and the employer's contributions are included in the total employee benefit expense). The 280 000 contribution is a contribution cost incurred by the employees and not by Matthew Limited (the employees effectively paid the 280 000 out of their salary of 4 000 000).

3.3 Defined benefit plans (IAS 19.48 - 19.125)

3.3.1 Overview of a defined benefit plan (IAS 19.27)

Where an entity guarantees (promises) that certain benefits will be payable to its employees after employment, the entity has opened itself up to both:

- an obligation that is potentially much bigger than simply the payment of future contributions to a post-employment plan (e.g. pension payments are often based on the employee's last salary which may be far greater than originally expected); and
- the risk that there will not be sufficient assets set aside to settle the obligation (i.e. to pay the benefit owing to the employee).

Due to the risks involved in a defined benefit plan, there is also far more disclosure required than is required of a defined contribution plan.

When accounting for a defined benefit plan we must recognise both:

- the plan obligation (i.e. the benefits that it owes to its employees); and
- the plan assets (i.e. those set aside in order to settle the obligation).

The initial journal entries (to create the plan obligation and plan assets) are as follows:

Employee benefit expense		Defined benefit plan: obligation	
DBPO	xxx		EB expense xxx
Defined benefit plan: asset		Bank	
Bank	yyy	DBPA	yyy

As can be seen in these ledger accounts, any contributions made to a defined benefit plan will be recognised as a plan asset (i.e. an investment) instead of an expense (i.e. as in the case of a defined contribution plan).

Whereas the measurement of the plan asset is simply its fair value (which is generally its market value and thus simple to determine), the measurement of the obligation is more complex.

3.3.2 Measurement of a defined benefit plan

3.3.2.1 Deficit or surplus

Essentially we are dealing with two accounts (and a net employee benefit expense account):

- the plan obligation; and
- the plan assets.

The two accounts are set-off against each other:

- if the obligation is greater than the asset, it is a *deficit* (we owe more than we own and are thus 'in trouble', having a net liability position); and
- if the assets are greater than the obligation, we have a *surplus* (we own more than we owe and are thus 'not in trouble', having a net asset position).

The deficit or surplus is calculated as follows:

		C
Plan obligation	Present value of future obligation	XXX
Less plan assets	Fair value	(XXX)
Deficit/ (surplus)		XXX

3.3.2.2 Liability or asset

The liability or asset presented in the statement of financial position is not the same thing as a surplus or deficit. The surplus or deficit is simply part of the liability or asset calculation.

The liability or asset (which is presented in the statement of financial position) is calculated as follows (IAS 19.54):

		C
Plan obligation	<i>Present value of future obligation</i>	XXX
Less plan assets	<i>Fair value</i>	(XXX)
<i>Deficit/ (surplus)</i>		XXX
<i>Adjust for unrecognised items:</i>		
Add unrecognised actuarial gains	<i>IAS 19 .92 & .93 (corridor)</i>	XXX
Less unrecognised actuarial losses	<i>IAS 19 .92 & .93 (corridor)</i>	(XXX)
Less unrecognised past service costs	<i>IAS 19 .96</i>	(XXX)
<i>Liability/ (asset) balance</i>	<i>If it is an asset: consider IAS 19 .58 (ceiling), as well as IAS 19.58A if there was also a surplus</i>	XXX

If you look at this calculation (i.e. the calculation of the liability (or asset) balance), you will notice that IAS 19 makes the following distinctions:

- obligations: this is the present value of the plan obligation,
- deficits (or surpluses): this is the plan obligation less the plan asset, and
- liabilities (or assets): the deficit (or surplus) adjusted for certain unrecognised items.

These unrecognised items can be categorised as:

- unrecognised actuarial gains or losses; and
- unrecognised past service costs.

Some gains, losses and costs are not recognised immediately as income or expenses and are deferred in the statement of financial position until a later date. The recognition of these gains, losses and costs are explained later:

- unrecognised actuarial gains or losses: see 3.3.2.5 to 3.3.2.7; and
- unrecognised past service costs: see paragraph 3.3.2.3.3.

The defined benefit plan can be either a net liability or a net asset. If it is an *asset* (i.e. if it has a debit balance), there is a certain *ceiling* (limit) that will need to be observed. The ceiling limit is set out in IAS 19.58(b). See 3.3.2.8 and 3.3.2.10.

If a defined benefit plan asset has a *surplus*, a further adjustment may be necessary in terms of IAS 19.58A. See ‘other measurement issues: asset limitations’. See 3.3.2.9 and 3.3.2.10.

3.3.2.3 Measurement of the plan obligation

The obligation is measured at its present value. The movement between the opening and closing balance on the obligation account can be summed up as follows:

<i>Plan obligation</i>	<i>Paragraph</i>		C
Opening balance	3.3.2.3.1	<i>PV of future obligation: actuarial assumptions at beginning of year</i>	XXX
Interest costs	3.3.2.3.1	<i>Opening balance (PV) x discount rate estimated at start of year</i>	XXX
Current service cost	3.3.2.3.2	<i>Increase in obligation due to services provided in the current year (PV)</i>	XXX
Past service cost	3.3.2.3.3	<i>Increase in obligation due to services provided in prior years (PV)</i>	XXX
Less benefits paid	3.3.2.3.4	<i>Actual payments made</i>	(XXX)
Less settlements	3.3.2.3.5	<i>Actual payments made</i>	(XXX)
Curtailment (gain)/ loss	3.3.2.3.5	<i>Present value using latest actuarial assumptions</i>	XXX
Settlement (gain)/ loss	3.3.2.3.5	<i>Present value using latest actuarial assumptions</i>	(XXX)
Subtotal			XXX
Actuarial (gain)/ loss	3.3.2.5/6	<i>Balancing figure</i>	(XXX)
Closing balance		<i>PV of future obligation: actuarial assumptions at end of year</i>	XXX

3.3.2.3.1 Present value and interest cost (IAS 19.63)

A present value is a future amount that has been discounted to a present value using a discount rate that reflects the passage of time. As we get closer to the future date on which the future amount is expected to be paid, the present value will increase until it ultimately equals the future amount. The gradual increase of the present value (until it equals the future amount) is referred to as the unwinding of the discount. The following example explains the workings of a present value calculation and how one records the unwinding of the discount.

Example 10: defined benefit plan: effect of the unwinding of the discount

Assume that on 1 January 20X1 we owe an amount of C100 000, payable on 31 December 20X5. For simplicity, assume that:

- this future obligation arose due to services provided by the employee in the first few days of 20X1 and that services thereafter did not result in an increase in the obligation (i.e. the obligation remained static at C100 000); and
- the discount rate remained unchanged at 10% each year.

Required:

Calculate the present value of the C100 000 and prepare the effective interest rate table. Show the journal entries posted in the ledger accounts.

Solution to example 10: defined benefit plan: effect of the unwinding of the discount

Step 1: PV factor at 10% after five years (5 years between 1 January 20X1 and 31 December 20X5):

$$1/(1.1)^5 = 1 / 1.1 / 1.1 / 1.1 / 1.1 / 1.1 \text{ OR } = 1 / (1.1 \times 1.1 \times 1.1 \times 1.1 \times 1.1) = 0.620921323$$

$$100\,000 \times 0.620921323 = 62\,092$$

Step 2: Effective interest rate table

Year	Opening balance	Interest	Closing balance
5 years to payment date	62 092	6 209	68 301
4 years to payment date	68 301	6 830	75 131
3 years to payment date	75 131	7 513	82 644
2 years to payment date	82 644	8 264	90 908
1 year to payment date	90 908	9 092	100 000
		37 908	

The ledger accounts:

Defined benefit plan: Obligation				
	20X1	Jnl 1	EB Exp: current cost	62 092
	20X1	Jnl 2	EB Exp: interest cost	6 209
	20X1		Closing balance	68 301
	20X2	Jnl 3	EB Exp: interest cost	6 830
	20X2		Closing balance	75 131
	20X3	Jnl 4	EB Exp: interest cost	7 513
	20X3		Closing balance	82 644
	20X4	Jnl 5	EB Exp: interest cost	8 264
	20X4		Closing balance	90 908
20X5	Jnl 7	Bank	100 000	
			100 000	
	20X5		Closing balance	0

Bank				
	20X5	Jnl 7	DBP: Obligation	100 000
Employee benefit expense: Current cost				
20X1	Jnl 1	DBP: Obligation	62 092	
Employee benefit expense: Interest cost				
20X1	Jnl 2	DBP: Obligation	6 209	
20X2	Jnl 3	DBP: Obligation	6 830	
20X3	Jnl 4	DBP: Obligation	7 513	
20X4	Jnl 5	DBP: Obligation	8 264	
20X5	Jnl 6	DBP: Obligation	9 092	

3.3.2.3.2 Current service costs (IAS 19.67)

The defined benefit obligation increases over time: each day that the employee works increases this obligation. The current cost is measured at the present value of the obligation arising from services provided by the employee in the current year.

Example 11: defined benefit plan: current service cost

On 1 January 20X2, a plan obligation has a balance of C68 301 (the present value of an amount of C100 000, payable to an employee on 31 December 20X5).

Further services provided in 20X2 increase the *future* obligation by C20 000 (PV of C15 026).

For simplicity, assume that:

- these further services were provided at 31 December 20X2;
- the discount rate remained unchanged at 10% each year.

Required:

Show the journal entries posted in the ledger accounts in 20X1 and 20X2.

Solution to example 11: defined benefit plan: current service cost

Step 1: PV factor at 10% after three years (3 years between 31 Dec 20X2 and 31 Dec 20X5):

This calculation was not required because the present value was given – the calculation is given for interest sake only.

$$1/(1.1)^3 = 1 / 1.1 / 1.1 / 1.1 \text{ OR } = 1 / (1.1 \times 1.1 \times 1.1) = 0.751314801$$

$$20\,000 \times 0.751314801 = 15\,026 \text{ (this amount was given)}$$

Step 2: Effective interest rate table (revised for added current costs)

	Opening balance	Interest A x 10%	Current cost (provided <i>end</i> of year)	Closing balance (A + B + C)
Year	A	B	C	D
20X1	62 092	6 209		68 301
20X2	68 301	6 830	15 026	90 157
20X3	90 157	9 016		99 173
20X4	99 173	9 917		109 090
20X5	109 090	10 910		120 000
		<u>42 882</u>		

The ledger accounts:

Defined benefit plan: Obligation				
	20X1	Jnl 1	EB Exp: current cost	62 092
	20X1	Jnl 2	EB Exp: interest cost	6 209
	20X1		Closing balance	68 301
	20X2	Jnl 3	EB Exp: interest cost	6 830
	20X2	Jnl 4	EB Exp: current cost	15 026
	20X2		Closing balance	90 157

Employee benefit expense: Current cost				
20X1	Jnl 1	DBP: Obligation	62 092	
20X2	Jnl 4	DBP: Obligation	15 026	

Employee benefit expense: Interest cost				
20X1	Jnl 2	DBP: Obligation	6 209	
20X2	Jnl 3	DBP: Obligation	6 830	

3.3.2.3.3 Past service costs (IAS 19.96)

The employer may introduce a new defined benefit plan after an employee has already provided a few years of service.

Alternatively, if the defined benefit plan already exists, it may also be possible for an employer to adjust the terms of the plan such that there is either:
an increase in the obligation (improved benefits for the employee) or
a decrease in the obligation (reduced benefits for the employee).

If these new benefits have already *vested* (i.e. the services required in order to qualify for the benefits have already been provided), they are recognised as an employee benefit expense immediately. If these new benefits have not yet vested, the benefit is recognised as an expense on the straight-line basis over the period until vesting is expected to occur. In other words, some of these benefits will remain unrecognised until they have vested.

Example 12: defined benefit plan: past service cost

A company has a defined benefit plan, agreed to on 1 January 20X1. Details relating to its plan obligation are as follows:

- Balance on 1 January 20X2: 68 301 (the PV of an estimated future amount of C100 000, payable on 31 December 20X5).
- Services provided during 20X2 increase the future obligation by C20 000 (PV of C15 026).
- On 31 December 20X2, the company changed the terms of the plan such that the future obligation increased by C30 000 (PV C22 539). The condition attaching to this increase in benefit is that the employee must provide 3 years of service. As at 31 December 20X2, of the additional present value:
 - 20% relates to employees who have already provided 3 years of service; and
 - 80% relates to employees who have already provided an average of 1 year service.
- Services provided during 20X3 increase the future obligation by C15 000 (PV of C12 397).

The discount rate remained unchanged at 10% each year.

All present values have been calculated assuming that the transactions/ services happened at year-end.

Required:

A. Show the journal entries posted in the ledger accounts in 20X1, 20X2 and 20X3.

B. Assuming that the fair value of the plan assets are C111 000 at 31 December 20X3, calculate the balance to be reflected in the statement of financial position and the employee benefit expense to be included in the statement of comprehensive income for the year ended 31 December 20X3.

Solution to example 12A: defined benefit plan: past service cost – ledger accounts

	Opening balance	Interest	Current & past costs	Closing balance
Year	A	A x 10% B	(provided <i>end</i> of year) C	(A + B + C) D
20X1	62 092 (1)	6 209		68 301 given
20X2	68 301 give	6 830	(2) 15 026 given	90 157
			(3) 22 539 given	112 696
20X3	112 696	11 270	(2) 12 397 given	136 363
20X4	136 363	13 637		150 000
20X5	150 000	15 000		165 000
		<u>52 946</u>		

(1) $68\,301 / 1.1 = 62\,092$

(2) current service cost

(3) past service cost due to change in terms

Please note: the required asked only for 20X1 – 20X3: the 20X4 and 20X5 lines on the effective interest table were therefore not required but have been given for your interest only.

The ledger accounts:

Defined benefit plan: Obligation				
	20X1	Jnl 1	EB Exp: current cost	62 092
	20X1	Jnl 2	EB Exp: interest cost	6 209
	20X1		Closing balance	68 301
	20X2	Jnl 3	EB Exp: interest cost	6 830
	20X2	Jnl 4	EB Exp: current cost	15 026
	20X2	Jnl 5	EB Exp: past cost	22 539
			and	
			DBP: unrecognised past cost	
	20X2		Closing balance	112 696
	20X3	Jnl 6	EB Exp: interest cost	11 270
	20X3	Jnl 7	EB Exp: current cost	12 397
	20X3		Closing balance	136 363

Defined benefit plan: Unrecognised past service cost				
20X2	Jnl 5	DBP: Obligation (1)	18 031	
			18 031	Balance c/f
				18 031
20X2		Closing balance	18 031	
			18 031	
20X3		Closing balance	9 015	
	20X3	Jnl 8	EB Exp: past cost (2)	9 016
			Balance c/f	9 015
				18 031

Employee benefit expense: Current cost				
20X1	Jnl 1	DBP: Obligation	62 092	
20X2	Jnl 4	DBP: Obligation	15 026	
20X3	Jnl 7	DBP: Obligation	12 397	

Employee benefit expense: Interest cost				
20X1	Jnl 2	DBP: Obligation	6 209	
20X2	Jnl 3	DBP: Obligation	6 830	
20X3	Jnl 6	DBP: Obligation	11 270	

Employee benefit expense: Past cost				
20X2	Jnl 5	DBP: Obligation (1)	4 508	
20X3	Jnl 8	DBP: Obligation (2)	9 016	

(1) $22\,539 \times 20\% = 4\,508$ and $22\,539 \times 80\% = 18\,031$

(2) $18\,031 / 2 \text{ years} \times 1 \text{ year} = 9\,016$

Solution to example 12B: defined benefit plan: past service cost – presentation

<i>W1: Calculation of the asset or liability balance (statement of financial position):</i>		C
Plan obligation	<i>Present value of future obligation</i>	136 363
Less plan assets	<i>Given (plan asset account)</i>	(111 000)
<i>Deficit</i>		25 363
<i>Adjust for unrecognised items:</i>		
Add/ (less) unrecognised actuarial gains/ (losses)		0
Less unrecognised past service costs		(9 015)
<i>Liability balance</i>		16 348
<i>W2: Calculation of the employee benefits expense (statement of comprehensive income):</i>		C
Interest cost		11 270
Current service cost		12 397
Past service cost		9 016
<i>Total employee benefit expense</i>		32 683

3.3.2.3.4 Benefits paid

The plan may require a lump sum to be paid on one day in the future or the payment of an annuity (e.g. a pension) or a combination thereof. The previous example assumed a plan in which:

- one lump sum is to be paid to employees: initially, the lump sum was going to be C100 000, but then this increased by current service costs of C20 000 and C15 000 (services provided in 20X2 and 20X3 respectively) and also by past service costs of C30 000 owing to an adjustment to the terms of the plan: a total future payment of C165 000; and
- all employees will be paid on one day: 31 December 20X5.

The reality is that there are normally many employees, each of whom would be paid at different times and where the payments could be annuities (rather than a single payment per employee).

A payment of benefits is simple to account for though. The plan assets that are set aside for such payments are reduced by the payment (credit plan asset) and the obligation to the employee is reduced (debit plan obligation). The following journal is therefore processed for benefits paid:

	Debit	Credit
Defined benefit obligation (L)	XXX	
Defined benefit asset (A)		XXX
<i>Payment of benefits under defined benefit plan</i>		

Example 13: defined benefit plan: benefits paid

The present value of the plan obligation on 1 January 20X2 was C68 301.

At 1 January 20X2, the discount rate was estimated to be 10%.

The discount rate and all actuarial assumptions remained unchanged throughout 20X2.

	Note	20X3	20X2
		C	C
Current service costs (present value)		12 397	15 026
Past service costs (present value)	(1)	N/A	22 539
Benefits paid to employees		5 000	0

Note 1: Past service costs arose due to a change made to the terms of the plan on 31 December 20X2. The increase in the obligation was valued at C22 539 (20% was vested and 80% was not yet vested but were expected to vest within 2 years). Assume that all transactions occurred at the end of the year.

Required:

Show the journal entries in 20X3.

Solution to example 13: defined benefit plan: benefits paid

31 December 20X3		Debit	Credit
Employee benefit expense: interest cost	$112\,696 \times 10\%$	11 270	
Defined benefit obligation (L)			11 270
<i>Unwinding of discount on opening present value of the obligation (68 301 + 68 301 x 10% + 15 026 + 22 539 = 112 696) using the discount rate estimated at beginning of year (10%)</i>			
Employee benefit expense: current cost	<i>Given</i>	12 397	
Defined benefit obligation (L)			12 397
<i>Current costs present valued at 10% (20X3 services)</i>			
Employee benefit expense: past cost	$22\,539 \times 80\% / 2 \text{ years}$	9 016	
Defined benefit obligation: unrecognised past costs (A)			9 016
<i>Unrecognised past costs (31 December 20X2): recognised over 2 years</i>			
Defined benefit obligation (L)	<i>Given</i>	5 000	
Defined benefit assets (A)			5 000
<i>Benefits paid to employees during 20X3</i>			

3.3.2.3.5 Curtailments and settlements (IAS 19.109 – 19.115)

A *curtailment* occurs when the entity is demonstrably committed to materially reduce the number of employees covered by a plan, or where the entity amends the terms of the plan such that a material part of the future services will either not qualify for benefits or will qualify for materially reduced benefits. This occurs for example, when a branch is closed down.

A *settlement* occurs when an entity enters into a transaction that eliminates part or all future obligations under the plan (e.g. offers a cash sum in exchange for reduced future benefits).

It can also happen that a *curtailment* occurs together with a *settlement*. This happens when a plan is terminated (ceases to exist) and the obligation is also settled (employees are paid).

The gain or loss on curtailment or settlement is recognised when they occur (i.e. not when it is *probable* that they will occur). When the curtailment occurs as part of a restructuring of the business, it is recognised at the same time that the restructuring is recognised.

The measurement of the gain or loss requires re-measuring the plan obligation and plan assets using current actuarial assumptions. The gain or loss will then be calculated as:

- The change in present value of the plan obligation
- The change in the fair value of the plan asset
- Any unrecognised actuarial gains or losses and past service costs (IAS 19.92 and 96).

3.3.2.4 Measurement of the plan assets

The plan assets are measured at their fair value. The movement between the opening and closing balance on the plan assets account occurs as follows:

<i>Plan assets</i>	<i>Paragraph</i>		C
Opening balance	Example 14	Fair value of plan assets – beginning of year	XXX
Expected return on plan assets	Example 14	O/ bal x expected rate of return estimated at start of year	XXX
Contributions by employer	Example 14	Investments made into the plan assets during the year	XXX
Contributions by employee	Example 14	Investments made into the plan assets during the year	XXX
Less benefits/ settlements paid	Example 14	Actual amounts paid to employees	(XXX)
Subtotal			XXX
Actuarial gain/ (loss)	3.3.2.5/6	Balancing figure	(XXX)
Closing balance		Fair value of plan assets – end of year	XXX

Example 14: defined benefit plan: plan assets

The fair value of the plan assets on 1 January 20X3 was C51 200.

At 1 January 20X3, the expected rate of return on these assets was estimated to be 8%.

The expected rate of return and all actuarial assumptions remained unchanged throughout 20X3.

	Note	20X3	C
Current contributions		9 000	
Benefits paid to employees		5 000	
Gross salaries		210 000	
Salaries paid to employees		140 000	
Employee contributions paid into the plan		10 000	
Employees tax paid		60 000	

Required:

Show the journal entries for 20X3 assuming that all transactions occur at the end of the year.

Solution to example 14: defined benefit plan: plan assets

31 December 20X3		Debit	Credit
Plan asset	51 200 x 8%	4 096	
Employee benefit expense: expected return on assets			4 096
<i>Expected return on assets at beginning of year (51 200) using the rate of return expected at beginning of the year (8%)</i>			
Plan asset	Given	9 000	
Bank			9 000
<i>Contributions made by the company to the plan assets during 20X2</i>			
Employee benefit expense		200 000	
Employees payable: net salary			140 000
Current tax payable: employees tax			60 000
<i>Gross salaries payable (excluding employees contribution to defined benefit plan: the 10 000 is recognised as part of the plan asset)</i>			
Plan asset	Given	10 000	
Bank			10 000
<i>Employees' contributions to defined benefit plan</i>			
Employees payable: net salary	Given	140 000	
Bank			140 000
<i>Salaries paid to the employees</i>			
Current tax payable: employees tax	Given	60 000	
Bank			60 000
<i>Tax on salaries paid to the tax authorities</i>			

3.3.2.5 Actuarial assumptions (IAS 19.64 – 19.106)

Due to the sometimes very complex calculations needed to measure the plan obligations and plan assets (to a lesser extent), it is advisable to use an actuary. Although IAS 19 does not make the use of an actuary a requirement, IAS 19.64 requires that the entity uses the projected unit credit method to value the obligation. The workings of the projected unit credit method are explained together with an example in IAS 19.64-65 and are not covered further in this chapter.

Whether the actuary does the calculations or you do, the measurement requires a number of assumptions to be made. The actuary (or yourself) will need to assume certain things in order to estimate the value of the plan obligation and its related plan assets. These assumptions are numerous but may be categorised into the following two types of assumptions:

- demographic assumptions; and
- financial assumptions.

Demographic assumptions involve assessing the characteristics of the employees who belong to the plan. This involves estimating, for example:

- how many employees may leave, become disabled, die or take early retirement;
- how long employees will live after retirement age;
- how many employees have dependants that will be eligible for benefits; and
- how much the employees will claim against their medical plans (if relevant).

The *financial assumptions* involve assessing the market expectations (at the end of the reporting period) for the period over which the plan is expected to settle its obligations. This involves estimating:

- the discount rate to be used to calculate the present value of the plan obligation;
- future salary and benefits levels;
- future medical costs (in the case of medical plans); and
- the expected rate of return on plan assets.

The *discount rate* should ideally be based on market returns on high quality corporate bonds, although, if these are not available, government bonds could be used instead. The bonds used should be those that are in the same currency and have the same estimated term as the plan.

Future salaries and benefits are affected, amongst other factors, by inflation and promotions and the calculation thereof is complex.

Similarly complex is the estimation of *medical costs* (where the plan is a medical plan), where the expected costs are affected by inflation, expected increases in medical costs, expected changes in health care technology, expected claims (which will be influenced, for example, by the age, sex and number of dependants of the employees, their health and even their geographic location). Employees may also be expected to contribute a portion of the medical costs and this will obviously need to be factored into the calculation as well.

The *expected rate of return on the plan assets* is also frequently different to the actual rate of return that transpires since the estimate is made at the beginning of each period based on the market returns expected over the life of the plan. The returns will also be affected by further contributions made to the plan assets and benefits paid from the asset.

3.3.2.6 Changes to actuarial assumptions

The very nature of an assumption means that it may change from time to time. Logically, if the assumptions that were used to value a plan asset and plan obligation subsequently change, these values will need to be re-estimated:

- an actuarial gain would result from an increase in the asset or a decrease in the obligation;
- an actuarial loss would result from a decrease in the asset or an increase in the obligation.

Actuarial gains and losses may be recognised:

- in profit or loss (IAS 19.92); or
- in other comprehensive income (assuming the entity applies this policy for all its defined benefit plans and all of its actuarial gains and losses) (IAS 19.93A).

If the entity chooses to recognise actuarial gains and losses in other comprehensive income, all adjustments to this balance as a result of the IAS 19.58 (b) limit must also be adjusted for in other comprehensive income. Actuarial gains or losses arising from IAS 19.58 (b) that were previously recognised in other comprehensive income would then be recognised directly in retained earnings (IAS 19.93A-D). This adjustment to other comprehensive income is therefore not a reclassification adjustment (IAS 1).

Since, however, none of the balances or adjustments are precise to begin with (all being based on actuarial assumptions of one kind or another), a corridor limitation may be applied to the adjustments. This corridor approach results in some of the adjustments to the asset or obligation balance not being recognised as an income or expense immediately. The reasoning behind the use of the corridor approach is that there is a level of imprecision that we are accepting: we are not sure what the balances (on the obligation and plan asset accounts) really should be and we are therefore not sure what the adjustment should be.

In essence, there are therefore two approaches allowed by IAS 19:

- the corridor approach: the actuarial gain or loss is not recognised as an income or expense immediately (i.e. the gain or loss is deferred) (IAS 19.92);
- ignoring the corridor approach: recognise the actuarial gain or loss as an income or expense immediately (IAS 19.93A).

Worked example:

An entity's obligation was previously measured based on a certain level of salary (an actuarial assumption) and it has just been discovered that the salary level was under-estimated (i.e. the obligation should be based on a higher level of salary):

The plan obligation is valued as follows:

- present value using the old assumption: C100 000
- present value using the new assumption: C120 000.

The present value of the plan asset remained unchanged at C70 000.

Required:

Show the effect of the actuarial adjustment on the ledger accounts and the surplus/ deficit and asset/ liability balance assuming that:

- A. the entity recognises actuarial gains and losses immediately and in full (no corridor).
 B. the entity defers the recognition of some actuarial gains and losses (uses a corridor).

Solution to worked example A: No corridor

The ledger accounts:

Employee benefit expense: actuarial loss		Defined benefit plan: obligation	
DBP: O	20 000	Balance	100 000
		DBP: UL	20 000
		Balance	120 000
		Defined benefit plan: asset	
		Balance	70 000

The statement of financial position (barring any other unrecognised gains/ losses etcetera), is therefore:

		New assumptions	Old assumptions
Plan obligation	Credit balance	(120 000)	(100 000)
Plan asset	Debit balance	70 000	70 000
Deficit		(50 000)	(30 000)
Unrecognised loss		0	0
Defined benefit liability		(50 000)	(30 000)

Notice how the actuarial loss increases the plan obligation account, the plan deficit and the plan liability balance by C20 000.

Solution to worked example B: Corridor will be used

The ledger accounts:

Defined benefit plan: unrecognised loss		Defined benefit plan: obligation	
DBP: O	20 000	Balance	100 000
		DBP: UL	20 000
		Balance	120 000

Defined benefit plan: asset	
Balance	70 000

The statement of financial position (barring any other unrecognised gains/ losses etcetera), is therefore:

		New assumptions	Old assumptions
Plan obligation	Credit balance	(120 000)	(100 000)
Plan asset	Debit balance	70 000	70 000
Deficit		(50 000)	(30 000)
Unrecognised loss	Debit balance	20 000	0
Defined benefit liability		(30 000)	(30 000)

Notice how the actuarial loss affects the plan obligation account and thus the plan deficit, but because none of the loss has yet been recognised as an expense, it has no effect on the plan liability balance (unchanged balance of 30 000)

As can be seen from this example, when the corridor approach is used, the plan obligation and plan asset is adjusted to the new values, but the actuarial gain or loss (the contra entry) is not recognised in profit or loss immediately. In this case, the gain or loss is posted to an unrecognised gain or loss account (other comprehensive income) where its recognition as income and expense is deferred until a future date. The portion of the loss that remains unrecognised will affect the defined benefit plan liability (or asset) but will *not* affect the deficit (or surplus).

If the gain or loss is recognised in the period in which they occur (i.e. ignoring the corridor), the gain or loss may be recognised in other comprehensive income (part of the statement of comprehensive income). These gains or losses would be immediately recognised in retained earnings and would never be allowed to be recognised in profit or loss in a subsequent period.

There are two basic steps when using the corridor approach. To explain these steps, let us assume that we are making a loss adjustment to a plan obligation:

- *Step 1*: the actuarial loss is credited to the plan obligation, and is debited to an unrecognised loss account (an account that is included in the statement of financial position);
- *Step 2*: the portion of the actuarial loss that is to be recognised as an expense (measured using the amortised corridor approach) is transferred out of the unrecognised actuarial loss account and debited to the employee benefit expense account at a later date.

3.3.2.7 Recognising actuarial gains and losses: the amortised corridor approach et al (IAS 19.92, IAS 19.93 and IAS 19.95)

When applying the amortised corridor approach (IAS 19.92 and IAS 19.93), the actuarial gain or loss to be recognised as an income or expense is:

- *limited* to the excess of the cumulative actuarial adjustments over a 10% corridor (i.e. actuarial gains and losses within the corridor will not be recognised whereas the total actuarial gain or loss outside the corridor will be recognised): dealt with in IAS 19.92; and
- *amortised* over the period of the plan (i.e. the total gain or loss is recognised gradually over the number of years that the plan is expected to last, which is typically taken to be the average remaining working lives of the affected employees): dealt with in IAS 19.93.

It should be noted, however, that IAS 19 also allows:

- the corridor to be completely ignored: the total gains and losses may be recognised in profit or loss immediately (IAS 19.95); or
- the excess over the corridor to be amortised faster: a period that is shorter than the remaining working lives may be used instead (IAS 19.93).

The steps to use when using the amortised corridor approach (IAS 19.92 and .93) are as follows:

Step 1: Calculate the cumulative net unrecognised gain or loss at the beginning of the year (A)

Step 2: Calculate the corridor (greater of 10% of the assets at the beginning of the year and 10% of the obligations at the beginning of the year = B)

Step 3: Calculate the excess of the cumulative net unrecognised gain or loss at the beginning of the year over this corridor (if any) (A – B = C)

Step 4: Calculate the portion of this excess that may be recognised in the current year (C / average remaining working lives of the employees = D)

Step 5: Calculate the current year actuarial gain or loss on the *obligation* (E)

Step 6: Calculate the current year actuarial gain or loss on the *asset* (F)

Step 7: Calculate the cumulative net actuarial gain or loss to the end of the year (A + E + F = G)

Step 8: Calculate the unrecognised portion of the cumulative net actuarial gain or loss at the end of the year: to be carried forward to the next year's calculations (G – D)

Calculation 1: Steps 1 – 3: Total gain or loss to be recognised

The *excess over the corridor* is calculated as (IAS 19.92):

		CY C
Net cumulative actuarial gain or loss at the <i>beginning</i> of the year	Step 1	XXX
Less corridor: greater of:	Step 2	(XXX)
<ul style="list-style-type: none"> • 10% of the plan assets at the <i>beginning</i> of the year • 10% of the plan obligation at the <i>beginning</i> of the year 		XXX
Amount outside the corridor (total gain/ loss to be recognised)	Step 3	XXX

Calculation 2: Step 4: Gain/ loss to be recognised in the current year

The *amortised portion of the 'amount outside the corridor'* is as follows (IAS 19.93):

$$\frac{\text{Total gain or loss to be recognised (Step 3)}}{\text{Average expected remaining working life of the employees}}$$

Calculation 3: Step 5 - 8: Gain/ loss not recognised and carried forward to next year

<i>Cumulative unrecognised actuarial gains and losses carried forward to next year</i>		CY C
Net cumulative actuarial gain/ (loss): beginning of the year		XXX
Current year: actuarial gain / (loss) – obligation	<i>Step 5</i>	(XXX)
Current year: actuarial gain / (loss) – asset	<i>Step 6</i>	XXX
Subtotal	<i>Step 7</i>	(XXX)
Less actuarial gain or loss recognised in current year	<i>See Step 4</i>	XXX
Cumulative unrecognised loss carried forward to future	<i>Step 8</i>	(XXX)

Example 15: defined benefit plan: using the amortised corridor

		20X3 C	20X2 C
<i>Plan obligation</i>			
Present value of obligation – 1 January		160 000	68 301
Interest cost at discount rate estimated at 1 January		11 270	6 830
Current service cost		12 397	15 026
Past service cost (20% vested & 80% to vest over 2 yrs as at 31/12/20X2)		0	22 539
Benefits paid to employees		(5 000)	(0)
Present value – 31 December	(1)	178 667	112 696
Actuarial (gain)/ loss		11 333	47 304
Revised present value – 31 December	(2)	190 000	160 000
<i>Plan assets</i>			
Fair value of asset – 1 January		55 000	40 000
Expected rate of return estimated at 1 January		4 096	3 200
Current contributions		9 000	8 000
Benefits paid to employees		(5 000)	(0)
Fair value – 31 December	(1)	63 096	51 200
Actuarial gain/ (loss)		8 904	3 800
Revised present value – 31 December	(2)	72 000	55 000
Average expected remaining working lives of employees		10 years	10 years

Note 1: These were based on actuarial assumptions at 1 January.

Note 2: Revised actuarial assumptions required the present value and fair values to be re-estimated at the end of 20X2 and 20X3 (re-estimations had not been necessary before)

Other information:

- The cumulative unrecognised gains and losses at 1 January 20X2 was nil.
- Assume that all transactions occurred at the end of the year.
- Assume that the entity uses the corridor limits of IAS 19.92.

Required:

- Show the journal entries posted in the ledger account in 20X2.
- Show the journal entries posted in the ledger account in 20X3.

Solution to example 15A: defined benefit plan: using the amortised corridor (20X2)**Calculations:***Calculation 1: Actuarial gain or loss to be recognised: total***20X2****C****Step 1:** Net cumulative actuarial gain/ (loss) at the beginning of 20X2

0

Step 2: The corridor: greater of:

- 10% of the plan obligation at the beginning of 20X2 $10\% \times 68\,301$
- 10% of the plan assets at the beginning of 20X2 $10\% \times 40\,000$

6 830

6 830

4 000

Step 3: Excess over the corridor (N/A)

Not applicable

0

Calculation 2: Actuarial gain or loss to be recognised: in the current year (amortised portion) (Step 4)

$$= \frac{\text{Total gain or loss to be recognised (calculation 1)}}{\text{Average expected remaining working life of the employees}}$$

$$= \frac{0}{10 \text{ years}}$$

$$= 0$$

*Calculation 3: Cumulative unrecognised actuarial gains and losses c/ forward to 20X3***20X2****C**Net cumulative actuarial gain/ (loss): beginning of the year **Step 1: Given**

0

Actuarial loss – obligation

Step 5: $160\,000 - 112\,696$

(47 304)

Actuarial gain – asset

Step 6: $55\,000 - 51\,200$

3 800

Subtotal (loss)

Step 7

(43 504)

Less actuarial gain or loss recognised in 20X2

Calculation 2

0

Cumulative unrecognised loss carried forward to 20X3

Step 8

(43 504)

Ledger accounts:**Defined benefit plan: Obligation**

	20X1		Closing balance	68 301	
	20X2	Jnl 1	EB Exp: interest cost	6 830	
	20X2	Jnl 2	EB Exp: current cost	15 026	
	20X2	Jnl 3	EB Exp: past cost and DBP: unrecog past cost (1)	22 539	
			<i>Subtotal</i>	112 696	
Balance c/f	160 000	20X2	Jnl 4	DBP: unrecog gain/ loss	47 304
	<u>160 000</u>				<u>160 000</u>
		20X2	Closing balance	160 000	

Defined benefit plan: Assets

20X1		Closing balance	40 000		
20X2	Jnl 5	EBE: expected return on asset	3 200		
20X2	Jnl 6	Bank	8 000		
		<i>Subtotal</i>	51 200		
20X2	Jnl 7	DBP: unrecog gain/ loss	3 800		
			<u>55 000</u>		
20X2		Closing balance	55 000		
				Balance c/f	<u>55 000</u>

Defined benefit plan: Unrecognised past service cost

20X2	Jnl 3	DBP: Obligation ⁽¹⁾	18 031		Balance c/f	18 031
			18 031			18 031
20X2		Closing balance	18 031			

Defined benefit plan: Unrecognised actuarial gain or loss

20X2	Jnl 4	DBP: Obligation <i>loss</i>	47 304	20X2	Jnl 7	DBP: Asset <i>gain</i>	3 800
			47 304			Balance c/f	43 504
20X2		Closing balance	43 504				47 304

Bank

				20X2	Jnl 6	DBP: Asset	8 000
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Employee benefit expense: Current service cost

20X2	Jnl 2	DBP: Obligation	15 026				
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Employee benefit expense: Interest cost

20X2	Jnl 1	DBP: Obligation	6 830				
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Employee benefit expense: Past service cost

20X2	Jnl 3	DBP: Obligation ⁽¹⁾	4 508				
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Employee benefit expense: Expected return on assets

				20X2	Jnl 5	DBP: Asset	3 200
--	--	--	--	------	-------	------------	-------

(1) $22\,539 \times 20\% = 4\,508$ and $22\,539 \times 80\% = 18\,031$

Solution to example 15B: defined benefit plan: using the amortised corridor (20X3)

Calculations:

Calculation 1: Actuarial gain or loss to be recognised: total

		20X3
		C
Net cumulative actuarial gain/ (loss) at the beginning of the year		(43 504)
The corridor: greater of:		16 000
• 10% of the plan obligation at the beginning of 20X3	$10\% \times 160\,000$	16 000
• 10% of the plan assets at the beginning of 20X3	$10\% \times 55\,000$	5 500
Excess over the corridor: total gain/ (loss) to be recognised		(27 504)

Calculation 2: Actuarial gain or loss to be recognised: in the current year (amortised portion)

$$\begin{aligned}
 &= \frac{\text{Total gain or loss to be recognised (calculation 1)}}{\text{Average expected remaining working life of the employees}} \\
 &= \frac{27\,504}{10 \text{ years}} \\
 &= 2\,750
 \end{aligned}$$

Calculation 3: Cumulative unrecognised actuarial gains and losses c/forward to 20X4

		20X3
		C
Net cumulative actuarial gain or loss: beginning of the year	<i>Given</i>	(43 504)
Actuarial loss – obligation	<i>190 000 – 178 667</i>	(11 333)
Actuarial gain – asset	<i>72 000 – 63 096</i>	8 904
Subtotal (loss)		(45 933)
Less actuarial gain or loss recognised in 20X3	<i>Calculation 2</i>	2 750
Cumulative unrecognised loss carried forward to 20X4		(43 183)

Ledger accounts:

Defined benefit plan: Obligation

20X2				20X2		Closing balance	160 000
20X3	Jnl 3	DBP: Asset	5 000	20X3	Jnl 1	EB Exp: interest cost	11 270
		<i>Subtotal c/f</i>	178 667	20X3	Jnl 2	EB Exp: current cost	12 397
			183 667				183 667
						<i>Subtotal b/f</i>	178 667
		Balance c/f	190 000	20X3	Jnl 4	DBP: unrecog gain/loss	11 333
			190 000				190 000
				20X3		Closing balance	190 000

Defined benefit plan: Assets

20X2		Closing balance	55 000				
20X3	Jnl 5	EBE: expected return on asset	4 096	20X3	Jnl 3	DBP: Obligation	5 000
20X3	Jnl 6	Bank	9 000			<i>Subtotal c/f</i>	63 096
			68 096				68 096
		<i>Subtotal b/f</i>	63 096				
20X3	Jnl 7	DBP: unrecog gain/ loss	8 904			Balance c/f	72 000
			72 000				72 000
20X3		Closing balance	72 000				

Defined benefit plan: Unrecognised past service cost

20X2		Closing balance	18 031				
			18 031	20X3	Jnl 9	EBE: past service costs	9 016
						Balance c/f	9 015
20X3		Closing balance	9 015				18 031

Defined benefit plan: Unrecognised actuarial gain or loss

20X2		Closing balance	43 504				
20X3	Jnl 4	DBP: Obligation <i>loss</i>	11 333	20X3	Jnl 7	DBP: Asset <i>gain</i>	8 904
			54 837	20X3	Jnl 8	EB Exp: actuarial loss	2 750
						Balance c/f	43 183
20X3		Closing balance	43 183				54 837

Bank				
	20X3	Jnl 6	DBP: Asset	9 000
Employee benefit expense: Current service cost				
20X3	Jnl 2	DBP: Obligation	12 397	
Employee benefit expense: Interest cost				
20X3	Jnl 1	DBP: Obligation	11 270	
Employee benefit expense: Past service cost				
20X3	Jnl 9	DBP: Obligation ⁽¹⁾	9 016	
Employee benefit expense: Expected return on assets				
	20X3	Jnl 5	DBP: Asset	4 096
Employee benefit expense: Actuarial loss				
20X3	Jnl 8	DBP: unrecog gain/ loss	2 750	

(1) $18\,031 / 2 \text{ years} = 9\,016$

Example 16: defined benefit plan: to use the corridor or not

Light Limited has a defined benefit plan that began on 1 January 20X1. The plan assets and obligations were valued at 31 December (year-end) as follows:

	20X2	20X1	20X0
	C	C	C
Plan obligation	140 000	90 000	70 000
Plan asset	95 000	80 000	50 000

The unrecognised actuarial loss at 1 January 20X1 was C4 000. The actuarial gains and losses thereafter were as follows:

	20X2	20X1
	C	C
Plan obligation: actuarial loss	22 000	25 000
Plan asset: actuarial gain	(10 000)	(15 000)
Net actuarial loss in current year	12 000	10 000

The expected average working life of the employees is: 10 years 10 years

Required:

Calculate the actuarial gain or loss to be recognised in each year, provide the relevant journal entries and calculate the line items that would be included in the statement of financial position and statement of comprehensive income assuming that:

- the company uses the corridor approach
- the company uses the corridor approach but amortises the excess over a 5 year period
- the company ignores the corridor approach (there is no unrecognised actuarial loss at 1 January 20X1).

Solution to example 16A: defined benefit plan: corridor amortised over working life**Calculations**

		20X2	20X1
		C	C
<i>Calculation 1: Excess over the corridor</i>			
Net cumulative actuarial loss: beginning of year	4 000 + 10 000	14 000	4 000
Less corridor: greater of:		(9 000)	7 000
• 10% of the plan obligation: beginning of year	10% x 90 000; 70 000	9 000	7 000
• 10% of the plan assets: beginning of year	10% x 80 000; 50 000	8 000	5 000
Excess over the corridor (total loss to be recognised)		5 000	0

Calculation 2: Amortised excess (loss to be recognised in each year)

	20X2	20X1
=	$\frac{5\,000}{10\text{ years}}$	$\frac{0}{10\text{ years}}$
=	500	0

Journals:**31 December 20X1**

		Debit	Credit
Defined benefit plan: unrecognised gains/ loss	<i>Given</i>	25 000	
Defined benefit plan: obligation			25 000
<i>Actuarial loss on the obligation in 20X1</i>			

Defined benefit plan: asset	<i>Given</i>	15 000	
Defined benefit plan: unrecognised gains/ loss			15 000
<i>Actuarial gain on the asset in 20X1</i>			

31 December 20X2

Defined benefit plan: unrecognised gains/ loss	<i>Given</i>	22 000	
Defined benefit plan: obligation			22 000
<i>Actuarial loss on the obligation in 20X2</i>			

Defined benefit plan: asset	<i>Given</i>	10 000	
Defined benefit plan: unrecognised gains/ loss			10 000
<i>Actuarial gain on the asset in 20X2</i>			

Employee benefit expense: actuarial loss	<i>Given</i>	500	
Defined benefit plan: unrecognised gains/ loss			500
<i>Actuarial loss on the obligation in 20X2 recognised in 20X2</i>			

Line items

	20X2	20X1
	C	C
<i>Line item: statement of comprehensive income</i>		
Employee benefit expense: actuarial <i>Amortised excess</i> loss	500	0

Line item: statement of financial position

Defined benefit plan: asset/ (liability)		(19 500)	4 000
• Obligation	<i>Given</i>	(140 000)	(90 000)
• Less asset	<i>Given</i>	95 000	80 000
• Less unrecognised actuarial loss	20X1: 4 000 + 25 000 – 15 000 20X2: 14 000 + 22 000 – 10 000 – 500	25 500	14 000

Solution to example 16B: defined benefit plan: corridor amortised over shorter life**Workings**

		20X2	20X1
		C	C
<i>W1: Excess over the corridor</i>			
Net cumulative actuarial loss: beginning of year	$4\,000 + 10\,000$	14 000	4 000
Less corridor: greater of:		(9 000)	7 000
• 10% of the plan obligation: beginning of year	$10\% \times 90\,000; 70\,000$	9 000	7 000
• 10% of the plan assets: beginning of year	$10\% \times 80\,000; 50\,000$	8 000	5 000
Excess over the corridor (total loss to be recognised)		5 000	0

W2: Amortised excess (loss to be recognised in the current year)

	20X2	20X1
=	$\frac{5\,000}{5 \text{ years}}$	$\frac{0}{10 \text{ years}}$
=	1 000	0

Journals**31 December 20X1**

		Debit	Credit
Defined benefit plan: unrecognised gains/ loss	<i>Given</i>	25 000	
Defined benefit plan: obligation			25 000
<i>Actuarial loss on the obligation in 20X1</i>			

Defined benefit plan: asset	<i>Given</i>	15 000	
Defined benefit plan: unrecognised gains/ loss			15 000
<i>Actuarial gain on the asset in 20X1</i>			

31 December 20X1

Defined benefit plan: unrecognised gains/ loss	<i>Given</i>	22 000	
Defined benefit plan: obligation			22 000
<i>Actuarial loss on the obligation in 20X2</i>			

Defined benefit plan: asset	<i>Given</i>	10 000	
Defined benefit plan: unrecognised gains/ loss			10 000
<i>Actuarial gain on the asset in 20X2</i>			

Employee benefit expense: actuarial loss	<i>Given</i>	1 000	
Defined benefit plan: unrecognised gains/ loss			1 000
<i>Actuarial loss on the obligation in 20X2 recognised in 20X2</i>			

Line items

		20X2	20X1
		C	C
<i>Line item: statement of comprehensive income</i>			
Employee benefit expense: actuarial loss	<i>Amortised excess</i>	1 000	0
<i>Line item: statement of financial position</i>			
Defined benefit plan: asset/ (liability)		(20 000)	4 000
• Obligation	<i>Given</i>	(140 000)	(90 000)
• Less asset	<i>Given</i>	95 000	80 000
• Less unrecognised actuarial loss	$20X1: 4\,000 + 25\,000 - 15\,000$ $20X2: 14\,000 + 22\,000 - 10\,000 - 1\,000$	25 000	14 000

Solution to example 16C: defined benefit plan: corridor ignored**Journals****31 December 20X1**

		Debit	Credit
Employee benefit expense: actuarial loss	Given	25 000	
Defined benefit plan: obligation			25 000
<i>Actuarial loss on the obligation in 20X1</i>			

Defined benefit plan: asset	Given	15 000	
Employee benefit expense: actuarial loss			15 000
<i>Actuarial gain on the asset in 20X1</i>			

31 December 20X2

Employee benefit expense: actuarial loss	Given	22 000	
Defined benefit plan: obligation			22 000
<i>Actuarial loss on the obligation in 20X2</i>			

Defined benefit plan: asset	Given	10 000	
Employee benefit expense: actuarial loss			10 000
<i>Actuarial gain on the asset in 20X2</i>			

Line items

		20X2 C	20X1 C
<i>Line item: statement of comprehensive income</i>			
Employee benefit expense: actuarial loss	20X1: 25 000 – 15 000 20X2: 22 000 – 10 000	12 000	10 000
<i>Line item: statement of financial position</i>			
Defined benefit plan: asset/ (liability)		(45 000)	(10 000)
• Obligation	Given	(140 000)	(90 000)
• Less asset	Given	95 000	80 000

3.3.2.8 Asset balances: the asset ceiling: IAS 19.58(b)

If the defined benefit plan reflects an asset balance (irrespective of whether it involves a surplus) this balance is to be limited to a ceiling. The ceiling (IAS 19.58(b)) is the total of:

- any cumulative *unrecognised* net actuarial losses and past service costs; plus
- the present value of any economic benefits available in the form of future refunds from the plan or reductions in future contributions to the plan.

The availability of a refund depends on the terms and conditions of the plan and any statutory requirements in the jurisdiction of the plan (IFRIC 14).

Example 17: defined benefit plan: asset ceiling

Brilliant Limited has a defined benefit plan that began on 1 January 20X1. The defined benefit plan had the following balances at 31 December (year-end):

	Scenario A C	Scenario B C	Scenario C C
Plan obligation	(70 000)	(110 000)	(140 000)
Plan asset	50 000	120 000	200 000
(Deficit)/ surplus	(20 000)	10 000	60 000
Unrecognised actuarial loss (net of unrecognised gains)	5 000	15 000	10 000
Unrecognised past service costs	10 000	20 000	30 000
Defined benefit plan: asset/ (liability)	(5 000)	45 000	100 000
Present value of future refunds	3 000	100 000	23 000

Required:

For each of the scenarios above, explain whether the ceiling of IAS 19.58 (b) is a limiting factor. If it is a limiting factor, present the journal entry that would need to be processed before year-end.

Solution to example 17A: defined benefit plan: asset ceiling

The ceiling does not apply at all since the defined benefit plan has a liability balance (5 000). The ceiling only applies to asset balances.

Solution to example 17B: defined benefit plan: asset ceiling

The ceiling is not a limiting factor since the future economic benefits (calculated in terms of IAS 19.58(b)) exceed the asset carrying amount.

IAS 19.58(b) Ceiling check

		C
<i>Asset/ (liability) balance (IAS 19.54)</i>	<i>Asset balance before the ceiling check</i>	45 000
Surplus/ (deficit)	<i>Given</i>	10 000
Unrecognised losses/ costs/ (gains)	15 000 + 20 000	35 000
<i>Asset/ (liability) balance (IAS 19.58(b))</i>	<i>Asset ceiling</i>	135 000
Unrecognised losses/ costs/ (gains)	15 000 + 20 000	35 000
Present value of future benefits	<i>Given</i>	100 000
Asset balance not limited by ceiling	<i>Future economic benefits: 135 000 ></i> <i>Asset balance: 45 000</i>	N/A

Solution to example 17C: defined benefit plan: asset ceiling

The ceiling is a limiting factor since the expected future economic benefits (calculated in terms of IAS 19.58 (b)) is less than the asset carrying amount. The asset balance must be reduced.

IAS 19.58(b) Ceiling check

		C
<i>Asset/ (liability) balance (IAS 19.54)</i>	<i>Asset balance before the ceiling check</i>	100 000
Surplus/ (deficit)	<i>Given</i>	60 000
Unrecognised losses/ costs/ (gains)	10 000 + 30 000	40 000
<i>Asset/ (liability) balance (IAS 19.58(b))</i>	<i>Asset ceiling</i>	63 000
Unrecognised losses/ costs/ (gains)	10 000 + 30 000	40 000
Present value of future benefits	<i>Given</i>	23 000
Asset balance is limited by ceiling:	<i>Future economic benefits: 63 000</i>	37 000
Asset to be reduced by	< <i>Asset balance: 100 000</i>	

Journal adjustment

	Debit	Credit
Employee benefit expense: IAS 19.58(b) reduction	37 000	
Defined benefit plan (asset)		37 000
<i>Reduction in asset balance: IAS 19.58(b) ceiling</i>		

3.3.2.9 Asset balances: the recoverability test: IAS 19.58A

Concern has been expressed over the option in which actuarial gains, actuarial losses and past service costs may be deferred (i.e. need not be recognised as income or expenses immediately). The reason for this concern is that unrecognised losses could cause, what would otherwise be reflected as a liability, to appear as an asset in the statement of financial position. The same principle applies to unrecognised past service costs (an unrecognised past service cost reduces the obligation balance – and may therefore result in a net asset position). Conversely, an unrecognised gain can cause an asset to appear as a liability. Prudence

suggests that reflecting an asset when we might not really have an asset would definitely not be good.

In these confusing situations, we should always go back to our Framework. The Framework requires that an asset be recognised only if the future economic benefits are reliably measurable and probable. Therefore, in order to be prudent, where there is a net asset balance, the recoverability (probability of the future economic benefits) must be assessed.

To assess whether the entity can recover its defined benefit asset, consider the situation where a company might contribute a large sum into the plan assets only to find that the value of the plan asset is now higher than the plan obligation (i.e. there is a surplus). It may be possible for the contributions to be refunded or for future contributions to be reduced by this surplus, but this is not always the case! In this case, the surplus is technically not an asset to the entity.

IAS 19.58A requires that where a defined benefit asset involves a surplus that cannot be recovered through future economic benefits, an adjustment may be required in the current year to speed up the recognition of the following:

- actuarial gains that arose in the current period;
- actuarial losses and/ or past service costs that arose in the current period.

This adjustment is detailed in IAS 19.58A and is summarised as follows:

- If there is a net gain adjustment in the current period where there:
 - is an increase in the present value of future benefits, recognise only:
(actuarial gains – past service costs) – increase in PV of future benefits
 - is no increase in the present value of future benefits, recognise 100% of:
(actuarial gains – past service costs)
- If there is a net loss/ cost adjustment in the current period where there:
 - is a decrease in the present value of future benefits, recognise only:
(actuarial losses + past service costs) – decrease in PV of future benefits
 - is no decrease in the present value of future benefits, recognise 100% of:
(actuarial losses + past service costs)

3.3.2.10 Asset balances: link between the recoverability test and the ceiling

The asset or liability balance is first calculated in terms of IAS 19.54:

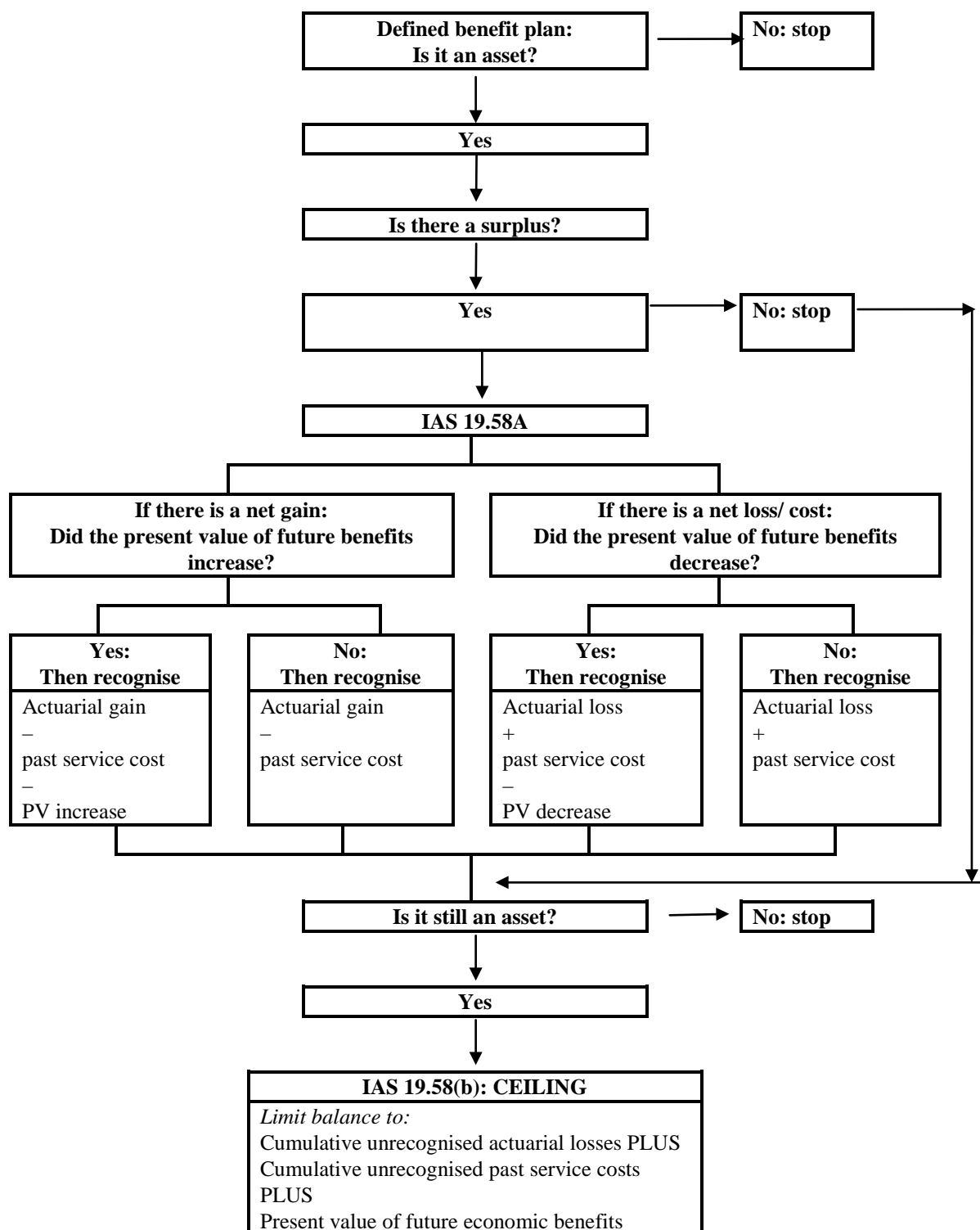
Asset/ liability balance		C
Surplus/ (deficit)	<i>Plan obligation – Plan assets</i>	xxx
Unrecognised losses/ costs/ (gains)	<i>Actuarial losses (gains) and past service costs</i>	xxx

If the IAS 19.54 balance is an asset balance and if the balance involves a surplus (at the beginning or end of the year), the recoverability of the asset must be checked in terms of IAS 19.58A. This may require that some of the previously unrecognised losses/ costs/ (gains) be recognised immediately. If so, the adjustment is processed and the asset or liability balance is re-calculated in terms of IAS 19.54.

If the revised balance is still an asset balance, the ceiling limit is applied: IAS 19.58(b). This ceiling may require a further downward adjustment:

Asset ceiling		C
Present value of future economic benefits		xxx
Unrecognised losses/ costs/ (gains)	<i>Actuarial losses (gains) and past service costs</i>	xxx

Flowchart: inter-relationship of IAS 19.58A and IAS 19.58(b):



Example 18: defined benefit plans: IAS 19.58A and IAS 19.58 (b)

The following are the balances on the defined benefit plan at year end:	Scenario 1	Scenario 2	Scenario 3
• Obligation	(70 000)	(70 000)	(50 000)
• Asset	60 000	60 000	60 000
Surplus/ (deficit)	(10 000)	(10 000)	10 000
• Unrecognised actuarial loss/ (gain)	5 000	8 000	5 000
• Unrecognised past service cost	2 000	4 000	2 000
Asset/ (liability)	(3 000)	2 000	17 000

Required:

Identify for each scenario whether IAS 19.58A or IAS 19.58(b) applies or both and explain.

Solution to example 18: defined benefit plans: IAS 19.58A and IAS 19.58 (b)*Scenario 1:*

IAS 19.58(b) *does not* apply since the balance is a liability balance (it is not an asset balance)

IAS 19.58A *does not* apply since there is a deficit and not a surplus (IAS 19.58A only applies to surpluses that became assets).

Scenario 2:

IAS 19.58(b) *does* apply since the balance is an asset balance

IAS 19.58A *does not* apply since the plan has a deficit and not a surplus (IAS 19.58A only applies to surpluses that became assets).

Scenario 3:

IAS 19.58(b) *does* apply since the balance is an asset balance

IAS 19.58A *does* apply since the plan has a surplus that became an asset (IAS 19.58A applies to surpluses that became assets)

The following example is an example that is provided in IAS 19. It explains how the two paragraphs (IAS 19.58(b) and IAS 19.58A) work together. This IAS 19 example has been expanded upon in order to better clarify the necessary journal entries. In order to further simplify the situation, the plan obligation and plan asset accounts have been combined into one account called the deficit/ surplus account.

Example 19: defined benefit plans: IAS 19.58A and IAS 19.58(b): loss and present value unchanged

Bright Limited had the following balances at 31 December:

	20X2 Dr/ (Cr)	20X1 Dr/ (Cr)
• Surplus (deficit)	70	100
• Unrecognised actuarial loss	30	0
Defined benefit plan: asset/ (liability)	100	100
• Present value of future refunds	0	0

There was no actuarial loss in 20X1.

There was an actuarial loss of 30 in 20X2 – all of which fell within the corridor and was therefore not to be recognised (IAS 19.92).

Required:

Show the ledger accounts in as much detail as is possible.

Solution to example 19: defined benefit plan: loss where present value unchanged

Comment: This question applies to a situation where there was a net actuarial loss (past costs of nil) and there was no change in the present value of future economic benefits (being nil in both years). Where there is a net loss situation and there was no change in the present values, the loss to be recognised is the total of the current year's actuarial loss + past costs.

Workings

		20X2	20X1
		C	C
W1: IAS 19.58A application			
Is there an asset balance?		Yes	Yes
Is there a surplus?		Yes	Yes
Was there a gain or a loss in the current year?		Loss	No
Was there an increase in PV of future benefits?		No	N/A
Net loss to be recognised (IAS 19.58A):		30	N/A
		<i>(Actuarial loss + Past cost):</i>	
		<i>Yr 2: 30 + 0</i>	
W2: IAS 19.58(b) Ceiling (limit to the asset balance)			
Asset/ (liability) balance (IAS 19.54)		70	100
Surplus/ (deficit)	<i>Given</i>	70	100
Unrecognised losses/ costs/ (gains)	<i>20X1: unchanged</i>	0	0
	<i>20X2: 30 – 30 (para 58A)</i>		
Asset/ (liability) balance (IAS 19.58(b))		0	0
Unrecognised losses/ costs/ (gains)	<i>20X1: unchanged</i>	0	0
	<i>20X2: 30 – 30 (para 58A)</i>		
Present value of future benefits	<i>Given</i>	0	0
Asset balance to be reduced by:		70	100

Journals

		Debit	Credit
End of 20X1			
Employee benefit expense	W2	100	
Defined benefit plan: surplus			100
<i>Jnl 1: Reduction in asset balance to a nil ceiling: IAS 19.58(b) – see W2</i>			
Beginning of 20X2			
Defined benefit plan: surplus	W2: year 1	100	
Employee benefit expense			100
<i>Jnl 2: Reversal of asset reduction (IAS 19.58(b)) in year 1</i>			
End of 20X2			
Defined benefit plan: unrecognised loss	30 - 0	30	
Defined benefit plan: surplus			30
<i>Jnl 3: Unrecognised loss (IAS 19.92): this required the corridor calculation, but the question gave us this information so no calculation was required</i>			
Employee benefit expense	W1: year 2	30	
Defined benefit plan: unrecognised loss			30
<i>Jnl 4: Unrecognised loss to be recognised (IAS 19.58A – this adjusts the asset balance calculated in accordance with IAS 19.54)</i>			
Employee benefit expense	W2: year 2	70	
Defined benefit plan: surplus			70
<i>Jnl 5: Asset balance limited by ceiling (IAS 19.58(b))</i>			

Ledger accounts:

Defined benefit plan: Surplus							
20X1		Balance	100	20X1	Jnl 1	EB Exp: para 58 (b)	100
						Balance c/f	0
			100				100
20X1		Closing balance	0				
20X2	Jnl 2	EB Exp: para 58 (b) (<i>reversal</i>)	100	20X2	Jnl 3	DBP: unrecog gain/loss	30
					Jnl 5	EB Exp: para 58(b)	70
						Balance c/f	0
			100				100
20X2		Closing balance	0				
Defined benefit plan: Unrecognised gain/ loss							
20X1		Balance	0	20X2	Jnl 4	EB Exp: para 58A	30
20X2	Jnl 3	DBP: Surplus (<i>30 – 0</i>)	30			Balance c/f	0
			30				30
20X2		Closing balance	0				
Employee benefit expense: Para 58A (asset decrease)							
20X2	Jnl 4	DBP: unrecog gain/loss	30			P&L	30
Employee benefit expense: Para 58(b) (asset decrease)							
20X1	Jnl 1	DBP: Surplus	100			P&L	100
20X2	Jnl 5	DBP: Surplus	70	20X2	Jnl 2	DBP: Surplus (<i>reversal</i>)	100
		P&L	30				
			100				100

Example 20: defined benefit plans: IAS 19.58A and IAS 19.58(b): loss and present value decreased

Sunlight Limited had the following balances at 31 December:

	20X2	20X1
	Dr/ (Cr)	Dr/ (Cr)
• Surplus (deficit)	25	60
• Unrecognised actuarial loss	75	40
Defined benefit plan: asset/ (liability)	100	100
• Present value of future refunds	20	30

There was a cumulative unrecognised actuarial loss of 40 at the end of 20X1 but the entire unrecognised loss relates to actuarial losses that arose and were unrecognised in years prior to 20X1. There was an actuarial loss of 35 in 20X2 – all of which fell *within* the corridor and was therefore not to be recognised (IAS 19.92).

Required:

Show the ledger accounts in as much detail as is possible.

Solution to example 20: defined benefit plan: loss where present value decreased

Comment: This question applies to a situation where there was a net actuarial loss (past costs of nil) and there was a decrease in the present value of future economic benefits. Where there is a net loss situation in the current year and there was no change in the present values, the loss to be recognised is the total of the current year's actuarial loss + past costs.

Workings

		20X2	20X1
		C	C
Is there an asset balance?		Yes	Yes
Is there a surplus?		Yes	Yes
Was there a gain or a loss in the current year?		Loss	No ⁽¹⁾
Was there an decrease in PV of future benefits?		Yes	N/A
Net loss to be recognised (IAS 19.58A):	(Actuarial loss + Past cost)	25	N/A
(i.e. asset balance to be reduced)	– PV decrease:		
	Yr 2: 35 + 0 – (30 – 20)		

(1) There was an unrecognised loss at 31 December 20X1, but the entire loss of 40 had arisen in years before 20X1.

W2: IAS 19.58(b) Ceiling (limit to the asset balance)

Asset/ (liability) balance (IAS 19.54)		75	100
Surplus/ (deficit)	Given	25	60
Unrecognised losses/ costs/ (gains)	20X1: unchanged	50	40
	20X2: 75 – 25 (para 58A)		
Asset/ (liability) balance (IAS 19.58(b))	Asset ceiling	70	70
Unrecognised losses/ costs/ (gains)	20X1: unchanged	50	40
	20X2: 75 – 25 (para 58A)		
Present value of future benefits	Given	20	30
Asset balance to be reduced by:		5	30

Journals**End of 20X1**

		Debit	Credit
Employee benefit expense	W2: year 1	30	
Defined benefit plan: surplus			30
<i>Jnl 1: Reduction in asset balance to a nil ceiling: IAS 19.58(b) – see W2</i>			

Beginning of 20X2

Defined benefit plan: surplus	W2: year 1	30	
Employee benefit expense	i.e. reduces expenses		30
<i>Jnl 2: Reversal of asset reduction (IAS 19.58(b)) in year 1</i>			

End of 20X2

Defined benefit plan: unrecognised loss	75 – 40	35	
Defined benefit plan: surplus			35
<i>Jnl 3: Unrecognised loss (IAS 19.92): this required the corridor calculation, but the question gave us the information so no calculation was required</i>			
Employee benefit expense	W1: year 2	25	
Defined benefit plan: unrecognised loss			25
<i>Jnl 4: Unrecognised loss to be recognised (IAS 19.58A – this adjusts the asset balance calculated in accordance with IAS 19.54)</i>			
Employee benefit expense	W2: year 2	5	
Defined benefit plan: surplus			5
<i>Jnl 5: Asset balance limited by ceiling (IAS 19.58(b))</i>			

Ledger accounts:

Defined benefit plan: Surplus					
20X1	Balance	60	20X1	Jnl 1	EB Exp: <i>para 58(b)</i> 30
					Balance c/f 30
		60			60
20X1	Closing balance	30			
20X2	Jnl 2	EB Exp: <i>para 58(b) (reversal)</i> 30	20X2	Jnl 3	DBP: unrecog gain/ loss (<i>para 92</i>) 35
				Jnl 5	EB Exp: <i>para 58 (b)</i> 5
					Balance c/f 20
		60			60
20X2	Closing balance	20			
Defined benefit plan: Unrecognised gain/ loss					
20X1	Balance	40			
20X2	Jnl 3	DBP: Surplus (<i>para 92</i>) 35	20X2	Jnl 4	EB Exp: <i>para 58A</i> 25
					Balance c/f 50
		75			75
20X2	Closing balance	50			
Employee benefit expense: Para 58A (asset decrease)					
20X2	Jnl 4	DBP: unrecog gain/ loss 25		P&L	25
Employee benefit expense: Para 58(b) (asset decrease)					
20X1	Jnl 1	DBP: Surplus 30		P&L	30
20X2	Jnl 5	DBP: Surplus 5	20X2	Jnl 2	DBP: Surplus (<i>reversal</i>) 30
		P&L 25			
		30			30

It is interesting to note that the use of a corridor and ceiling in the measurement of the defined benefit asset or liability is a hotly debated topic since it is in contravention of the Framework. The corridor approach allows assets to be recognised that do not meet the Framework's definition of an asset and can also result in a plan that has a deficit being reflected as an asset (i.e. unrecognised actuarial losses and past costs) and conversely, a plan that has a surplus being reflected as a liability (i.e. because of unrecognised actuarial gains).

4 Other long-term benefits (IAS 19.126 – 19.131)

Whereas short-term benefits are due *before* twelve months after the end of the period during which the employee rendered the service, long-term benefits are due *after* twelve months after the end of the period during which the employee rendered the service.

Other long-term employee benefits are measured on a very similar basis to defined benefit plans with the exception that other long term employee benefits is simpler because:

- actuarial gains and losses are recognised immediately (i.e. no corridor is applied); and
- all past services are recognised immediately.

The line item in the statement of financial position is therefore calculated as simply the following:

		C
Plan obligation	<i>Present value of future obligation</i>	XXX
Less plan assets	<i>Fair value of plan assets</i>	(XXX)
<i>Liability/ (asset)</i>		XXX

The line item in the statement of comprehensive income (expense/ income) is made up of the following:

	<i>Comments</i>	C
Interest cost		XXX
Current service cost		XXX
Past service cost	<i>All recognised immediately</i>	XXX
Curtailments or settlements		XXX
Expected return on assets		(XXX)
Actuarial gains and losses	<i>All recognised immediately</i>	XXX
<i>Income/ expense</i>		XXX

5 Termination benefits (IAS 19.132 – 19.143)

Whereas all other benefits are earned by the employee for *services provided* to the employer, termination benefits are those that arise due to a *termination of a service* (i.e. the past event is the termination rather than the employee services provided).

Termination benefits are those that become payable as a result of either:

- the entity's decision to terminate the employment before normal retirement age; or
- the employee's decision to accept an offer of voluntary redundancy.

Since termination benefits do not provide the entity with future economic benefits, they are expensed. If they are not paid at the same time, a liability will be recognised.

The termination benefits are recognised as a liability and an expense when, and only when, the entity is demonstrably committed to the termination (either a forced termination or the offer of a voluntary termination). The criteria that must be met in order to prove that the entity is (or is not) demonstrably committed to the termination are:

- the entity must have a detailed formal plan for the termination; and
- must have no realistic possibility of withdrawal.
- the plan must include the following as a minimum:
 - the location, function, and approximate number of employees whose services are to be terminated;
 - the termination benefits for each job classification or function; and
 - the date when the plan will be implemented. The plan should be implemented as soon as possible and the period of time to complete implementation should not be so long that material changes to the plan are likely.

Where the benefit relates to an offer of benefits to encourage voluntary redundancy, the number of employees who will probably accept the offer must be estimated (e.g. if we offered each of our 100 employees a C1 000 retrenchment package, and we think 20 of these employees will accept the package, we must recognise a liability and expense equal to C20 000: C1 000 x 20 employees). If we are unable to estimate the number of employees who may accept the offer, we won't recognise the liability but will disclose a contingent liability instead.

If the benefit is payable irrespective of the reason for the termination (i.e. it will be payable even if it is not related to a forced termination or an offer of early termination), the benefit is recognised as a post-employment benefit and not as a termination benefit. Similarly, if the employee *requests* early termination (i.e. is not offered or forced into an early termination), this must be recognised as a post-employment benefit and not as a termination benefit.

If the benefits are to be paid beyond twelve months after the end of the reporting period, they must be discounted.

6 Disclosure

6.1 Short-term employee benefits (IAS 19.23)

- IAS 19 *Employee benefits*: no disclosure requirements
- IAS 24 *Related party disclosures*: disclose the short-term employee benefits relating to key management personnel
- IAS 1 *Presentation of financial statements*: disclose the employee benefit expense, if material

6.2 Post-employment benefits

6.2.1 Defined contribution plans (IAS 19.46 – 19.47)

- IAS 19 *Employee benefits*: disclose the employee benefit expense
- IAS 24 *Related party disclosures*: disclose defined contribution plans relating to key management personnel

6.2.2 Defined benefit plans (IAS 19.20 – 19.125)

The disclosure of a defined benefit plan is copious and therefore only the main aspects of the disclosure are summarised here.

The entity must disclose:

- a) the accounting policy applied for recognising actuarial gains and losses;
- b) a general description of the type of plan;
- c) a reconciliation of:
 - the obligation: showing the movement between the opening and closing balances;
 - the plan asset, showing the movement between the opening and closing balances;
 - the surplus/ deficit and the asset/ liability recognised in the statement of financial position;
- d) an analysis of the obligation into:
 - portion that is completely unfunded;
 - portion that is partially or completely funded;
- e) the various components of the expense and the line item in which these are included;
- f) an explanation of how the expected rate of return was calculated;
- g) the actual return on the assets;
- h) the main actuarial assumptions (e.g. the discount rates, expected salaries etcetera).

Example 21: defined benefit plan: disclosure

<i>Plan obligation</i>	Note	20X3	20X2
		C	C
Present value of obligation – 1 January		160 000	68 301
Interest cost at discount rate estimated at 1 January		11 270	6 830
Current service cost		12 397	15 026
Past service cost (20% vested & 80% to vest over 2 yrs as at 31/12/20X2)		0	22 539
Benefits paid to employees		(5 000)	(0)
Present value – 31 December	(1)	178 667	112 696
Actuarial (gain)/ loss		11 333	47 304
Revised present value – 31 December	(2)	190 000	160 000

Plan assets

Fair value of asset – 1 January		55 000	40 000
Expected rate of return estimated at 1 January		4 096	3 200
Current contributions		9 000	8 000
Benefits paid to employees		(5 000)	(0)
Fair value – 31 December	(1)	63 096	51 200
Actuarial gain/ (loss)		8 904	3 800
Revised present value – 31 December	(2)	72 000	55 000
Average expected remaining working lives of employees		10 years	10 years

Note 1: These were based on actuarial assumptions at 1 January.

Note 2: Revised actuarial assumptions required the present value and fair values to be re-estimated at the end of 20X2 and 20X3 (re-estimations had not been necessary before)

Additional information:

The cumulative unrecognised gains and losses at 1 January 20X2 was nil.

At 1 January 20X2, the discount rate was estimated to be 10%.

Assume that all transactions occurred at the end of the year.

Required:

Disclose the asset/ liability and the employee benefit expense in the notes to the financial statements for the year ended 31 December 20X3 (in as much detail as is possible). (This question is the same as example 15, in which the ledger accounts were provided – please refer back to these accounts).

Solution to example 21: defined benefit plan: disclosure

Company name

Notes to the financial statements (extracts)

For the year ended 31 December 20X2

2. Accounting policies

2.10 Employee benefits

The company has a defined benefit final salary (assumed) pension plan that is governed by the South African Pensions Fund Act, 1956.

2.11 Actuarial gains and losses

Actuarial gains and losses arising from the company's defined benefit plan are recognised in income, to the extent that they exceed IAS19 corridor limits, over the average remaining working life of the employees. The corridor limits apply to cumulative unrecognised actuarial gains and losses at the end of the previous reporting period to the extent that they exceed the greater of:

- 10% of the present value of the gross defined benefit obligation at that date, and
- 10% of the fair value of any plan assets at that date.

15. Defined benefit plan liability/ (asset)

	20X3	20X2	20X1
	C	C	C
Present value of the obligation	190 000	160 000	68 301
Less fair value of the plan assets	(72 000)	(55 000)	(40 000)
	118 000	105 000	28 301
Unrecognised actuarial gains/ (losses)	(43 183)	(43 504)	0
Unrecognised past service costs	(9 015)	(18 031)	0
Liability/ (asset) in the statement of financial position	65 802	43 465	28 301

Reconciliation: Plan obligation

Obligation: opening balance	160 000	68 301	xxx
Interest cost	11 270	6 830	xxx
Current service cost	12 397	15 026	xxx
Past service cost	0	22 539	xxx
Actuarial losses/ (gains)	11 333	47 304	xxx
Benefits paid	(5 000)	(0)	
Obligation: closing balance	190 000	160 000	xxx

Company name
Notes to the financial statements (extracts)
For the year ended 31 December 20X2 continued ...

	20X3	20X2	20X1
	C	C	C
15. Defined benefit plan liability/ (asset) continued ...			
<i>Reconciliation: Plan asset</i>			
Asset: opening balance	55 000	40 000	xxx
Expected return on assets	4 096	3 200	xxx
Contributions invested	9 000	8 000	xxx
Actuarial gains/ (losses)	8 904	3 800	xxx
Benefits paid	(5 000)	(0)	
Asset: closing balance	72 000	55 000	xxx
<i>Actual return on assets:</i>			
Expected return on assets	4 096	3 200	xxx
Actuarial gain/ (loss) on plan assets	8 094	3 800	xxx
	12 190	7 000	xxx

The principal actuarial assumptions applied in determination of fair values, expressed as weighted averages, include:

Discount rate	10%	10%	x%
Expected return on plan assets	x%	x%	x%
Expected future salary increases	x%	x%	x%
Expected proportion to take early retirement	x%	x%	x%
Proportion of employees covered by the group's retirement benefit plans	x%	x%	x%

27. Employee benefit expense

Interest on obligation	11 270	6 830	xxx
Current service cost	12 397	15 026	xxx
Past service cost	9 016	4 508	xxx
Expected return on plan assets	(4 096)	(3 200)	xxx
Net actuarial losses (gains) recognised in the current year	2 750	0	0
	31 337	23 164	xxx

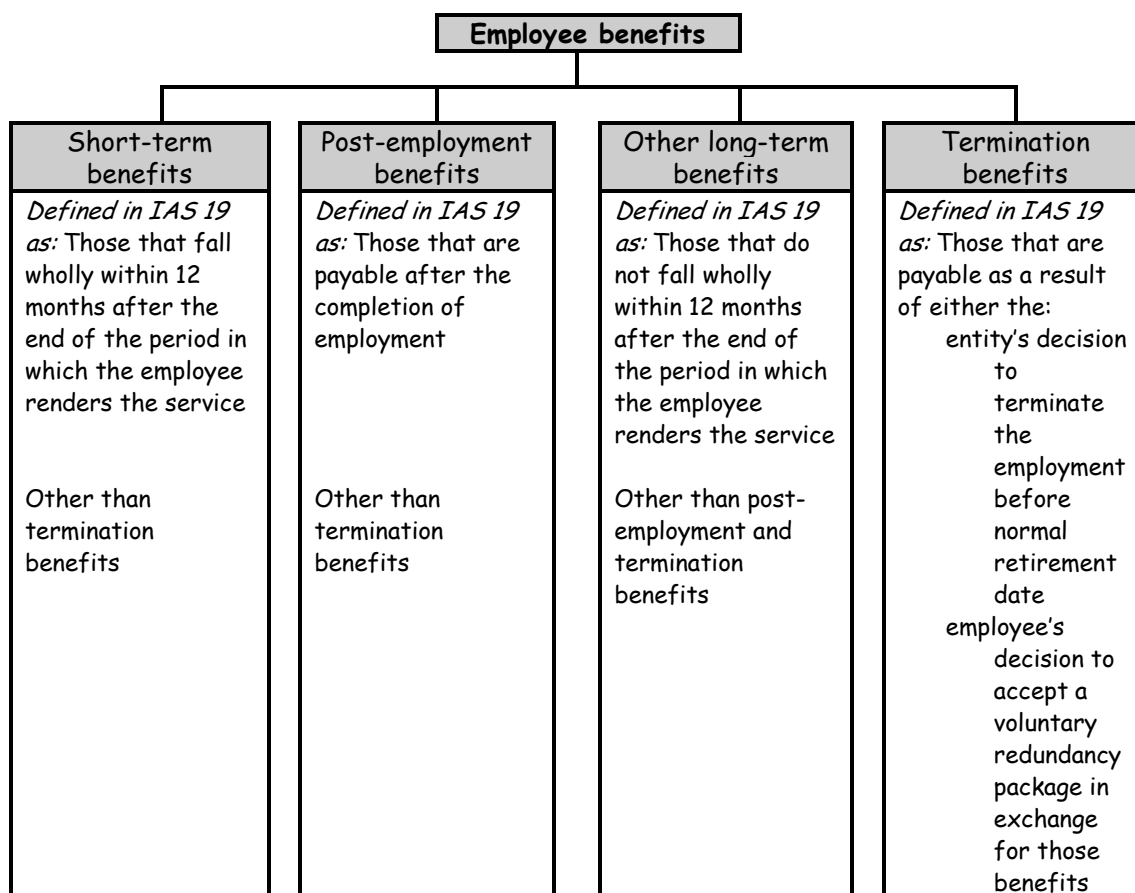
6.3 Other long-term employee benefits (IAS 19.131)

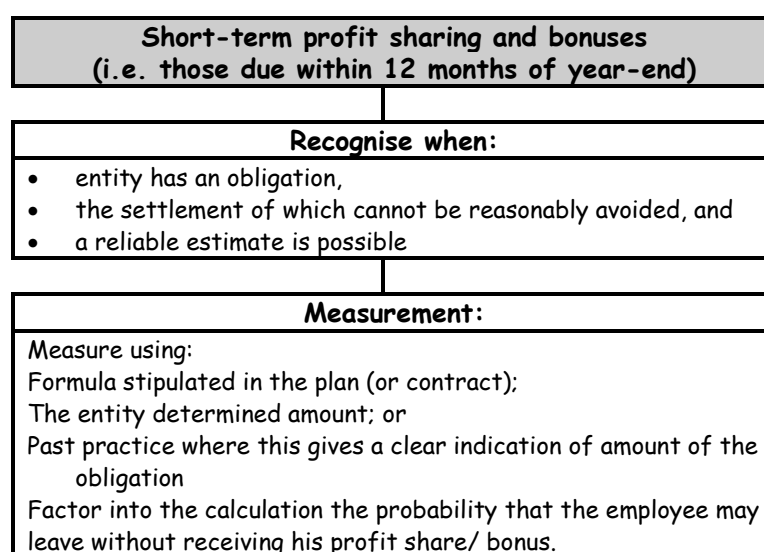
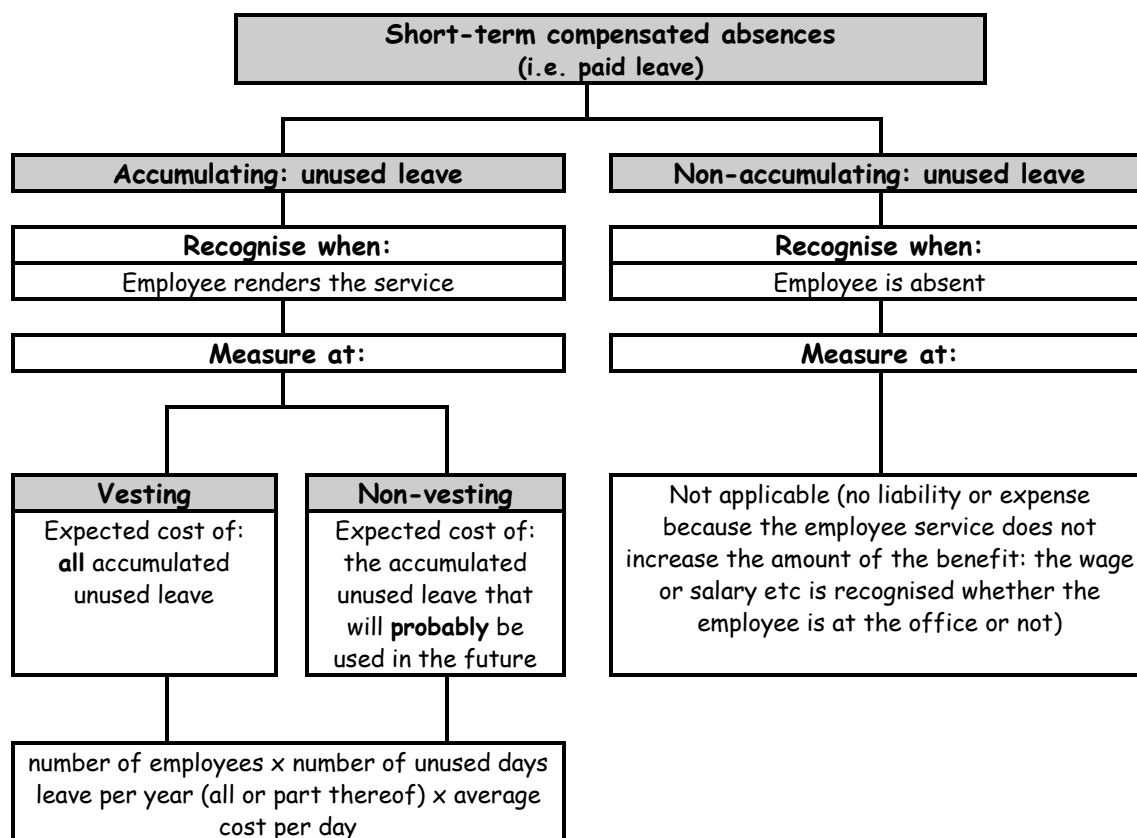
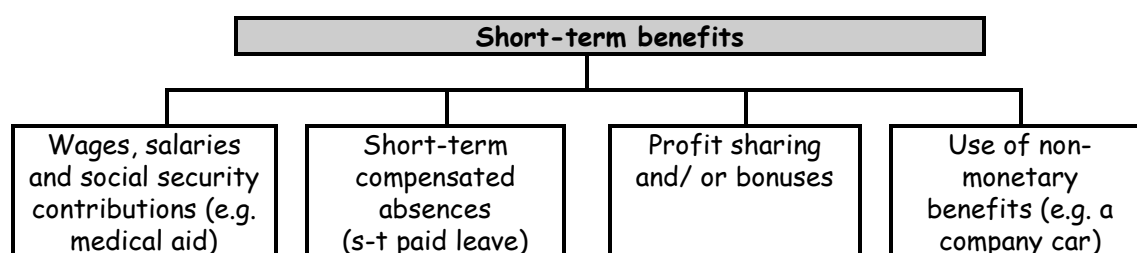
- IAS 19 *Employee benefits*: no disclosure requirements
- IAS 24 *Related party disclosures*: disclose the other long-term employee benefits relating to key management personnel
- IAS 1 *Presentation of financial statements*: disclose the employee benefit expense, if material

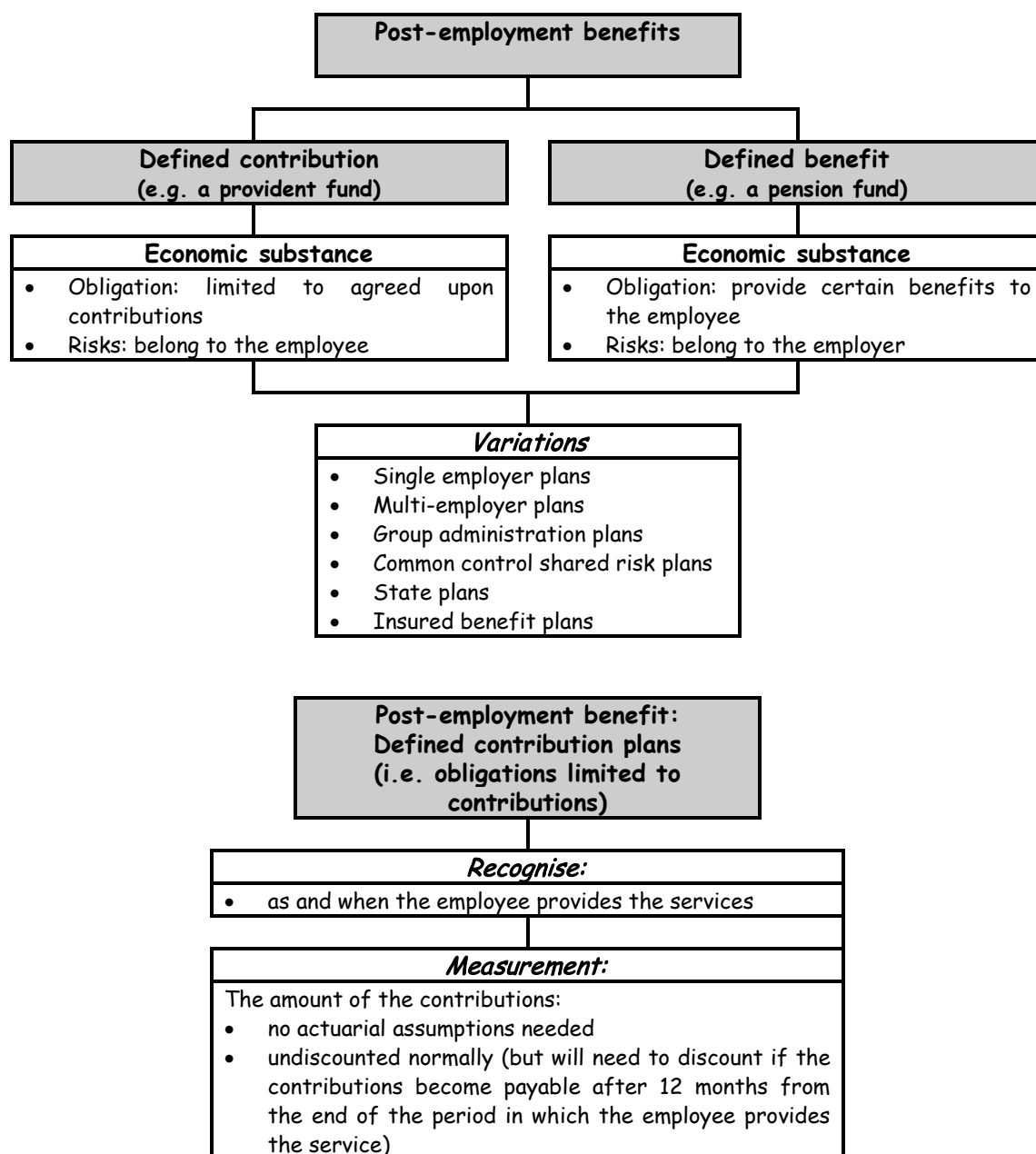
6.4 Termination benefits (IAS 19.141-19.143)

- IAS 19 *Employee benefits*: no disclosure requirements
- IAS 24 *Related party disclosures*: disclose the termination benefits relating to key management personnel
- IAS 1 *Presentation of financial statements*: disclose the employee benefit expense, if material
- IAS 37 *Provisions, contingent liabilities and contingent assets*: a contingent liability for an offer of termination benefits where there is uncertainty about how many employees will accept the offer (unless the possibility of the outflow is remote).

7. Summary







**Post-employment benefit:
Defined benefit plans
(i.e. obligations = benefit promised)**

Recognise:

As and when the employee provides the services

Measurement:

Statement of financial position:	Balance
net asset or liability:	
• Obligation: PV of benefit promised	(Credit)
• Plan assets: FV of separate plan assets	Debit
• Subtotal: surplus/ (deficit)	Dr/ (Cr)
• Unrecognised actuarial losses/ (gains): corridor	Dr/ (Cr)
• Unrecognised past service costs: amortised	Debit
Net asset or liability	Dr/ (Cr)
Statement of comprehensive income:	
employee benefit expense:	
• movement in the net asset/ liability	
The measurements are subject to:	
• actuarial assumptions: actuarial gains and losses recognised are limited (the corridor approach)	
• past service costs are recognised over a period (amortised)	
• discounting	

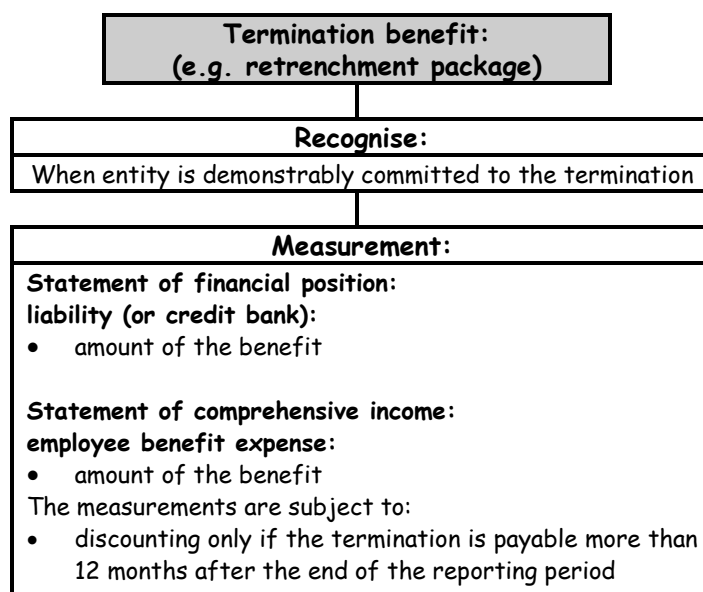
**Other long-term employee benefit:
(e.g. long-service benefits)**

Recognise:

As and when the employee provides the services

Measurement:

Statement of financial position:	Balance
net asset or liability:	
• Obligation: PV of benefit promised	(Credit)
• Plan assets: FV of separate plan assets	Debit
Net asset or liability	Dr/ (Cr)
Statement of comprehensive income:	
employee benefit expense:	
• movement in the net asset/ liability	
The measurements are subject to:	
• actuarial assumptions: the actuarial gains/ losses are all recognised immediately (i.e. no corridor approach)	
• past service costs are recognised immediately	
• discounting	



Chapter 17

Provisions, Contingencies and Events after the Reporting Period

Reference: IAS 37 – Provisions, Contingent Liabilities and Contingent Assets
IAS 10 – Events After the Reporting Period
IFRIC 1 – Changes in Decommissioning, Restoration and Similar Liabilities

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1. Introduction

This chapter covers two standards: IAS 37 and IAS 10. The standard, IAS 37, covers certain types of liabilities and assets whereas IAS 10 deals with events that occur after the reporting period but before the financial statements are authorised for issue.

In IAS 37, the focus is on liabilities and assets that are subject to some type of uncertainty. Both liabilities and assets are defined in the Framework and it would be beneficial for you to refresh your memory of these two definitions before continuing. The discussion of the standard on provisions and contingencies (IAS 37) will be covered in three separate stages: first we will investigate the recognition of liabilities; then the recognition of assets and then the disclosure of liabilities and assets. It is important that you get to know the definitions used in IAS 37.

2. Definitions (provided in IAS 37)

Provision:

- A liability of uncertain timing or amount.

Liability (framework)

- a present obligation (legal or constructive);
- of the entity;
- as a result of a past event;
- the settlement of which is expected to result in an outflow of future economic benefits.

Obligating event:

- An event that creates a
- legal or constructive obligation that results in an entity having
- no realistic alternative to settling that obligation.

Legal obligation:

An obligation that derives from

- a contract (through its explicit or implicit terms);
- legislation; or
- other operation of law.

Constructive obligation:

An obligation that derives from:

- an entity's actions where
- by an established pattern of past practice, published policies or a sufficiently specific current statement,
- the entity has indicated to other parties that it will accept certain responsibilities, AND
- as a result, the entity has created a valid expectation on the part of those other parties that it will discharge those responsibilities.

Contingent liability:

There are two types of contingent liabilities defined (slightly modified wording).

- A **possible** obligation from past events;
- whose existence will be confirmed only by the:
 - occurrence or non-occurrence of
 - one or more uncertain future events
 - not wholly within the control of the entity (e.g. a possible negative court ruling)
- OR
- A **present** obligation from past events
- that is not recognised because (*the recognition criteria are not met*):
 - it is not probable that an outflow of economic benefits will be needed to settle the obligation; or
 - the amount of the obligation cannot be measured with sufficient reliability.

Contingent asset:

- A **possible** asset that arises from past events and
- whose existence will be confirmed only by the:
 - occurrence or non-occurrence of
 - one or more uncertain future events
 - not wholly within the control of the entity (e.g. a possible positive court ruling).

Onerous contract: (*slightly modified wording*)

- A contract where:
 - the unavoidable costs of meeting the terms of the contract
 - exceed the benefits to be derived from the contract.

Restructuring:

- a programme that is planned and controlled by management and
- materially changes either:
 - the scope of the business undertaken by the entity; or
 - the manner in which the business is conducted.

3. Liabilities, provisions and contingent liabilities (IAS 37.14 – .30 & .36 – .52)**3.1 Recognition: liabilities and provisions (IAS 37.14 – .30)**

A provision is simply a liability where either (or both) the *amount* or the *timing* is uncertain. Provisions and liabilities are both recognised in the statement of financial position but are disclosed separately from one another.

It needs to be remembered that before an element may be recognised (provided for), both the definition of the element and the recognition criteria need to be met. Whereas contingent liabilities are never recognised, ‘pure’ liabilities and provisions are recognised if they:

- meet the definition of a liability; and
- meet the recognition criteria:
 - a reliable estimate of the liability must be possible; and
 - the outflow of future economic benefits must be probable.

The most fundamental part of the definition is that there must be an obligation. Deciding whether or not there actually *is* an obligation is frequently difficult, and is an exercise that requires much professional judgement. There is a thin line separating ‘pure’ liabilities, provisions and contingent liabilities.

3.1.1 Present obligations (IAS 37.15 – .16)

In very rare instances, it may be difficult to determine if there is a present obligation or even if there is a past event. In these instances, the entity must decide if it is:

- more likely that a present obligation did exist at year-end, in which case a provision is recognised; or
- more likely that a present obligation did not exist at year-end, in which case a contingent liability is disclosed (unless the possible outflow of future economic benefits is remote).

In making this decision, the entity uses its professional judgement, other expert opinions (e.g. legal opinion) and events after the reporting period.

An example of such a situation is when a court case is in progress at year-end, where there is no indication as to whether an entity has an obligation or even whether the deed that the entity is being accused of actually occurred (i.e. whether there is a past event at all).

3.1.2 Past events (IAS 37.17 – .22)

For an event to lead to a present obligation there must be ‘an obligating event’. An obligating event is one that leaves the entity with no realistic alternative but to settle the liability. There are two types of obligations possible:

- a legal obligation, and
- a constructive obligation.

The past event must:

- exist independent of the entity’s future actions. This is known as the ‘walk-away test’, i.e. if the company closed down today, would the obligation still exist?
- always includes another party (the third party) besides the entity. The standard does, however, state that the this other party does not need to be known, i.e. it could be the public at large.

This means that a decision made at a board meeting would not lead to a present obligation because this event does not involve a third party and is not separate from the entity’s future actions (its future actions could be changed if the board later decides to change its mind).

Example 1: obligating events

Consider the following issues that were discussed during a directors meeting on 24 December 20X3:

A: A decision was made by the directors to pay a bonus to an employee.

B: A decision was made by the directors to purchase a new machine in 3 years time.

C: Legislation recently passed means that one of the plants has to be dismantled in a years time.

D: Future losses are expected from a branch in Botswana.

Required:

Explain whether or not any of the above result in present obligations as at 31 December 20X3.

Solution to example 1: obligating events

A and B: The entity is neither legally nor constructively obligated to:

- pay the bonus (A); or
- purchase the asset (B).

Both these future payments may still be avoided by the future actions of the entity, and therefore do not meet the definition of an obligating event. These decisions may currently still be revoked. Only if these decisions are communicated to the relevant *third parties* in such a way that there is no realistic alternative but to make these payments, would an obligation arise.

C: The new legislation means that future costs to dismantle a plant are unavoidable. This therefore represents an obligating event at year-end.

D: The future losses expected from the branch in Botswana is not an obligation at year-end because they are also avoidable (the branch could be sold or shut-down before any losses are incurred). The expected losses may, however, indicate that certain assets may need to be tested for impairment (see the chapter on ‘impairment of assets’ for more information in this regard). IAS 37.63 states that provisions shall not be recognised for future operating losses.

Example 2: obligating events

Damij Ltd owned a road tanker that overturned in December 20X3 during a bad rain storm. The tanker spilled its contents, thus contaminating a local river. Damij Ltd has never before contaminated a river. Damij Ltd has no legal obligation to clean the river, has no published policies as to its views on the rehabilitation of the environment and has not made any public statement that it will clean the river. It intends to clean-up the river and has been able to calculate a reliable estimate of the cost thereof.

Required:

Explain whether or not Damij Ltd should recognise a liability or a provision in its statement of financial position as at 31 December 20X3.

Solution to example 2: obligating events

The event is the accident, and since it happened before year-end it is a past event. There is, however, no present obligation since:

- there is no law that requires the company to rehabilitate the river, and
- there is no constructive obligation to rehabilitate the river since neither:
 - a public statement has been made and nor
 - is there an established pattern of past practice since this was its first such accident.

Although Damij Ltd intends to clean-up the river and even has a reliable estimate of the costs thereof, no liability or provision should be recognised because an obligating event is one that results in the entity having no realistic alternative but to settle the obligation: Damij Ltd can still change its intention.

3.1.3 Probable outflow of future economic benefits (IAS 37.23 – 24)

In deciding whether an outflow of future economic benefits is probable, one must be sure that the outflow is more *likely to occur* than *not to occur*, in which case a provision should be recognised. If it is more likely that the outflow will not occur, then a contingent liability should be disclosed (unless the possible outflow is remote).

3.1.4 Reliable estimate (IAS 37.25 - .26)

It should be remembered that uncertainty and estimates are a normal part of the recognition and measurement process.

Although a provision is a liability of uncertain amount, this does not mean that the liability cannot be reliably measured. If the estimated amount of an obligation involves a *normal* degree of uncertainty, and it is possible to make a reliable estimate thereof, it is recognised as a 'pure' liability. For example, the telephone bill payable at year-end must be estimated if the actual invoice has not yet been received. This level of uncertainty is not material enough to classify the obligation as a provision and therefore it is recognised as a 'pure liability'.

If the estimated amount of an obligation involves a *larger degree of uncertainty than normal*, but yet a reliable estimate is still possible, the liability is still recognised but is termed a provision. Provisions should be disclosed separately from 'pure liabilities'. A typical example of a provision is the estimated amount of damages payable pursuant to a court case where the court case has already ruled against the entity but has yet to establish an amount.

If an amount is *so uncertain* that the estimate is not reliable, then the you have a contingent liability. You could not recognise it as a liability since one of the recognition criteria – being able to reliably measure an amount – is not met. A typical example of a contingent liability would be where the entity is being sued but it is either not yet possible to estimate whether the courts will probably rule against the entity (i.e. the outflow of future economic benefits is not yet probable) or it is not yet possible to estimate the amount that the courts will force the entity to pay (i.e. a reliable estimate is not yet possible).

3.2 Recognition: contingent liabilities (IAS 37.27 - 30)

Contingent liabilities are never recognised as liabilities, meaning that the contingent liability will never be journalised. Contingent liabilities are, however, disclosed in the notes to the financial statements where it is considered relevant to the user. There are two different types of contingent liabilities:

- one that is a liability that may not be recognised because one or both of the *recognition criteria* are not met (let's call this type 1); and
- the other that is almost a liability, but falls short of the *definition* in that there is only a *possible* obligation, (as opposed to a *present* obligation) (let's call this type 2). In this latter type, the existence of the obligation will only be confirmed by the occurrence of some future event/s that is not wholly within the control of the entity.

Therefore, only the first type of contingent liability is technically a liability because it meets the definition, but in the case of both types, no liability is recognised although disclosure thereof may be required.

3.3 Measurement: liabilities, provisions and contingent liabilities (IAS 37.36 - .52)

As with the *recognition* of all types of liabilities, there is judgement involved in the *measurement* thereof. The same principles are used whether measuring liabilities, provisions or contingent liabilities. Although a contingent liability is not recognised, it should be measured and disclosed where it is material and a reliable estimate is possible. Provisions should be measured at the 'best estimate of the expenditure required to settle the present obligation' at the end of the reporting period (i.e. the amount that the entity would 'rationally pay' to settle the obligation or transfer it to a third party at the end of the reporting period).

A number of factors need to be carefully considered when measuring provisions and contingent liabilities:

- best estimates and expected values;
- risks and uncertainties;
- future cash flows and discounting to present values (if effects of discounting are considered to be material);
- future events;
- gains on disposals of assets;
- reimbursements;
- changes in provisions; and
- reduction in provisions.

3.3.1 Best estimates and expected values (IAS 37.36 - .41)

The best estimate of the amount of an obligation is the amount that an entity would rationally pay to settle the liability. It is frequently difficult to determine the *amount* of the obligation or the *timing* of the settlement of the obligation. When making these estimates, management should consider:

- previous experience;
- similar transactions;
- possibly expert advice; and
- events after the reporting period.

Previous experience may indicate a range of possible outcomes, for which it may be possible to estimate a probability. This is referred to as the calculation of expected values using the theory of probabilities. The application of this theory is best explained by way of example.

Example 3: best estimate using expected values

A company offers goods for sale with a 6-month warranty, where goods sold that are found to be faulty within 6 months after purchase may be returned for a full refund. Not all goods will be faulty and similarly, not all customers bother to return faulty goods. The company's past experience suggests that the following are the possible outcomes and the probability thereof:

Outcomes	Probability	Estimated cost
Goods will not be returned	70%	0
Goods will be returned	30%	100 000
	<u>100%</u>	

Required:

Calculate the expected cost of the provision and journalise it.

Solution to example 3: best estimate using expected values

The provision, measured as the expected value of the future cost of fulfilling the warranty obligation, is calculated as follows: $\text{expected value} = 70\% \times C0 + 30\% \times C100\,000 = C30\,000$

	Debit	Credit
Warranty costs (E)	30 000	
Provision for warranty costs (L)		30 000
<i>Provision for warranty costs</i>		

3.3.2 Risks and uncertainties (IAS 37.42 - .44)

When determining the best estimate of a provision, the risks and uncertainties surrounding the events and circumstances must be taken into account. This may be done by using judgement, or by use of risk adjustments to either:

- the amounts of the provision; or
- the discount rate used (if the provision is present valued).

One must be careful not to duplicate a risk adjustment and thereby overstate liabilities or understate assets.

3.3.3 Future cash flows and discounting (IAS 37.45 - .47)

The possibility that the settlement of an obligation may occur far into the future has an effect on the value of the obligation in current day terms. The effect that the passage of time has on the value of money is often referred to as the 'time value of money'.

Imagine being asked whether you would prefer to receive C100 today or C100 in 10 year's time. For many reasons, (including the fact that you could utilise the C100 immediately), you would choose to receive it immediately. This is because the value of C100 received in the future is less to you than the value of C100 received today. In other words, today's value (the *present* value) of a *future* cash flow is less than the actual (absolute/ future) amount of the cash flow. This is essentially the present value effect or the effect of the time value of money.

If the difference between the actual (future) amount of the cash flow and the present value thereof is material, then the liability should be recorded at its present value. The present value is calculated using a pre-tax discount rate based on the current market assessment of the time value of money and the risks specific to the liability.

As the period between the present and the date of the future cash flow gets shorter, so the difference between the present value and the actual (future) value of the cash flow gets smaller. Therefore, each year the present value of the future outflow must be recalculated with the result that the provision (the present value) will gradually be increased until the actual settlement date is reached, when the provision will finally equal the actual liability. When the settlement is due, the actual amount due and the present value thereof must logically be equal. The increase in the liability each year will be debited to finance charges (notional).

Example 4: discounting liabilities to present values and the related journals

At the beginning of year 1, an event occurs that results in an obligation to pay C100 000 at the end of year 3. The present values of this amount have been calculated as follows:

	C
At the beginning of year 1:	60 000
At the end of year 1:	70 000
At the end of year 2:	90 000
At the end of year 3:	100 000

Required:

Show the related journal entries for each of the three years.

Solution to example 4: discounting liabilities to present values and the related journals

	Debit	Credit
Year 1 – beginning		
Expense/ Asset	60 000	
Liability		60 000
<i>Initial recognition of the obligation: beginning of year 1</i>		
Year 1 – end		
Finance charges (E)	10 000	
Liability		10 000
<i>Increase in liability as a result of time value of money:</i> <i>70 000 – 60 000</i>		
Year 2 – end		
Finance charges (E)	20 000	
Liability		20 000
<i>Increase in liability as a result of time value of money:</i> <i>90 000 – 70 000</i>		
Year 3 – end		
Finance charges (E)	10 000	
Liability		10 000
<i>Increase in liability as a result of time value of money:</i> <i>100 000 – 90 000</i>		
Liability	100 000	
Bank		100 000
<i>Payment of liability at the end of year 3</i>		

Example 5: calculating the present (discounted) values and the related journals

A factory plant is bought on 1 January 20X1 for C450 000 cash including costs of installation. The entity is obliged to decommission the plant after a period of 3 years. Future decommissioning costs are expected to be C399 300. The company uses a discount rate of 10%.

Required:

Draw up a present value table showing the present value of the future costs on January 20X1 and at the end of each year together with the annual movements. First calculate the present value/ discount factors (or use a financial calculator). Journalise all related entries.

Solution to example 5: calculating the present (discounted) values and the journals**Present value table:**

Date	Discount factor (rounded): 10%	Calculation of liability balance (present value)	Liability balance	Finance charges	Calculation of finance charges: can be calculated either way	
					Liability balance x 10%	Movement in liability balance
1 Jan X1	0.751	$399\,300 \times 0.751$	300 000			
31 Dec X1	0.826	$399\,300 \times 0.826$	330 000	30 000	$300\,000 \times 10\%$	$330\,000 - 300\,000$
31 Dec X2	0.909	$399\,300 \times 0.909$	363 000	33 000	$330\,000 \times 10\%$	$363\,000 - 330\,000$
31 Dec X3	1	$399\,300 \times 1$	399 300	36 300	$363\,000 \times 10\%$	$399\,300 - 363\,000$
Total				99 300		

Number of years until the cash settlement	Calculation of discount factor	Discount factor (rounded): 10%
0 years (i.e. it's due)	$Actual = 1$	1
1 year	$1/(1+10\%)$	0.909
2 years	$0.909/(1+10\%)$	0.826
3 years	$0.826/(1+10\%)$	0.751

Notice that as it gets closer to the date on which the 399 300 is to be paid, the discount factor increases. The gradual increase in the discount factor over the passage of time is referred to as the 'unwinding of discount'. This causes the liability to gradually increase from its original present value of 300 000 to 399 300 on 31 December 20X3. The increase in the liability results in the recognition of finance charges each year. Notice that the total finance charges of 99 300 when added to the present value of the liability of 300 000 (on date of initial recognition) is 399 300, the future value (actual amount paid).

	Debit	Credit
1 January 20X1		
Plant: cost (A)	450 000	
Bank		450 000
<i>Purchase of plant for cash</i>		
31 December 20X1		
Plant (decommissioning) (A)	300 000	
Decommissioning liability		300 000
<i>Initial recognition of the decommissioning obligation</i>		
31 December 20X2		
Finance charges (E)	30 000	
Decommissioning liability		30 000
<i>Increase in liability as a result of unwinding of the discount</i>		
31 December 20X3		
Finance charges (E)	33 000	
Decommissioning liability		33 000
<i>Increase in liability as a result of unwinding of the discount</i>		
Depreciation (E)	250 000	
Plant: accumulated depreciation		250 000
<i>Depreciation of plant (450 000 + 300 000) / 3 years</i>		
31 December 20X3		
Finance charges (E)	36 300	
Decommissioning liability		36 300
<i>Increase in liability as a result of unwinding of the discount</i>		
Depreciation (E)	250 000	
Accumulated depreciation		250 000
<i>Depreciation of plant (450 000 + 300 000) / 3 years</i>		
Decommissioning liability	399 300	
Bank		399 300
<i>Payment in respect of decommissioning</i>		

Please notice that a total of 849 300 is expensed over the 3 years: depreciation of 750 000 (250 000 for 3 years) and the finance charges of 99 300. This is the total cost of using and decommissioning the asset: 450 000 (cost of asset excluding cost of decommissioning) and 399 300 (cost of decommissioning). Also notice how the cost (present value) of the decommissioning of the plant is debited to the plant's cost account (IAS 16.16).

3.3.4 Future events (IAS 37.48 – .50)

When calculating the amount of the liability or provision, expected future events should be taken into account when there is ‘sufficient objective evidence’ available suggesting that the future event will occur. An example would be possible new legislation that is virtually certain to be enacted that may lead to a provision for environmental restoration (clean-up).

Example 6: future events

A company owns a number of nuclear plants. The company is presently obliged to dismantle one of these nuclear plants in 3 years time.

The last nuclear plant dismantled by the company cost C1 000 000 to dismantle, but the company expects to dismantle this nuclear plant, if using the same technology, at a slightly reduced cost of C800 000 due to the increased experience. There is, however, a chance that completely new technology may be available at the time of dismantling, which could lead to a further C200 000 cost saving.

Required:

Discuss the measurement of the provision.

Solution to example 6: future events

A provision should reflect expected future events where there is sufficient objective evidence that these will occur. Since the company has had experience in dismantling plants, it is argued that the expected cost savings through this experience is reasonably expected to occur. The cost savings expected as a result of the possible introduction of completely new technology, being outside of the control of the company, should not be taken into account, unless of course the company has sufficient objective evidence that this technology will be available. The provision should be measured at C800 000.

3.3.5 Gains on disposals of assets (IAS 37.51 - .52)

When an obligation involves the sale of an entity’s assets (e.g. during the restructuring of a business) and the sale thereof is expected to result in a gain, this gain should not be included in the calculation of the provision since this would reduce the provision, which would not be considered prudent.

Example 7: gains on disposals of assets

New legislation means that Undoo Ltd must dismantle its nuclear plant in a year’s time. The dismantling is estimated to cost C300 000 but Undoo Ltd also expects to earn income from the sale of scrap metal of C100 000. The effects of discounting are expected to be immaterial.

Required:

Process the required journal entry to raise the provision

Solution to example 7: gains on disposals of assets

	Debit	Credit
Nuclear plant (A)	300 000	
Provision for dismantling costs		300 000
<i>Expected costs of dismantling (i.e. the C100 000 expected income is not offset against the expected costs)</i>		

3.3.6 Reimbursements (IAS 37.53 – .58)

Reimbursements occur when, for example, a retailer offers a guarantee to its customer, but where the manufacturer in turn offers the retailer a counter-guarantee.

Expected reimbursements from the manufacturer (or other supplier) should:

- be disclosed as a separate asset;
- only be recognised if it is *virtually certain* that the reimbursement will be received;
- be measured at not more than the amount of the related provision.

In the instance where the retailer does not offer a guarantee for faulty goods, but the manufacturer does, faulty goods would be returned to the retailer who would then send the goods back to the manufacturer who would then replace the goods. In this case, the *retailer* should not make a provision for any guarantee since no guarantee was offered *by the retailer*: the retailer has no obligation, but is merely acting as a conduit between the customer and manufacturer.

However, a retailer may offer its customers a guarantee that is either partially or fully covered by the manufacturer. In this case, since the retailer offers the guarantee, the retailer should make a provision for the total expected costs of fulfilling the guarantee despite the fact that the retailer may then return the goods to the manufacturer for a full or partial refund (reimbursement of costs). This reimbursement should be recognised as a separate asset and should not be set off against the provision for the total expected costs of fulfilling the guarantee since the actual sequence of events would then be obscured to the user of the financial statements. Although the resultant asset and liability should not be set off against each other, the income and expense may be.

Example 8: reimbursements

A retailer company sells goods to its customers that are guaranteed.

Required:

State whether the retailer must raise a provision for the cost of meeting future guarantee obligations:

- A. The retailer company provides the guarantee.
- B. The manufacturer provides the guarantee. The retailer is not liable in any way.
- C. The manufacturer provides the guarantee but the retailer company provides a guarantee irrespective of whether the manufacturer honours his guarantee.
- D. The manufacturer and retailer company provide a joint guarantee, whereby they share the costs of providing the guarantee: they jointly and severally accept responsibility for the guarantee.
- E. The manufacturer and retailer company provide a joint guarantee, whereby they share the costs of fulfilling the guarantee: the retailer is not liable for amounts that the manufacturer may fail to pay.

Solution to example 8: reimbursements

- A. The retailer has the obligation and must therefore raise the provision.
- B. The manufacturer has the obligation. The retailer has no obligation. No provision should be raised.
- C. The retailer must raise a provision for the full cost of the provision and must recognise a separate reimbursement asset to the extent that it is virtually certain to receive the reimbursement.
- D. The portion of the costs that the retailer is expected to pay is recognised as a provision, whereas the portion of the costs that the manufacturer is expected to pay is disclosed as a contingent liability in case the manufacturer does not honour his obligations (IAS 37.29).
- E. The portion of the costs that the retailer is expected to pay is recognised as a provision. A contingent liability is not recognised for the portion of the costs that the manufacturer is expected to pay since the retailer has no obligation to pay this amount in the event that the manufacturer does not honour his obligations.

Example 9: reimbursements

A retailer company estimates that it will cost C100 000 to fulfil its obligation in respect of the guarantees offered to its customers. The manufacturer, however, offers a guarantee to the retailer company.

Required:

Show all related journal entries assuming that

A: the entire C100 000 is virtually certain of being received from the manufacturer.

B: an amount of C120 000 is virtually certain of being received from the manufacturer.

Solution to example 9A: reimbursements

	Debit	Credit
Cost of fulfilling guarantees (E)	100 000	
Provision for guarantees (L)		100 000
<i>Provision for the cost of fulfilling guarantees</i>		
Guarantee reimbursement (A)	100 000	
Guarantee reimbursement income (I)		100 000
<i>Provision for guarantee reimbursements</i>		

Comment: The asset and liability should be separately disclosed and should not be set-off against each other (therefore both asset and liability will appear in the statement of financial position) whereas the income and expense may be set-off against each other and, in this case, would cancel each other out (will not appear in the statement of comprehensive income at all).

Solution to example 9B: reimbursements

The journal entries will be the same because the reimbursement asset is not allowed to be measured at more than the provision.

3.3.7 Changes in provisions (IAS 37.59 - .60)

The measurement of a provision is estimated based on circumstances in existence at the time of making the provision. As circumstances change, the amount of the provision must be reassessed and increased or decreased as considered necessary. Therefore, the balance of the provision should be assessed at the end of every year.

Example 10: change in a decommissioning provision

The same information as that provided in example 5 applies to the purchase of a factory plant:

Cash purchase price (1 January 20X1)	: 450 000
Future decommissioning (the outflow expected on 31 December 20X3, as assessed on 1 January 20X1)	: 399 300
Discount rate	: 10%
Depreciation straight-line to nil residual values	: 3 years

During 20X2, it was established that, due to unforeseen prices increases, the expected future cost of decommissioning will be C665 500.

Required:

Draw up a present value table showing the revised present value of the future costs on January 20X1 and the end of each subsequent year together with the annual movement. First calculate the present value/ discount factors (or use a financial calculator).

Show all related entries in t-account format.

Solution to example 10: change in a decommissioning provision**W1: Present value table: based on the old estimate**

Date	Discount factor (rounded): 10%	Calculation of liability balance (present value)	Finance charges	Liability balance	Calculation of finance charges: can be calculated either way	
					Liability balance x 10%	Movement in liability balance
1 Jan X1	0.751315	$399\,300 \times 0.751315$		300 000		
31 Dec X1	0.826446	$399\,300 \times 0.826446$	30 000	330 000	$300\,000 \times 10\%$	$330\,000 - 300\,000$
31 Dec X2	0.909091	$399\,300 \times 0.909091$	33 000	363 000	$330\,000 \times 10\%$	$363\,000 - 330\,000$
31 Dec X3	1	$399\,300 \times 1$	36 300	399 300	$363\,000 \times 10\%$	$399\,300 - 363\,000$
Total			<u>99 300</u>			

The following ledger accounts reflect the entries that have been processed to 31 December 20X1:

Plant decommissioning: cost(asset)		Provision for decommissioning (liability)	
1/1/20X1	450 000	1/1/20X1	⁽¹⁾ 300 000
1/1/20X1	⁽¹⁾ 300 000	31/12/20X1	⁽³⁾ 30 000
Balance	750 000	Balance	330 000

Plant decommissioning asset: accum. deprec.	
31/12/20X1 ⁽²⁾	250 000
Balance	250 000

Depreciation		Finance charges	
31/12/20X1	⁽²⁾ 250 000	31/12/20X1	⁽³⁾ 30 000

- (1) recording of original decommissioning obligation
- (2) recording of depreciation of the decommissioning asset: 750 000 / 3 years
- (3) recording of the finance charges and gradual increase in the liability balance through the unwinding of the discount. Notice that the balance of the liability account is 330 000 on 31 December 20X1, which agrees with the present value table based on the old estimate (W1).

W2: Present value table: based on the new estimate determined as at 31 December 20X2

Date	Discount factor (rounded): 10%	Calculation of liability balance (present value)	Finance charges	Liability balance	Calculation of finance charges: can be calculated either way	
					Liability balance x 10%	Movement in liability balance
1 Jan X1	W1	W1		300 000		
31 Dec X1		W1	30 000	330 000	$300\,000 \times 10\%$	$330\,000 - 300\,000$
		$550\,000 - 330\,000$		220 000		
31 Dec X1	0.826	$665\,500 \times 0.826446$		550 000		
31 Dec X2	0.909	$665\,500 \times 0.909091$	55 000	605 000	$550\,000 \times 10\%$	$605\,000 - 550\,000$
31 Dec X3	1	$665\,500 \times 1$	60 500	665 500	$605\,000 \times 10\%$	$665\,500 - 605\,000$
Total			<u>145 500</u>		$30\,000 + 55\,000 + 60\,500$	

It can be seen from the new present value table (W2) above that:

- At 1 January 20X2: the liability balance should be 550 000 and not 330 000 – an increase of 220 000 is therefore required to increase this liability (and its related asset: plant);
- In 20X2: the depreciation will be based on the revised carrying amount of the asset: (cost of asset: 450 000 + cost of future decommissioning: 300 000 + 220 000 adjustment – depreciation in 20X1: 250 000) / 2 years remaining x 1 year = 360 000;
- In 20X2: finance costs will be based on the revised table (W2): 55 000 (not 33 000 per W1).

The following entries must therefore be processed in the ledger (see these processed on the next page):

(4) Adjustment to the asset and liability account: 550 000 – 330 000 = 220 000

(5) depreciation: 360 000 (in 20X2 and 20X3)

(6) finance costs: 55 000 in 20X2 and 60 500 in 20X3.

Plant decommissioning: cost(asset)		Provision for decommissioning (liability)	
01/01/20X1	450 000	1/1/20X1	⁽¹⁾ 300 000
01/01/20X1	⁽¹⁾ 300 000	31/12/20X1	⁽³⁾ 30 000
	750 000	Balance	330 000
01/01/20X2	⁽⁴⁾ 220 000	01/01/20X2	⁽⁴⁾ 220 000
	970 000		550 000
		31/12/20X2	⁽⁶⁾ 55 000
			605 000
		31/12/20X3	⁽⁶⁾ 60 500
			665 500

Plant decommissioning asset: accum. deprec.	
31/12/20X1 ⁽²⁾	250 000
31/12/20X2 ⁽⁵⁾	360 000
	610 000
31/12/20X3 ⁽⁵⁾	360 000
	970 000

Depreciation		Finance charges	
31/12/20X1	⁽²⁾ 250 000	31/12/20X1	⁽³⁾ 30 000
31/12/20X2	⁽⁵⁾ 360 000	31/12/20X2	⁽⁶⁾ 55 000
31/12/20X3	⁽⁵⁾ 360 000	31/12/20X3	⁽⁶⁾ 60 500

3.3.8 Reduction of provisions (IAS 37.61 - .62)

A provision is made for future costs. When these costs are eventually paid for, the provision is reduced. Care must be taken to reduce the provision by only those costs, now paid for, that were originally provided for.

3.4 Other specific issues

3.4.1 Contracts (IAS 37.66 - .69)

Costs that have been contractually committed to but not yet incurred in the current year should not be recognised as a liability since these are considered to be future costs. One exception to this rule is an **onerous contract**.

An onerous contract is one where the costs to fulfil the terms of the contract are greater than the benefits that will be derived from it (i.e. will make a loss). In this case, the unavoidable costs should be provided for. The unavoidable costs (per IAS 37) are the lower of:

- the cost of fulfilling the contract; and
- the compensation or penalties that would be incurred if the contract were to be cancelled.

Example 11: onerous contracts

Sillium Ltd entered into a contract to perform certain services.

- The total contract price is C80 000.
- The estimated costs of fulfilling these contractual obligations have been recently re-assessed to be C140 000. No work has yet been done.
- A penalty of C30 000 is payable if the contract is to be cancelled.

Required:

Process the required journal entry.

Solution to example 11: onerous contract

	Debit	Credit
Contract cost	30 000	
Provision for onerous contract (L)		30 000
<i>Minimum cost related to an onerous contract: the cost to exit is 30 000 whereas the expected loss is 60 000 (140 000 – 80 000)</i>		

3.4.2 Restructuring provisions (IAS 37.70 - .83)

Restructuring is defined in IAS 37 as:

- a programme that is planned and controlled by management; and
- materially changes either:
 - the scope of a business undertaken by an entity; or
 - the manner in which that business is conducted.

Restructuring occurs when, for example, a line of business is sold (e.g. a shoe manufacturer sells a factory producing takkies) or there is a change in the management structure. In both cases, there will be a variety of costs involved: for example, retrenchment packages will probably need to be paid out and in the case of the sale of the factory, there may be costs incurred in the removal of certain machinery.

The same definition and recognition criteria must be met before making a provision for the costs of restructuring although IAS 37 provides further criteria to assist in determining whether the definition and recognition criteria have been met. These extra criteria are:

- there must be a detailed formal plan that identifies at least the following:
 - the business or part of the business affected;
 - the principal locations affected;
 - the location, function and approximate number of employees who will be compensated for terminating their services;
 - the expenditure that will be undertaken;
 - when the plan will be implemented; AND
- the entity must have raised valid expectations in those affected *before the end of the reporting period* that it will carry out restructuring, by either having:
 - started to implement the plan; or
 - announced its main features to those affected by it.

Costs of restructuring a business entity should be provided for on condition that the costs provided for are only those costs that are directly associated with the restructuring, being:

- those that are necessary; AND
- not associated with the ongoing activities of the entity (i.e. future operating costs are not part of the provision, for example: retraining and relocation costs for continuing staff, investment in new systems, marketing etcetera).

Where the restructuring involves a sale of an operation, no obligation arises until there is a binding sale agreement.

Example 12: restructuring costs

A few days before year-end, Dropout Ltd announced its intention to close its shoe factory within 6 months of year-end. There is a detailed formal plan that lists, amongst other things, the expected costs of closure:

- retrenchment packages: C1 000 000
- retraining the staff members who will be relocated to other factories: C500 000
- loss on sale of factory assets: C100 000

Required:

Process the required journal entry.

Solution to example 12: restructuring costs

	Debit	Credit
Restructuring costs (E)	1 000 000	
Provision for restructuring costs (L)		1 000 000
<i>Provision for restructuring costs</i>		

Note: The cost of retraining staff is a future operating cost and must therefore not be provided for. The loss on sale of factory assets simply indicates a possible need to impair the relevant assets at year-end.

4. Assets: contingent assets (IAS 37.31 - .35)**4.1 Recognition**

For an asset to be recognised, both the definition and the recognition criteria need to be met. Contingent assets, which are only *possible* assets depending on future events, will, however, never be recognised since the definition and recognition criteria will not be met.

Where the flow of economic benefits from a 'contingent asset' is:

- *virtually certain*, the asset is no longer considered to be a 'contingent' asset but a normal asset and is recognised (unless a reliable estimate is not possible);
- *probable*, a contingent asset would be disclosed (if material); and
- *possible or remote*, then the contingent asset is simply ignored. This is based on the concept of prudence.

4.2 Measurement

Although contingent assets are not recognised, the asset/s may need to be disclosed, in which case its value will still need to be measured. The measurement principles for a contingent asset are the same as that for a contingent liability. For example, if the inflow is expected far into the future, the present value thereof should be calculated and if this present value is materially different from the absolute value of the inflow, then the present value should be used instead.

5. Disclosure: provisions, contingent liabilities and assets (IAS 37.84 - .92)**5.1 Provisions**

Provisions should be disclosed as a separate line item in the statement of financial position.

For each class of provision, disclose the following in the notes to the financial statements:

- a brief description of the nature of the obligation;
- the expected timing of the outflows;
- the uncertainties relating to either or both the amount and timing of the outflows;
- major assumptions made concerning future events (e.g. future interest rates; the assumption that a future law will be enacted with the result that a related provision was raised; future changes in prices and other costs);
- the expected amount of any reimbursements including the amount of the reimbursement asset recognised (if recognised at all);
- a reconciliation between the opening carrying amount and the closing carrying amount of the provision (for the current period only) indicating each movement separately:
 - additional provisions made plus increases made to existing provisions;
 - increases in a provision based on increasing present values caused by the normal passage of time and from any changes to the estimated discount rate;
 - amounts used during the year (debited against the provision); and
 - unused amounts reversed during the year.

The interpretation on 'changes in decommissioning, restoration and similar liabilities' (IFRIC 1) requires that a change in such a provision be recorded in accordance with IAS 8: *Accounting policies, estimates and errors*. This would apply to all similar provisions.

The disclosure requirements for a change in accounting estimate (per IAS 8) are as follows:

- the nature and amount of the change in estimate must be disclosed, where the amounts to be disclosed are as follows:
 - the effect on the current period; and
 - the effect on future periods.

Example 13: disclosure of a decommissioning provision (including a change in estimate)

The same information as that provided in example 10 applies to the purchase of a factory plant:

Cash purchase price (1 January 20X1)	: 450 000
Future decommissioning (the outflow expected on 31 December 20X3, as assessed on 1 January 20X1)	: 399 300
Discount rate	: 10%
Depreciation straight-line to nil residual values	: 3 years

During 20X2, it was established that, due to unforeseen prices increases, the expected future cost of decommissioning will be C665 500.

Required:

Disclose the decommissioning asset and liability in the statement of financial position and related notes for the year ended 31 December 20X2.

Solution to example 13: disclosure of a change in decommissioning provision

Company name

Statement of financial position (extracts)

As at 31 December 20X2

	Note	20X2 C	20X1 C
ASSETS			
<i>Non-current assets</i>			
Property, plant and equipment	7	360 000	500 000
LIABILITIES AND EQUITY			
<i>Non-current liabilities</i>			
Provisions	6	605 000	330 000

Company name

Notes to the financial statements (extracts)

For the year ended 31 December 20X2

	20X2 C	20X1 C
6. Provision for decommissioning		
Opening carrying amount	330 000	0
Provision for decommissioning raised	0	300 000
Increase in provision – increased future cost	220 000	
Increase in present value – unwinding of discount: finance charges (<i>per note 8</i>)	55 000	30 000
Closing carrying amount	605 000	330 000

Decommissioning of the plant is expected to occur on 31 December 20X3 and is expected to result in cash outflows of 665 500 (20X1 estimate: 399 300). The amount of the outflows is uncertain due to changing prices. The timing of the outflow is uncertain due to the changing asset usage, which may result in a longer or shorter useful life. Major assumptions include that the interest rates will remain at 10% and that the asset has a useful life of 3 years.

Company name**Notes to the financial statements continued ... (extracts)****For the year ended 31 December 20X2**

	20X2	20X1
	C	C
7. Property, plant and equipment		
<i>Factory plant:</i>		
Net carrying amount: 1 January	500 000	0
Gross carrying amount: 1 January	750 000	0
Accumulated depreciation: 1 January	(250 000)	0
Acquisition (450 000 + 300 000)	0	750 000
Depreciation (<i>see profit before tax note</i>)	(360 000)	(250 000)
Increase in present value of future decommissioning costs	220 000	0
Net carrying amount: 31 December	360 000	500 000
Gross carrying amount: 31 December	970 000	750 000
Accumulated depreciation: 31 December	(610 000)	(250 000)
8. Profit before tax		
Profit before tax is stated after accounting for the following disclosable (income)/ expense items:		
Finance charges	55 000	30 000
Depreciation	360 000	250 000

9. Change in estimate

The expected cash outflow on 31 December 20X3 in respect of the decommissioning of plant was changed. The effect of the change is as follows: increase/(decrease)

- Current year profits (before tax) *C1&C2* (132 000)
(*W1: 22 000 + W2: 110 000*)
- Future profits (before tax) *C1&C2* (134 200)
(*W1: 24 200 + W2: 110 000*)

Workings:**Working 1. Change in estimated finance costs**

For detailed calculations, see the present value table in example 10 based on the old estimate (supporting the 'was' column) and the present value table in example 10 based on the new estimate (supporting the 'is' column).

Change in estimated finance costs	Was	Is	Difference	Adjustments
	(a)	(b)	(b) – (a)	
Initial liability	(300 000)			
Finance costs: 31/12/20X1	(30 000)			
Carrying amount: 31/12/20X1	(330 000)	(330 000)		
Adjustment (see ex. 10 for workings)		(220 000)		Extra liability
		(550 000)		
Finance costs: 20X2	(33 000)	(55 000)	22 000	Extra expense
Carrying amount: 31/12/20X2	(363 000)	(605 000)	(242 000)	
Finance costs: future	(36 300)	(60 500)	(24 200)	Extra expense
Carrying amount: future	(399 300)	(665 500)	(266 200)	total change

Working 2. Change in estimated depreciation

Change in estimated depreciation	Was (a)	Is (b)	Difference (b) – (a)	adjustments
Cost <i>(450 000 + 300 000)</i>	750 000			
Depreciation 20X1 <i>750 000 / 3 yrs</i>	(250 000)			
Carrying amount: 31/12/20X1	500 000	500 000		
Adjustment (see ex. 10 for workings)		220 000		Extra asset
Carrying amount: 1/1/20X2	500 000	720 000		
Remaining useful life (years)	2 years	2 years		
Depreciation: 20X2	(250 000)	(360 000)	(110 000)	Extra deprec.
Carrying amount: 31/12/20X2	250 000	360 000		dr asset cr liab
Depreciation: future	(250 000)	(360 000)	(110 000)	Extra deprec.
Carrying amount: final	0	0	220 000	total change

5.2 Contingent liabilities

Where a contingent liability is to be disclosed, the following information should be provided (per class of contingent liability):

- a brief description of the nature of the contingent liability;
- an estimate of its financial effect;
- the uncertainties relating to either or both the amount and timing of the outflows; and
- the possibility of any reimbursement.

5.3 Contingent assets

Where the contingent asset is to be disclosed, the following information should be provided:

- a brief description of the nature of the contingent asset; and
- an estimate of its financial effect.

5.4 Exemptions from disclosure requirements

There are two instances where disclosure of provisions, contingent liabilities and contingent assets are not required:

- where disclosure thereof is not practicable, in which case this fact should be stated; and
- where the information required would be seriously prejudicial to the entity in a dispute with a third party. If this is the case, then the general nature of the dispute together with the fact that disclosure has not been made and the reason for non-disclosure should be disclosed.

6. Events after the reporting period (IAS 10)**6.1 Overview**

Although one might assume that events that occur after the current year-end should not be taken into account in the current year's financial statements, this is not always the case!

Events after the reporting period are defined in IAS 10 as:

- those events, favourable or unfavourable,
- that occur between the end of the reporting period and the date when the financial statements are authorised for issue.

There are two types of events after the reporting period:

- adjusting; and
- non-adjusting.

The period between the end of the reporting period (the year-end) and the date on which the financial statements are authorised for issue is often referred to as the post-reporting date period.

Assume that an entity has a December year-end and that the financial statements for 20X1 were completed and ready for authorisation on 25 March 20X2. In this case, the period 1 January 20X2 to 25 March 20X2, is the 'post-reporting date period', and events taking place during this period need to be carefully analysed in terms of this standard into one of two categories: adjusting events and non-adjusting events.

6.2 Adjusting events after the reporting period (IAS 10.8 - 9)

Adjusting events are defined in IAS 10 as:

- those that provide evidence of conditions that existed at the end of the reporting period.

Adjusting events *are* taken into account (adjusted for) when preparing the current year's financial statements.

The importance here is that the condition must already have been in existence at year-end. Frequently, estimates are made at year-end (e.g. impairment losses, doubtful debts, legal and settlement costs) where these estimates are made based on the circumstances prevailing at the time that the estimate is made. If the new information is discovered during the post-reporting date period that gives a better indication of the true circumstances at year-end, then estimates may need to be changed accordingly.

Example 14: event after the reporting period

A debtor that owed Newyear Limited C100 000 at 31 December 20X2:

- had their factory destroyed in a fire and as a result, filed for insolvency;
- a letter from the debtor's lawyers to state that they will probably pay 30% of the balance was received in February 20X3.
- The financial statements are not yet authorised for issue.
- The fire occurred during December 20X2.

Required:

Explain whether the above event should be adjusted for or not in the financial statements of Newyear Limited as at 31 December 20X2. If the event is adjusting provide the journal entries.

Solution to example 14: event after the reporting period

The event that caused the debtor to go insolvent was the fire, which happened before year-end. This is therefore an adjusting event. The adjustment would be as follows:

20X2	Debit	Credit
Doubtful debts (expense)	70 000	
Debtors: doubtful debts (negative asset)		70 000
<i>Expected loss on debtor: 100 000 x 70%</i>		

Disclosure of this may also be necessary if the amount is considered to be material.

Please note that the event need not be unfavourable to be an adjusting event, for example, a debtor that was put into provisional liquidation at year-end may reverse the liquidation procedure during the post-reporting date period, in which case it may be considered appropriate to exclude the value of his account from the estimated doubtful debts and thus increase the value of the debtors at year-end.

6.3 Non-adjusting events after the reporting period (IAS 10.10 – 11)

Non-adjusting events after the reporting period are defined in IAS 10 as:

- those that are indicative of conditions that arose after the reporting period.

Non-adjusting events are not taken into account (adjusted for) when preparing the current year's financial statements, but may need to be disclosed depending on their materiality.

If the event gives more information about a condition that only developed after year-end, then this event has obviously no connection with the financial statements that are being finalised. If, however, the event is so material that non-disclosure thereof would affect the users' understanding of the financial statements, then, although the event is a non-adjusting one, disclosure of the event may be appropriate.

Example 15: event after the reporting period

A debtor that owed Newyear Limited C100 000 31 December 20X2 (year-end) had their factory destroyed in a fire.

- As a result, this debtor filed for insolvency and will probably pay 30% of the balance owing. A letter from the debtor's lawyers to this effect was received by Newyear Limited in February 20X3.
- The financial statements are not yet authorised for issue.
- The fire occurred during January 20X3.

Required:

Explain whether the above event should be adjusted for or not in the financial statements of Newyear Limited as at 31 December 20X2. If the event is adjusting provide the journal entries.

Solution to example 15: event after the reporting period

The event that caused the debtor to go insolvent was the fire, which happened after year-end. This is therefore a non-adjusting event. Disclosure of this may be necessary if the amount is considered to be material.

6.4 Dividends (IAS 10.12 – 13)

Dividends relating to the period under review that are declared during the post-reporting date period must not be recognised (adjusted for) since they do not meet the criteria of a present obligation. They do not reflect a present obligation because the obligating event is the declaration and where this declaration does not occur before year end, it is not a past event. These must be disclosed in the notes to the financial statements instead (in accordance with *IAS 1: Presentation of financial statements*).

6.5 Exceptions: no longer a going concern (IAS 10.14 - .16)

The standard dealing with the presentation of financial statements, (IAS 1), requires that management make an annual formal assessment of the ability of the entity to continue as a going concern. If it is considered that the going concern assumption is no longer appropriate, then the financial statements will need to be completely revised, whether or not the condition was in existence at year-end.

Example 16: events after the reporting period – various

Finito Ltd is currently in the process of finalising their financial statements for the year ended 31 December 20X2. The following events occurred since 1 January 20X3 and 28 February 20X3 (today's date):

- A.** A debtor that owed Finito Ltd C100 000 at year-end was in financial difficulties at year end and, as a result, Finito Ltd processed a doubtful debt adjustment of C30 000 against this account. In January 20X3, the debtor's lawyers announced that it would be paying 40% of all debts.
- B.** A debtor that owed Finito Ltd C150 000 at year-end had their factory destroyed in a labour strike in December 20X2. As a result, this debtor has filed for insolvency and will probably pay 60% of the balance owing. Finito Ltd was unaware of this debtor's financial difficulties at 31 December 20X2.
- C.** Inventory carried at C100 000 at year-end was sold for C80 000 in January 20X3. It had been damaged in a flood during June 20X2.
- D.** Current tax expense of C30 000 had been incorrectly debited to revenue in 20X2.
- E.** A court case was in progress at 31 December 20X2 in which Finito Ltd was the defendant. No provision was raised at year-end because Finito Ltd disputed the claims made. The court has since ruled against Finito Ltd but has not yet indicated the amount to be paid to the claimant in damages. Finito Ltd's lawyers have estimated that an amount of C200 000 will be payable.
- F.** Finito Ltd had decided in a directors meeting held on 28 December 20X2 to close down a branch in the Canary Islands. This decision was announced to the affected suppliers and employees via a newspaper article published on 15 January 20X3.
- G.** A customer lodged a claim against Finito Ltd for food poisoning experienced in February 20X3. After investigation, Finito Ltd discovered that all cans of blueberries produced in December 20X2 are poisoned. The claim is for C100 000. The carrying amount of canned blueberries in stock at 31 December 20X2 is C80 000. Legal opinion is that Finito Ltd may be sued for anything up to C1 000 000 in damages from other customers although a reliable estimate is not possible.
- H.** Finito Ltd declared a dividend on 20 February 20X3 of C30 000.

Required:

None of the above events has yet been considered. Explain whether the above events should be adjusted for or not when finalising the financial statements for the year ended 31 December 20X2. If the event is an adjusting event, provide the relevant journal entries.

Solution to example 16: events after the reporting period - various

- A.** An adjusting event: the event that caused the debtor to go insolvent occurred before year-end: the lawyers announcement simply provided information regarding conditions in existence at year-end.

20X2	Debit	Credit
Doubtful debts (expense)	30 000	
Debtors: doubtful debts (negative asset)		30 000
<i>Debtors balance impaired further: 100 000 x 60% – 30 000</i>		

- B.** An adjusting event: the event that caused the debtor to go insolvent was the strike, which happened before year-end.

20X2	Debit	Credit
Doubtful debts (expense)	60 000	
Debtors: doubtful debts (negative asset)		60 000
<i>Expected loss on debtor: 150 000 – (150 000 x 60%)</i>		

- C. An adjusting event: the event that caused the inventory to be sold at a loss occurred before year-end (the event simply gives more information about the net realisable value at year-end).

20X2	Debit	Credit
Inventory write-down (expense)	20 000	
Inventory (asset)		20 000
<i>Write-down of inventory to net realisable value: 100 000 – 80 000</i>		

- D. A discovery of an error during the post-reporting date period is an adjusting event if the error was processed in the financial statements under review.

20X2	Debit	Credit
Tax expense	30 000	
Revenue		30 000
<i>Correction of error</i>		

- E. Since the law suit was already in progress at year-end, the rulings of the court during the post-reporting date period is an adjusting event. It is assumed that, since the estimate has been made by the team of lawyers, that the estimate is a reliable one, in which case the following provision must be made (if the estimate is not considered to be reliable, then a contingent liability would need to be disclosed):

20X2	Debit	Credit
Legal costs and damages (expense)	200 000	
Provision for legal costs and damages (liability)		200 000
<i>Provision for legal costs and damages</i>		

- F. Since the announcement was only made after year-end, there is no obligation at year-end. This is therefore a non-adjusting event. If the decision-making ability of the users may be affected by this information, details of the decision should be disclosed.

- G. Although the claim was only made after year-end, the event that caused the claim was the production of the contaminated cans before year-end. This is therefore an adjusting event. The inventory of poisoned cans on hand at year-end must be written-off and a provision for the existing claim must be made.

20X2	Debit	Credit
Legal costs and damages (expense)	100 000	
Provision for legal costs and damages (liability)		100 000
<i>Provision for legal costs</i>		
Inventory write-down (expense)	80 000	
Inventory (asset)		80 000
<i>Write-down of inventory to net realisable value: (80 000 – 80 000)</i>		

Since a reliable estimate of other possible future claims resulting from the sale of the poisoned cans is not possible, a contingent liability note is required, disclosing the potential for further claims. If the claim results in Finito Ltd having a going concern problem, then the entire financial statements would need to be adjusted to reflect this fact (i.e. use liquidation values).

- H. Since the declaration was announced after year-end, there is no past event and no obligation at year-end and is therefore a non-adjusting event. Details of the dividend declaration must, however, be disclosed (IAS 1).

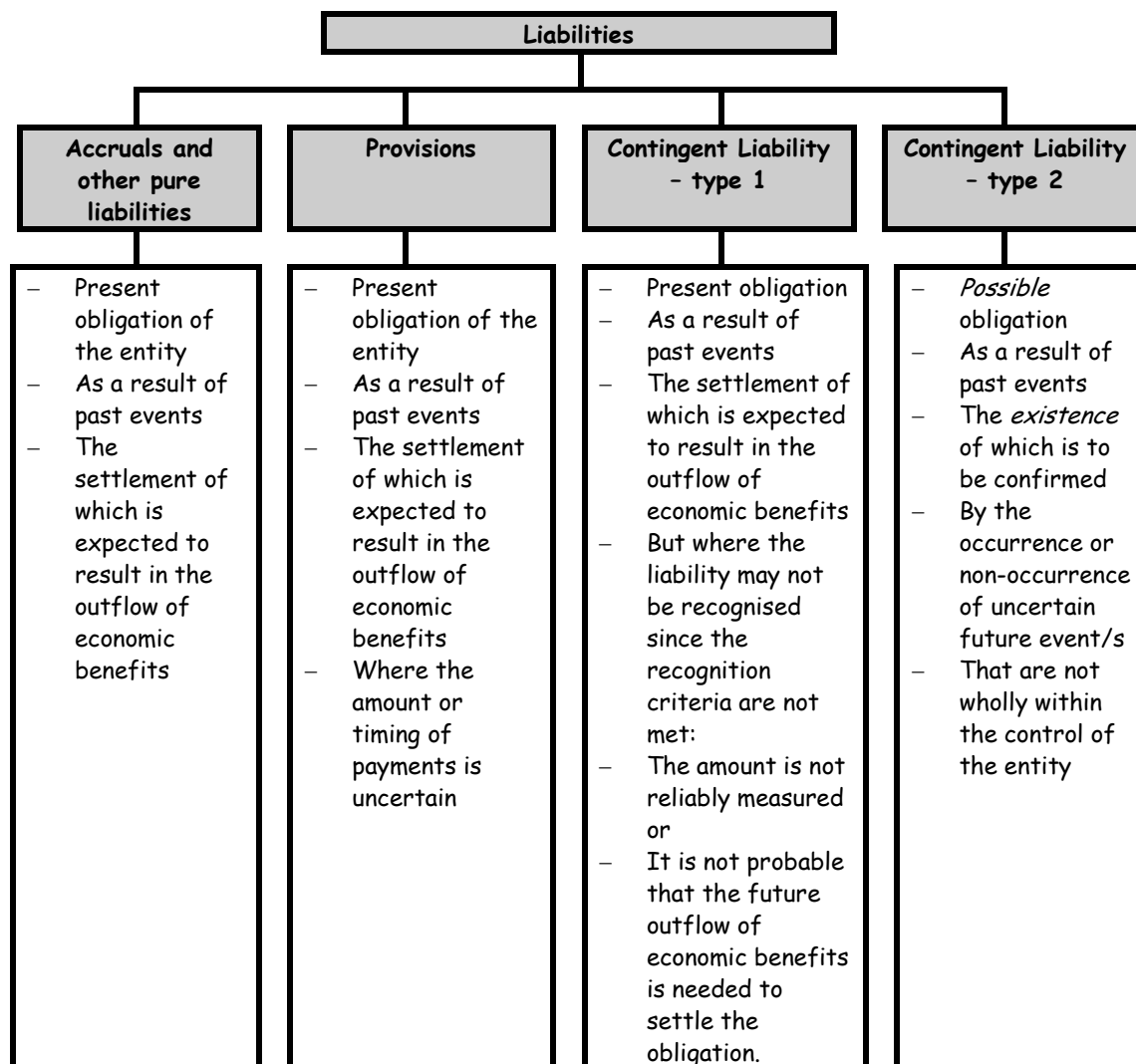
7. Disclosure: events after the reporting period (IAS 10.17 - .22)

The following information should be disclosed:

- the date that the financial statements were authorised for issue;
- the person or persons who authorised the issue of the financial statements;
- the fact that the financial statements may be amended after *issue*, if this is the case;
- each material category of non-adjusting event after the end of the reporting period:
 - the nature of the event; and
 - the estimated financial effect or a statement that such an estimate is not possible;

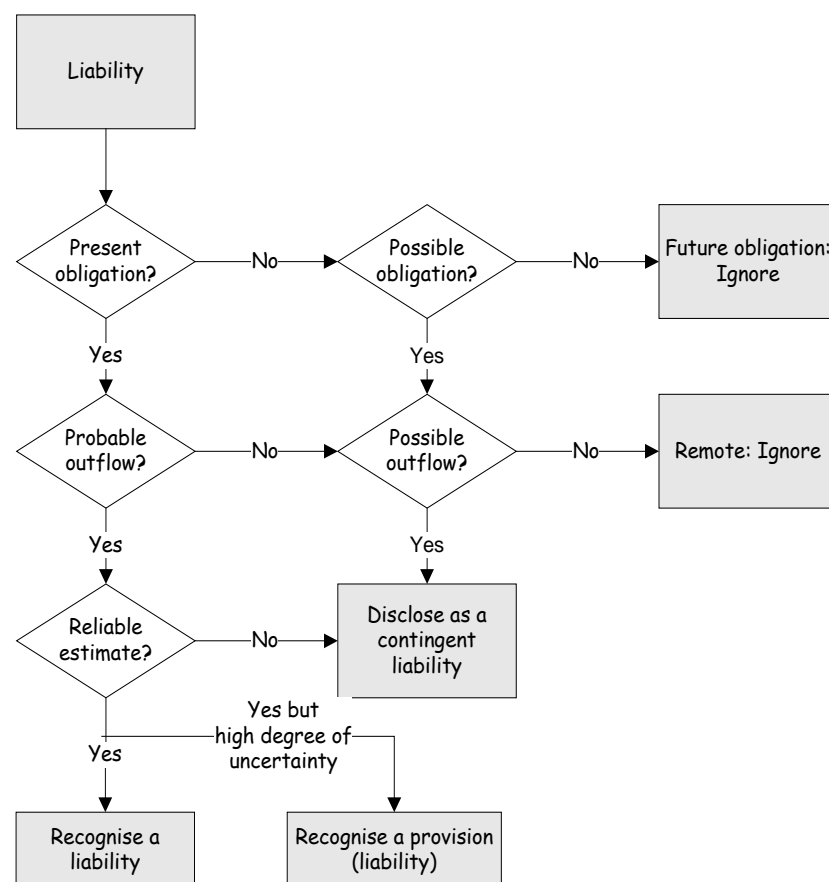
8. Summary

Liabilities under different levels of uncertainty may be summarised as follows:



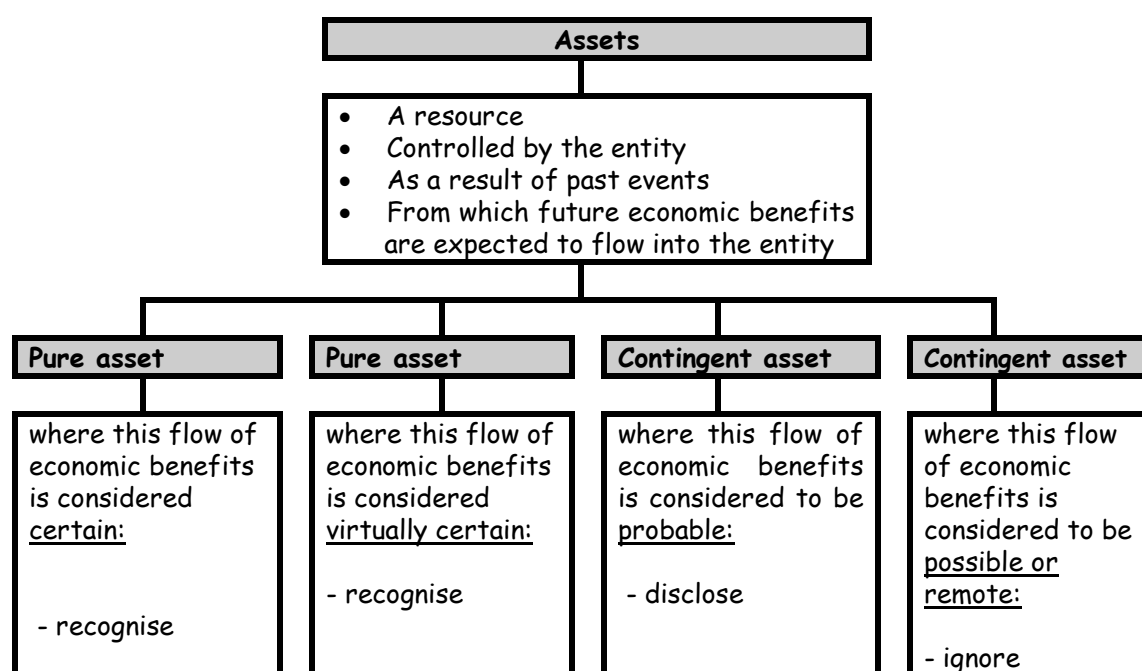
The following flowchart is a useful summary of when to recognise and when to disclose a particular type of liability.

Recognition flowchart: provisions and contingent liabilities



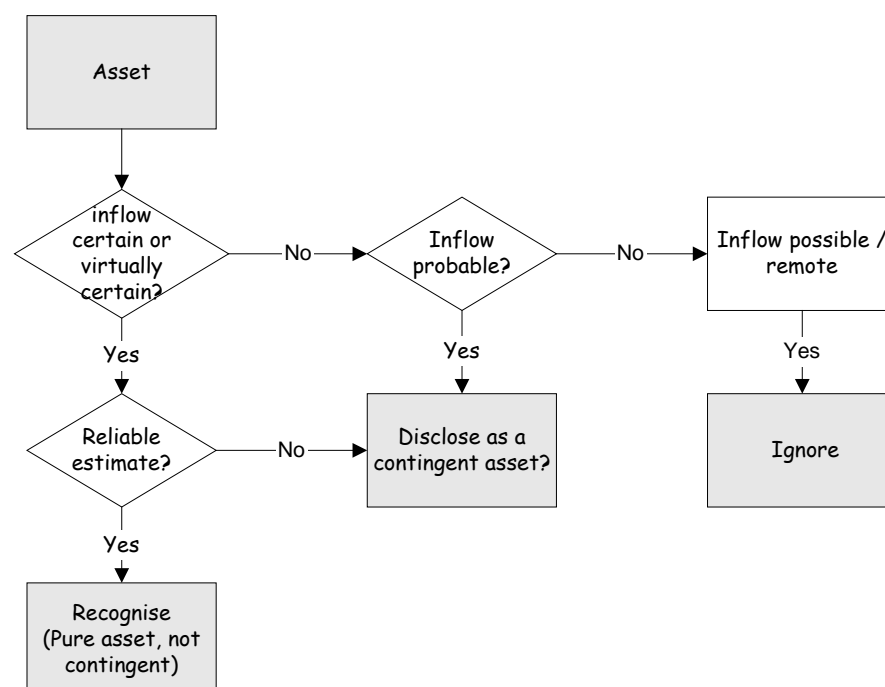
Please note that the standard refers to an outcome being probable when it is 'more likely than not' to occur. This definition applies only to this standard and would not necessarily be appropriate when dealing with other standards. The term 'possible' referred to in the flowchart above refers to 'as likely to occur as not to occur' (where there is an equal possibility that the outcome 'happens' and 'doesn't happen') as well as 'less likely to occur than not to occur'.

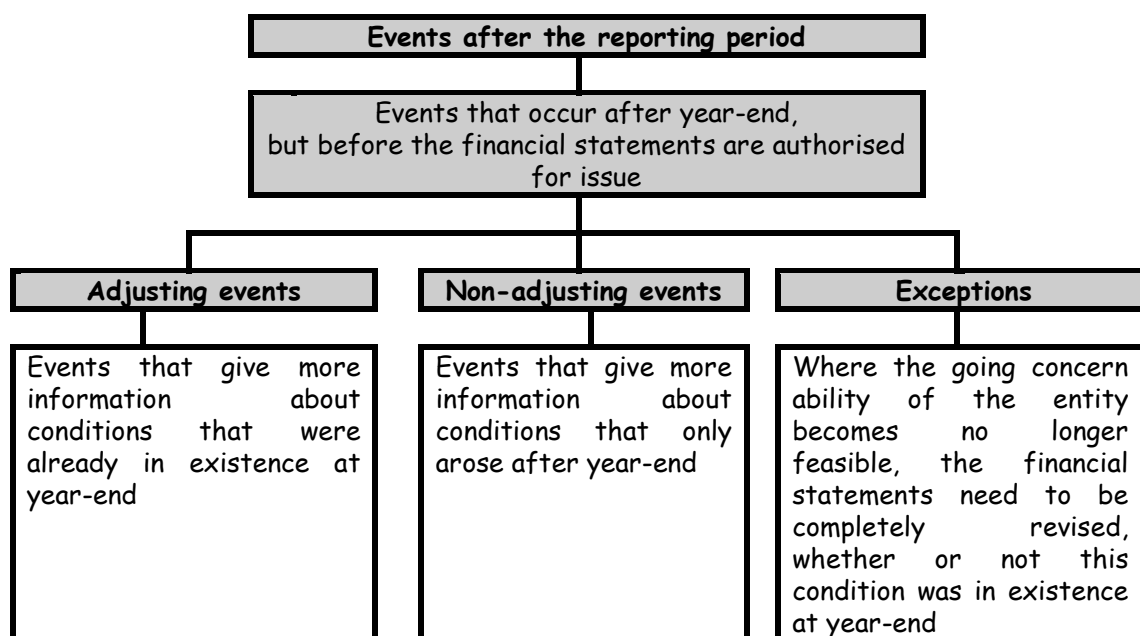
Assets under different levels of uncertainty may be summarised as follows:



The following flowchart is a useful summary of when to recognise and when to disclose a particular type of asset.

Recognition flowchart: assets





Chapter 18

Accounting Policies, Estimates and Errors

Reference: IAS 8, IAS 1

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1. Introduction

IAS 8 covers four main areas, namely:

- selecting accounting policies;
- changes in accounting policies;
- changes in accounting estimate; and
- correction of prior period errors.

2. Accounting policies (IAS 8.7 - .13)

2.1 Overview

Accounting policies are defined as ‘the specific principles, bases, conventions, rules and practices applied by an entity in preparing and presenting financial statements’.

It is important to emphasise to you that an ‘accounting policy’ is very different to any ‘policy’. The business entity may have a ‘policy’ of donating 10% of its profits to a charity each month and you may have a ‘policy’ of not taking your worries home with you at night. You may even have an insurance policy. We are, however, only concerned with the policies that are adopted by the accountant in connection with the preparation and presentation of financial statements. These policies are really the rules, as set out in the IFRSs, and the practices used by the entity when drawing up the annual financial statements.

Accounting policies must be applied consistently from one period to the next. This will ensure that a user is able to compare the financial statements of the current period with financial statements of previous periods and in so doing be able to assess what the trends are within the entity (e.g. rising profits or reducing investment in assets).

2.2 Choosing and applying accounting policies (IAS 8.7 - .9)

Accounting policies used must comply with the requirements of the relevant IFRSs. On rare occasions, it may happen that you cannot find an accounting policy suitable to the transaction or event affecting your entity. In this case, the management of the entity (which will mean you, the accountant) will need to develop your own accounting policy!

2.3 Developing your own accounting policy (IAS 8.10 - .12)

When forced to develop your own accounting policy, the most important thing to remember is that you need to prepare financial statements that provide relevant and reliable information.

2.3.1 *Relevance*

In order to ensure relevance, ask yourself whether the item is material to the user in his decision-making: it stands to reason that users are not interested in immaterial information.

2.3.2 *Reliability*

For items to be reliable, it means that the information provided

- is a faithful representation of the events and transactions that affected the entity;
- shows the substance rather than the legal form of the transaction (legal jargon can often be misleading, for example, if you carefully read what the lawyers call a ‘finance lease agreement’ you will see that it really relates to the *purchase* of an item – not the lease thereof, in which case we record such a transaction as a purchase (the substance/ reality) – not a lease (its legal form));
- be neutral (i.e. it must not include material error/ bias);
- be prudent (always be on the more cautious or pessimistic side but not so much so that you end up hiding reserves or profits belonging to the entity!);
- be complete (within the confines of materiality and cost).

2.3.3 Judgement (IAS 8.11 - .12)

On occasion, it may be difficult to understand an accounting policy or how to apply it and you may need to use your professional judgement. Professional judgement is required even more so if you find yourself having to develop your own accounting policy for a certain transaction.

This judgement of yours should be based on the following (and in this order!):

- the official interpretation of the standard (if any);
- any standards and interpretations on similar issues;
- the definitions, recognition criteria and measurement concepts in the Framework; and
- any recent pronouncements of other standard setting bodies, other accounting literature and industry accepted practices to the extent that these do not conflict with the interpretations, similar standards and the Framework.

3. Changes in accounting policy (IAS 8.14 - .31)

3.1 Overview (IAS 8.14 - .18)

In order to achieve comparability and consistency from one year to the next, the accounting policies adopted by an entity are very rarely changed. This does not mean that they never change. IAS 8 refers to two reasons for which a change would be considered acceptable:

- when required by an IFRS; or
- when the change will result in reliable and more relevant presentation of information.

In order to maintain a measure of comparability, substantial disclosure is required when there is a change in accounting policy.

The treatment and disclosure required varies depending on whether the change is one that is required as a result of:

- the initial application of an IFRS in which:
 - transitional provisions are furnished; or
 - no transitional provisions are furnished; or
- a voluntary change in accounting policy.

IAS 8 specifically refers to two situations when the adoption of an accounting policy should not be considered a 'change in policy'. These two situations are when the adoption of an accounting policy relates to an event or transaction that either:

- differs in substance from previously occurring events or transactions; or
- did not occur previously or that were previously immaterial.

3.2 How to adjust for a change in accounting policy (IAS 8.19 - .27)

In the event that the change in accounting policy is as a result of the initial application of an IFRS in which transitional provisions *are given*, these provisions should take precedence over the general guidance supplied in IAS 8.

If the change is as a result of the initial application of an IFRS in which transitional provisions *are not given* or it is a *voluntary change* in accounting policy, the general guidance given in IAS 8 needs to be followed. Only the general guidance in IAS 8 will be discussed in this chapter.

A change in accounting policy that results from:

- applying an IFRS for the first time where there are no transitional provisions, or
- a voluntary change in accounting policy must be applied retrospectively unless it is impracticable to do so. IAS 8 defines an impracticable requirement as a requirement that is simply not possible to apply 'after making every reasonable effort to do so'.

3.2.1 Retrospective application (IAS 8.22 - .27)

The *retrospective* application of a change in accounting policy entails stating both the current year's figures based on the new policy as well as adjusting all prior years' figures in accordance with the new policy (i.e. as if the 'policy had always been applied'). It may not, however, always be possible to calculate the effect on all the prior years' figures, in which case the new policy is applied from the earliest prior period possible and the cumulative effect on the assets, liabilities and equity before this period are simply disregarded.

All prior periods that are given as comparatives in an annual report (even if not part of the financial statements for example any additional reports provided) must be restated based on the new policy. All prior periods that are not given as comparatives must still be adjusted, but with the cumulative effect on the opening balance of retained earnings disclosed as a single adjustment (e.g. in the statement of changes in equity).

Where the calculation of the adjustment to a specific prior period/s is impracticable (not possible), the accounting policy is simply applied to the elements from as early as possible with a net adjustment made to the opening retained earnings from this 'earliest year'.

3.2.2 Prospective application

Applying a new policy *prospectively* means that the policy is applied to only the current and future years with prior years' figures remaining unchanged. This would compromise comparability and consistency and is thus generally not allowed.

3.3 Disclosure of a change in accounting policy (IAS 8.28 - .31)

The following disclosure is always required for a change in accounting policy:

- the nature of the change;
- an extra year of comparatives in the statement of financial position (IAS 1 requirement);
- the amount of the adjustment made to each line item in the financial statements for the periods presented (including basic and diluted earnings per share if these are shown) in:
 - the current period; and
 - each comparative period presented; and
- the amount of the adjustment made to all periods before the periods that are presented.

If the change is a *voluntary* one, then the following disclosure is also required:

- the reasons why the new policy results in reliable and more relevant information.

If the change results from the *initial application* of an IFRS, then the following disclosure is also required:

- the title of the Standard or Interpretation
- if transitional provisions were provided:
 - the fact that the change has been made in accordance with transitional provisions;
 - a description of these provisions; and
 - the possible effect of these provisions on future periods.

If a prior period/s is not restated, the entity must disclose:

- the reason why it was impracticable to restate; and
- a description as to how and from what date the new policy has been applied.

Financial statements of subsequent periods need not repeat these disclosures.

Where a new Standard or Interpretation has been issued, but which has not and does not yet need to be applied, the entity must disclose:

- this fact; and
- the effect of the future change in accounting policy on its financial statements, where this is known or is reasonably estimable.

Tip on answering questions involving changes in accounting policies where the adjustment is made retrospectively:

- prepare the 'change in accounting policy note' first; then
- prepare the statement of comprehensive income (remember to ensure that the profit before tax and tax expense are adjusted in accordance with your 'change in accounting policy' note); and then
- prepare the statement of changes in equity (remember to ensure that the profit in the statement of changes in equity agrees with the revised statement of comprehensive income and that the effect on opening retained earnings is adjusted in accordance with and is referenced to your 'change in accounting policy' note); and then
- prepare the statement of financial position (remember to ensure that the assets and liabilities are adjusted in accordance with your 'change in accounting policy note' and that the revised retained earnings (calculated in your statement of changes in equity) appears in your revised statement of financial position).

Example 1: change in accounting policy

During 20X3, a revised IFRS on borrowing costs (IAS 23) was published. The company had previously been expensing borrowing costs as a period cost, but the revised IFRS required that all borrowing costs be capitalised to the related asset. The borrowing costs were all incurred on construction of a plant. The revised IFRS provided transitional provisions that allowed the company to capitalise the costs from years beginning on or after 20X4, or before this date, if preferred. This entity chose to capitalise the borrowing costs from the earliest date possible. The plant is not yet available for use. The effect of this change is as follows:

	20X1	20X2	20X3
Interest expense	C	C	C
Old policy	15 000	17 000	9 000
New policy	0	0	0

The following drafts were produced *before* adjusting for the change in accounting policy:

Draft statement of comprehensive income For the year ended 31 December 20X3 (extracts)	20X3 C	20X2 C
Profit before tax	800 000	700 000
Taxation expense	345 000	320 000
Profit after tax	455 000	380 000
Other comprehensive income	0	0
Total comprehensive income	455 000	380 000
Retained earnings at the beginning of the year	500 000	120 000
Retained earnings at the end of the year	955 000	500 000

Draft statement of financial position As at 31 December 20X3 (extracts)	20X3 C	20X2 C	20X1 C
ASSETS			
Plant	500 000	450 000	300 000
LIABILITIES AND EQUITY			
Current tax payable	250 000	300 000	100 000
Retained earnings	955 000	500 000	120 000

The construction of the plant is not yet complete.

The tax rate was 30% throughout all affected years.

The tax authorities have agreed to re-open the tax assessments and include the interest expense as part of the cost of the plant (the tax authorities had previously allowed the deduction of the interest expense as a deduction in the year it was incurred).

Required:

Prepare the necessary adjusting journal entries and disclose the change in accounting policy in the financial statements for the year ended 31 December 20X3, in accordance with IFRSs. There are no components of other comprehensive income.

Solution to example 1: change in accounting policy**Calculations:**

Comment: Note that you were given a *draft* statement of comprehensive income, which is not in accordance with IAS 1 (the standard governing the presentation of financial statements). Your solution therefore also requires appropriate reformatting. See chapter 1 for more information in this regard.

W1: Effect of change in accounting policy

	Plant			Profits		
	Was	Is	Increase	Profit before tax	Tax increase	Profit after tax
	C	C	C	increase C	C	increase C
Plant cost (excl interest costs)	xxx	xxx	0			
Interest capitalised						
- 20X1	0	15 000	15 000	15 000	(4 500)	10 500
- 20X2	0	17 000	17 000	17 000	(5 100)	11 900
- cumulative effect to end of 20X2			32 000	32 000	(9 600)	22 400
- 20X3	0	9 000	9 000	9 000	(2 700)	6 300
- cumulative effect to end of 20X3			41 000	41 000	(12 300)	28 700

Journals:

The following are the journal entries that would be processed assuming that it were possible to process journal entries in each of the prior affected years:

	Debit	Credit
20X1		
Plant: cost	15 000	
Interest expense (<i>affects 20X3 opening retained earnings</i>)		15 000
<i>Capitalise interest that was previously expensed</i>		
Tax expense (<i>affects 20X3 opening retained earnings</i>)	4 500	
Current tax payable		4 500
<i>Tax increases due to decrease in interest expense</i>		
20X2		
Plant: cost	17 000	
Interest expense (<i>affects 20X3 opening retained earnings</i>)		17 000
<i>Capitalise interest that was previously expensed</i>		
Tax expense (<i>affects 20X3 opening retained earnings</i>)	5 100	
Current tax payable		5 100
<i>Tax increases due to decrease in interest expense</i>		
20X3		
Plant: cost	9 000	
Interest expense		9 000
<i>Capitalise interest that was previously expensed</i>		
Tax expense (<i>affects 20X3 opening retained earnings</i>)	2 700	
Current tax payable		2 700
<i>Tax increases due to decrease in interest expense</i>		

The following are the journal entries that would be processed assuming that it were not possible to process journal entries in the prior affected years:

20X3	Debit	Credit
Plant: cost (15 000 + 17 000)	32 000	
Retained earnings (15 000 + 17 000 – 4 500 – 5 100)		22 400
Current tax payable (4 500 + 5 100)		9 600
<i>Capitalise interest that was previously expensed</i>		
Plant: cost	9 000	
Interest expense		9 000
<i>Capitalise interest that was previously expensed</i>		
Tax expense	2 700	
Current tax payable *		2 700
<i>Tax increases due to decrease in interest expense</i>		

* Note that the current tax payable account is credited (not the deferred tax) because the tax authorities are re-opening the previous year tax assessments.

Disclosure:

Company name Notes to the financial statements (extracts) For the year ended 31 December 20X3

2. Accounting policies

2.1 Borrowing costs

Borrowing costs are capitalised to qualifying assets. This represents a change in accounting policy (note 5).

5. Change in accounting policy

The company changed its accounting policy from expensing borrowing costs as they are incurred to capitalising borrowing costs to plant, a qualifying asset.

The change was made to comply with the revised IAS 23 *Borrowing costs* issued during the year.

The effect of the change in accounting policy is as follows:

	20X3 C	20X2 C	
Effect on the statement of comprehensive income			
<i>Increase/ (decrease) in expenses or losses</i>			
- Finance costs	(9 000)	(17 000)	
- Tax expense	2 700	5 100	
<i>(Increase)/ decrease in income or profits</i>			
- Profit for the year	(6 300)	(11 900)	
Effect on the statement of financial position			
	20X3 C	20X2 C	20X1 C
<i>Increase/ (decrease) in assets</i>			
- Plant	41 000	32 000	15 000
<i>(Increase)/ decrease in liabilities and equity</i>			
- Current tax payable	(12 300)	(9 600)	(4 500)
- Retained earnings - closing	(28 700)	(22 400)	(10 500)

Company name
Statement of comprehensive income (extracts)
For the year ended 31 December 20X3

	20X3	20X2
	C	C
Profit before finance charges (800 000 + 9 000)(700 000 + 17 000)	809 000	717 000
Finance charges	0	0
Profit before tax	809 000	717 000
Tax expense (345 000 + 2 700)(320 000 + 5 100)	347 700	325 100
Profit for the year	461 300	391 900
Other comprehensive income	0	0
Total comprehensive income	461 300	391 900

Company name
Statement of changes in equity (extracts)
For the year ended 31 December 20X3

		Notes	Retained earnings
			C
Balance: 1/1/20X2 - restated (120 000 – 10 500)			130 500
- As previously reported			120 000
- Change in accounting policy (W1 or note: 22 400 – 11 900)	5		10 500
Total comprehensive income: 20X2 - restated Statement of compr. income			391 900
Balance: 1/1/20X3 - restated			522 400
- As previously reported			500 000
- Change in accounting policy Per the note	5		22 400
Total comprehensive income: 20X3 Statement of compr. income			461 300
Balance: 31/12/20X3 *			983 700

Check: 955 000 adjusted for the journals: + 15 000 – 4 500 + 17 000 – 5 100 + 9 000 – 2 700 = 983 700

* Comment: this balance is not broken down into 'as previously reported' and 'change in accounting policy' since this is the first time that it has ever been reported.

Company name
Statement of financial position (extracts)
As at 31 December 20X3

	20X3	20X2	20X1
	C	C	C
ASSETS			
Plant (500 000 + 41 000)*	541 000	482 000	315 000
(450 000 + 32 000)*			
(300 000 + 15 000)*			
LIABILITIES AND EQUITY			
Retained earnings (statement of changes in equity)	983 700	522 400	130 500
Current tax payable (250 000 + 12 300)*	262 300	309 600	104 500
(300 000 + 9 600)*			
(100 000 + 4 500)*			

* adjustments come from your change in accounting policy note. You could also use the adjustments per your journals – or even working 1, whichever you prefer.

4. Changes in accounting estimates (IAS 8.32 - .40)

4.1 Overview

A change in estimate is defined in IAS 8.5 as ‘an adjustment of the carrying amount of an asset or a liability, or the amount of the periodic consumption of an asset, that results from the assessment of the present status of, and expected future benefits and obligations associated with, assets and liabilities’.

There are many items that, although requiring recognition and/ or disclosure, cannot be precisely measured. The accountant (in conjunction with other interested parties) is therefore frequently required to make estimates, for example, bad debts, inventory obsolescence or useful lives of property, plant and equipment (when estimating depreciation). Making estimates is, therefore, an integral part of the preparation of financial statements and so long as they are reasonable, they will not undermine the reliability of our financial statements.

Almost just as frequently as estimates are made, however, it is discovered that estimates made in a previous year are overestimated or underestimated. This is not an error, since by the very nature of an estimate, adjustments thereto will constantly be required as and when the circumstances relating to the estimate change.

IAS 8 specifically advises that if it is difficult to distinguish between a change in estimate and a change in policy, the change should rather be treated as a change in estimate (which is great news since a change in estimate is a lot simpler to account for than a change in policy).

It should be noted, however, that a change in measurement basis is considered to be a change in policy and not a change in estimate (e.g. with respect to inventories, a change from the FIFO method to the WA method would be a change in accounting policy rather than a change in estimate).

4.2 How to adjust for a change in an accounting estimate

A change in estimate is applied prospectively (not retrospectively). This means that it will affect the figures in the current and future periods (if applicable), but will never affect the prior year figures. Certain changes in estimates will affect only the current year, for example a provision for bad debts, whereas others will affect future years as well, for example changing the estimated remaining economic useful life of an asset will affect both the current and the future years (until the asset is fully depreciated).

Although not specifically mentioned in IAS 8, there are two methods of making a change in estimate: the one is the ‘cumulative catch-up’ method and the other the ‘reallocation’ method. The amounts of the change in estimate will differ depending on which method is used as will the disclosure thereof. The standard is not clear that the cumulative catch-up method is *not* allowed, but comments included in IFRIC 1 (BC 14 – 17) suggest that a ‘fully prospective treatment’ is the intention of IAS 8.

When using the cumulative catch-up method, the adjustment made in the current year includes the effect of the change on prior years. It has the effect of making sure that the balances in the statement of financial position are the latest and thus best estimate possible, but this has the effect of distorting profits, since the adjustment relating to the prior years has to be processed in the current year.

When using the reallocation method, no adjustment is made in the current year for the effect of the change on prior years. The opening carrying amount (calculated in accordance with the *previous* estimate) is simply reallocated over the *remaining revised* estimated useful life.

These two approaches are best explained by way of examples.

Example 2: change in estimated useful life: the ‘reallocation method’

Machinery was purchased on 1 January 20X1, on which date it was estimated to have a useful life of 5 years and a nil residual value. The carrying amount on 31 December 20X2 was as follows:

	C
Cost (1/1/20X1)	500 000
Accumulated depreciation	(200 000)
Net carrying amount (31/12/20X2)	<u>300 000</u>

On the 1/1/20X3, the remaining economic useful life was estimated to be 2 years.

Required:

- A. Calculate the effect of the change in accounting estimate using the reallocation method
- B. Provide the necessary journals assuming that no depreciation journal had yet been processed for 20X3;
- C. Provide the necessary journals assuming that the depreciation journal had already been processed for 20X3 (i.e. before the change in estimate).

Solution to example 2A: change in estimated useful life: the ‘reallocation method’

There has been a change in estimate, since based on the *original* estimate, there were 3 years still remaining (5 years – 2 years), whereas now the remaining life has been shortened to 2 years. Using the reallocation method, no consideration is given to the effect of the estimate on prior years.

Calculation: Re-allocation method	Calculations	Was (a)	Is (b)	Difference (b) – (a)	
Cost	<i>Given</i>	500 000			
Accum. depr: 31/12/20X2	$500\,000 / 5 \times 2 \text{ yrs}$	(200 000)			
Carrying amount: end 20X2	<i>Put this in the ‘is’ column</i>	300 000	300 000		
		♥			
Remaining useful life	$(5 - 2 \text{ yrs}) (4 - 2 \text{ yrs})$	3 years	2 years		
Depreciation – 20X3	$(300\,000 / 3 \text{ years})$ $(300\,000 / 2 \text{ years})$	(100 000)	(150 000)	(50 000)	More depr.
Carrying amount: end 20X3		200 000	150 000	(50 000)	
		♦			
Depreciation - future	<i>Balancing</i>	(200 000)	(150 000)	50 000	Less depr.
Carrying amount: future	<i>Residual value</i>	0	0	0	

♥ Notice that the carrying amount at 31 December 20X2 was C300 000.

♦ By the end of year 20X3, the carrying amount must be reduced to C150 000.

This means that depreciation of C150 000 must be journalised in 20X3 (300 000 – 150 000):

		C
Depreciation – based on previous estimate	<i>Per table above ‘was’</i>	100 000
Change in estimate	<i>Per table above ‘difference’</i>	50 000
Total depreciation		<u>150 000</u>

Solution to example 2B: change in estimated useful life: journals

The journal in 20X3, assuming depreciation had not yet been processed, would be:

	Debit	Credit
Depreciation (E)	150 000	
Machinery: accumulated depreciation (-A)		150 000
Depreciation on machinery:		
Carrying amount o/b: 300 000 – Carrying amount c/b: 150 000		

Solution to example 2C: change in estimated useful life: journals

The journal in 20X3, assuming depreciation had already been processed, would be:

	Debit	Credit
Depreciation (E)	50 000	
Machinery: accumulated depreciation (-A)		50 000
<i>Depreciation on machinery:</i>		
<i>Carrying amount o/b: 300 000 – carrying amount c/b: 150 000 – depreciation already processed: 100 000</i>		

Example 3: change in estimated useful life: the ‘cumulative catch-up method’

Machinery was purchased on 1 January 20X1, on which date it was estimated to have a useful life of 5 years and a nil residual value. The carrying amount on 31 December 20X2 was:

	C
Cost (1/1/20X1)	500 000
Accumulated depreciation	(200 000)
Net carrying amount (31/12/20X2)	300 000

On the 1/1/20X3, the remaining economic useful life was estimated to be 2 years.

Required:

- Calculate the effect of the change in accounting estimate using the cumulative catch-up method.
- Provide the necessary journals assuming that no depreciation journal had yet been processed for 20X3;
- Provide the necessary journals assuming that the depreciation journal had already been processed for 20X3 (i.e. before the change in estimate).

Solution to example 3A: change in estimated useful life: ‘cumulative catch-up method’

There has been a change in estimate, since based on the *original* estimate, the asset had a total useful life of 5 years, whereas this has now been shortened to 4 years (2 years past + 2 years remaining).

Calculation:	Calculations	Was (a)	Is (b)	Difference (b) – (a)
Cumulative catch-up				
Cost	<i>Given</i>	500 000	500 000	
Accum. depr.: end 20X2	$500\,000 / 5 \times 2 \text{ yrs}$ $500\,000 / 4 \times 2 \text{ yrs}$	(200 000)	(250 000)	<i>More depr</i>
Carrying amount: end 20X2		300 000	250 000	(50 000)
		♥		
Remaining useful life	$(5 - 2 \text{ yrs}) (4 - 2 \text{ yrs})$	3 years	2 years	
Depreciation – 20X3	$(300\,000 / 3 \text{ years})$ $(250\,000 / 2 \text{ years})$	(100 000)	(125 000)	(25 000) <i>More depr</i>
Carrying amount: end 20X3		200 000	125 000	(75 000)
			♦	
Depreciation - future	<i>Balancing</i>	(200 000)	(125 000)	75 000 <i>Less depr.</i>
Carrying amount: future	<i>Residual value</i>	0	0	0

♥ Notice that the carrying amount at 31 December 20X2 was C300 000.

♦ By the end of year 20X3, the carrying amount must be reduced to C125 000.

This means that depreciation of C175 000 must be journalised in 20X3 (300 000 – 125 000):

		C
Depreciation – based on previous estimate	<i>Per table above ‘was’</i>	100 000
Change in estimate	<i>Per table above ‘difference’</i>	75 000
Total depreciation		175 000

Solution to example 3B: change in estimated useful life: journals

The journal in 20X3, assuming depreciation had not yet been processed, would be:

	Debit	Credit
Depreciation (E)	175 000	
Machinery: accumulated depreciation (-A)		175 000
<i>Depreciation on machinery:</i>		
<i>Carrying amount o/b: 300 000 – carrying amount c/b: 125 000</i>		

Solution to example 3C: change in estimated useful life: journals

The journal in 20X3, assuming depreciation had already been processed, would be:

	Debit	Credit
Depreciation (E)	75 000	
Machinery: accumulated depreciation (-A)		75 000
<i>Depreciation on machinery:</i>		
<i>Carrying amount o/b: 300 000 – carrying amount c/b: 125 000 – depreciation already processed: 100 000</i>		

4.3 Disclosure of a change in an accounting estimate

The nature and amount of the change in estimate must be disclosed, where the amounts to be disclosed are as follows:

- the effect on the current period; and
- the effect on future periods, unless estimating the future effect is impracticable, in which case this fact should be disclosed.

Example 4: disclosure of a change in accounting estimate

Use the same information as that provided in example 2 and 3, repeated here for your convenience:

Machinery was purchased on 1 January 20X1, on which date it was estimated to have a useful life of 5 years and a nil residual value. The carrying amount on 31 December 20X2 was:

	C
Cost (1/1/20X1)	500 000
Accumulated depreciation	200 000
Net carrying amount (31/12/20X2)	300 000

On the 1/1/20X3, the remaining economic useful life was estimated to be 2 years.

Required:

- Disclose the change in estimate using the re-allocation method.
- Disclose the change in estimate using the cumulative catch-up method.

Solution to example 4A: disclosure of a change in estimate: re-allocation**Company name****Notes to the financial statements (extracts)****For the year ended 31 December 20X3**

	20X3 C	20X2 C
3. Profit before tax		
Profit before tax is stated after taking the following into account:		
Depreciation	150 000	100 000
- original estimate	100 000	100 000
- change in estimate	50 000	0

Company name
Notes to the financial statements (extracts)
For the year ended 31 December 20X3 continued ...

	20X3
	C
5. Change in estimate	
The estimated economic useful life of the plant and machinery was changed from 5 years to 4 years. The (increase)/ decrease in profits caused by the change is as follows:	
Current year's profits:	50 000
Future profits:	(50 000)

Notice how the effect on the current year's profits equals the effect on the future year's profits. In other words these two amounts negate each other, meaning that the change in estimate does not change the *cumulative* profits over the current and future years. The reason is that it is just the timing of the depreciation that has been changed: the full cost of the asset will still be expensed – thus the profits will be reduced by C500 000 over the life of the asset irrespective of what this estimated useful life is.

Solution to example 4B: disclosure of a change in estimate: cumulative catch-up

Company name
Notes to the financial statements (extracts)
For the year ended 31 December 20X3

	20X3	20X2
	C	C
3. Profit before tax		
Profit before tax is stated after taking the following into account:		
Depreciation	175 000	100 000
- original estimate	100 000	100 000
- change in estimate	5 75 000	0

5. Change in estimate	
The estimated economic useful life of the plant and machinery was changed from 5 years to 4 years. The (increase)/ decrease in profits caused by the change is as follows:	
Current year's profits:	75 000
Future profits:	(75 000)

Notice how, just as in 4A, the effect on the current year's profits equals the effect on the future year's profits. Since these two amounts negate each other, it means that the change in estimate does not change the *cumulative* profits over the current and future years. The reason is that the timing of the depreciation has been changed but the full cost of the asset will still be expensed – thus the profits will be reduced by C500 000 over the life of the asset irrespective of what this estimated useful life is.

Example 5: change in estimated residual value: re-allocation method

Machinery was purchased on 1 January 20X1, on which date it was estimated to have a useful life of 5 years and a nil residual value. The carrying amount on 31 December 20X2 was:

	C
Cost (1/1/20X1)	500 000
Accumulated depreciation	200 000
Net carrying amount (31/12/20X2)	300 000

On the 1/1/20X3, the residual value was re-estimated to be C90 000.

Required:

Using the re-allocation method:

- Calculate the effect of the change in estimate.
- Show the journal entries assuming that depreciation had not yet been journalised.
- Show the journal entries assuming that depreciation had already been processed.
- Disclose the change in estimate.

Solution to example 5A: change in estimated residual value: re-allocation

Calculation: Re-allocation method	Calculations	Was (a)	Is (b)	Difference (b) – (a)
Cost	Given	500 000		
Accum. depr.: end 20X2	$(500\,000 - 0) / 5 \times 2$	(200 000)		
Carrying amount: end 20X2	Put this under 'is'	300 000	300 000	
		♥		
Residual value	Given	(0)	(90 000)	
Depreciable amount		300 000	210 000	
Remaining useful life	$(5 - 2\text{yrs}) (4 - 2\text{ yrs})$	3 years	3 years	
Depreciation – 20X3	$(300\,000 / 3\text{ years})$ $(210\,000 / 3\text{ years})$	(100 000)	(70 000)	30 000 Less depr
Carrying amount: end 20X3	$(300\,000 - 100\,000)$ $(300\,000 - 70\,000)$	200 000	230 000	30 000
			♦	
Depreciation - future	Balancing	(200 000)	(140 000)	60 000 Less depr
Carrying amount: future	Residual value	0	90 000	90 000

♥ Notice that the carrying amount at 31 December 20X2 was C300 000.

♦ By the end of year 20X3, the carrying amount must be reduced to C230 000.

This means that depreciation of C70 000 must be journalised in 20X3 ($300\,000 - 230\,000$):

		C
Depreciation – based on previous estimate	Per table above 'was'	100 000
Change in estimate	Per table above 'difference'	(30 000)
Total depreciation		<u>70 000</u>

Solution to example 5B: change in estimated residual value: journals

The journal in 20X3, assuming depreciation had not yet been processed, would be:

	Debit	Credit
Depreciation (E)	70 000	
Machinery: accumulated depreciation (-A)		70 000
Depreciation on machinery:		
Carrying amount o/b: 300 000 – Carrying amount c/b: 230 000		

Solution to example 5C: change in estimated residual value: journals

The journal in 20X3, assuming depreciation had already been processed, would be:

	Debit	Credit
Machinery: accumulated depreciation (-A)	30 000	
Depreciation (E)		30 000
Depreciation on machinery is reduced:		
Carrying amount o/b: 300 000 – carrying amount c/b: 230 000 – depreciation already processed: 100 000		

Solution to example 5D: change in estimated residual value: disclosure**Company name****Notes to the financial statements (extracts)****For the year ended 31 December 20X3**

		20X3 C	20X2 C
3. Profit before tax	Note		
Profit before tax is stated after taking the following into account:			
Depreciation		70 000	100 000
- original estimate		100 000	100 000
- change in estimate	5	(30 000)	0

Company name
Notes to the financial statements (extracts)
For the year ended 31 December 20X3 continued ...

		20X3	20X2
	Note	C	C
5. Change in estimate			
The estimated economic useful life of the plant and machinery was changed from 5 years to 4 years. The (increase)/ decrease in profits caused by the change is as follows::			
Current year's profits:		(30 000)	
Future profits:		(60 000)	

Notice how, contrary to the previous examples (where the estimated useful life had been changed), the effect on the current year's profits does not equal the effect on the future year's profits. In this example, the total effect on profit is an increase in profit of C90 000 (C30 000 in the current year and C60 000 in future years). The reason for the net increase in profit owing to the change in estimate is that the residual value was changed. In this example, the residual value increased from C0 to C90 000. This means that instead of expensing the whole cost of C500 000 as depreciation over the life of the asset, only C410 000 will now be expensed as depreciation. If depreciation decreases by C90 000, profit obviously increases by C90 000!

Example 6: change in estimated residual value: cumulative catch-up method

Machinery was purchased on 1 January 20X1, on which date it was estimated to have a useful life of 5 years and a nil residual value. The carrying amount on 31 December 20X2 was as follows:

	C
Cost (1/1/20X1)	500 000
Accumulated depreciation	200 000
Net carrying amount (31/12/20X2)	300 000

On the 1/1/20X3, the residual value was estimated to be C90 000.

Required:

Using cumulative catch-up method:

- Calculate the effect of the change in estimate.
- Show the journal entries assuming that depreciation had not yet been journalised.
- Show the journal entries assuming that depreciation had already been processed.
- Disclose the change in estimate.

Solution to example 6A: change in estimated residual value: cumulative catch-up

Calculation:	Calculations	Was (a)	Is (b)	Difference (b) – (a)
Cumulative catch-up				
Cost	<i>Given</i>	500 000	500 000	
Accum. depr: end 20X2	$(500\,000 - 0) / 5 \times 2$ $(500\,000 - 90\,000) / 5 \times 2 \text{ yrs}$	(200 000)	(164 000)	<i>Less depr</i>
Carrying amount: end 20X2		300 000	336 000	(36 000)
♥				
Residual value		(0)	(90 000)	
Depreciable amount		300 000	246 000	
Remaining useful life	(5 – 2yrs)	3 years	3 years	
Depreciation – 20X3	$(300\,000 / 3 \text{ years})$ (250 000 / 2 years)	(100 000)	(82 000)	18 000 <i>Less depr</i>
Carrying amount: end 20X3		200 000	254 000	54 000
♦				
Depreciation - future	<i>Balancing</i>	(200 000)	(164 000)	36 000 <i>Less depr</i>
Carrying amount: future	<i>Residual value</i>	0	90 000	90 000

♥ Notice that the carrying amount at 31 December 20X2 was C300 000.

♦ By the end of year 20X3, the carrying amount must be reduced to C254 000.

This means that depreciation of C46 000 must be journalised in 20X3 (300 000 – 254 000):

		C
Depreciation – based on previous estimate	<i>Per table above 'was'</i>	100 000
Change in estimate	<i>Per table above 'difference'</i>	(54 000)
Total depreciation		<u>46 000</u>

Solution to example 6B: change in estimated residual value: journals

The journal in 20X3, assuming depreciation had not yet been processed, would be:

	Debit	Credit
Depreciation (E)	46 000	
Machinery: accumulated depreciation (-A)		46 000
<i>Depreciation on machinery:</i>		
<i>Carrying amount o/b: 300 000 – Carrying amount c/b: 254 000</i>		

Solution to example 6C: change in estimated residual value: journals

The journal in 20X3, assuming depreciation had already been processed, would be:

	Debit	Credit
Machinery: accumulated depreciation (-A)	54 000	
Depreciation (E)		54 000
<i>Depreciation on machinery is reduced:</i>		
<i>Carrying amount o/b: 300 000 – carrying amount c/b: 254 000 – depreciation already processed: 100 000</i>		

Solution to example 6D: change in estimated residual value: disclosure

Company name

Notes to the financial statements (extracts)

For the year ended 31 December 20X3

		20X3 C	20X2 C
3. Profit before tax	Note		
Profit before tax is stated after taking the following into account:			
Depreciation		46 000	100 000
- original estimate		100 000	100 000
- change in estimate	5	(54 000)	0

5. Change in estimate

The estimated economic useful life of the plant and machinery was changed from 5 years to 4 years. The (increase)/ decrease in profits caused by the change is as follows:

Current year's profits:	(54 000)
Future profits:	(36 000)

Notice how, contrary to the previous examples (where the estimated useful life had been changed), the effect on the current year's profits does not equal the effect on the future year's profits.

In this example, the total effect on profit is an increase in profit of C90 000 (C54 000 in the current year and C36 000 in future years).

The reason for the net increase in profit owing to the change in estimate is that the residual value was changed. In this example, the residual value increased from C0 to C90 000. This means that instead of expensing the whole cost of C500 000 as depreciation over the life of the asset, only C410 000 will now be expensed as depreciation. If depreciation decreases by C90 000, profit obviously increases by C90 000!

A further, more comprehensive example of a change in estimate may be found in the chapter: provisions, contingencies and events after the reporting period (example 10 and 13).

5. Correction of errors (IAS 8.41 - .49)

5.1 Overview

There are very few people who, at some stage in their lives, have not been ‘wrong’ and therefore, since most of us are well-acquainted with errors, there would seem to be very little need of further explanation. But this is not so! The term ‘errors’, from an accounting perspective, needs a little clarification. For instance, when one makes an estimate in one year and then discovers, in the next year, that this estimate should have been larger or smaller – in other words, we might actually say that the previous estimate was ‘wrong’ – this is not considered to be an ‘error’! This is because an estimate is simply an approximation that, by nature, needs reassessment based on changing circumstances and therefore generally needs adjustment at some stage.

Prior period errors are defined as omissions from, and misstatements in, the entity’s financial statements for one or more prior periods arising from a failure to use, or misuse of, reliable information that:

- was available when financial statements for those prior periods were authorised for issue; and
- could reasonably be expected to have been obtained and taken into account in the preparation and presentation of those financial statements.

Such errors include the effects of mathematical mistakes, mistakes in applying accounting policies, oversights or misinterpretations of facts, and fraud.

You will notice that this definition only talks about prior period errors, which means they are errors that *happened before* the current year but which are *discovered in* the current year. Errors that *happen in* the current year and are *discovered in* the current year are merely corrected in the current year (with no disclosure required).

It should also be remembered that IFRSs only ever apply to material items, meaning that any errors occurring in previous years that are immaterial would not be corrected in terms of this standard. Of course, however, they should be corrected – but the correction is simply made in the current year and without any disclosure of the correction.

Let us now look at how to correct the various types of errors:

- Errors occurring in the current year (not governed by IAS 8)
- Immaterial errors occurring in a previous year (not governed by IAS 8 or any standard)
- Material errors occurring in a previous year (covered by IAS 8).

5.2 How to correct an error and disclose the corrections

5.2.1 All errors that occurred in the current period

All errors that occurred during the current year, whether material or immaterial, are adjusted in the current year. No disclosure of the correction of these errors is required.

Example 7: correction of errors occurring in the current year

A vehicle was purchased for C100 000 on 1 January 20X1. During 20X1 (the current year), depreciation of C10 000 was debited to the *vehicles: cost account* instead of being debited to the *depreciation account*. The depreciation was, however, correctly credited to the *vehicles: accumulated depreciation* account.

This error is discovered in 20X1.

The tax authorities granted wear and tear of C4 000 in 20X1 based on the correct cost.

The normal tax rate is 30%.

Required:

Journalise the correction of this error and disclose (where relevant).

Solution to example 7: correction of errors occurring in the current year

Adjusting journal in 20X1	Debit	Credit
Depreciation (E)	10 000	
Vehicles: cost (A)		10 000
<i>Correction of journal dated ...20X1</i>		
Deferred taxation	3 000	
Taxation expense		3 000
<i>Tax effect of reduced profits (10 000 x 30%)</i>		

Notice that, since the tax authorities disregard the accountant's depreciation when calculating taxable profits, the incorrect depreciation would not have affected the current tax payable (see proof 1 below).

The tax adjustment will therefore be a deferred tax adjustment instead (see proof 2 below).

Proof 1:	Incorrect	Correct	Difference
Current tax calculation			
Profit before depreciation (assumed figure)	200 000	200 000	
Less depreciation	0	(10 000)	
<i>Profit before tax</i>	200 000	190 000	
Add back depreciation	0	10 000	
Less wear and tear	(4 000)	(4 000)	
Taxable profits	196 000	196 000	0
<i>Current normal income tax at 30%</i>	58 800	58 800	0

This proves that the error did not affect current tax.

Proof 2:	CA	TB	TD	DT	
Deferred tax calculation					
<i>Balance at 31 December 20X1:</i>					
• Incorrect balance: (CA: 100 000 + 10 000 – 10 000) (TB: 100 000 – 4 000)	100 000	96 000	(4 000)	(1 200)	Liability
• Correct balance: (CA: 100 000 – 10 000) (TB: 100 000 – 4 000)	90 000	96 000	6 000	1 800	Asset
• Correction required				3 000	Dr DT; Cr TE

This proves that the error affected deferred tax.

Disclosure

No disclosure of this correction is required.

5.2.2 Immaterial errors that occurred in a prior period/s

If in the current year discovery is made of an error that occurred in a previous period but which is immaterial:

- it should be corrected in the current year;
- no disclosure would be required.

Example 8: correction of immaterial errors occurring in a prior year/s

A vehicle was purchased for C100 000 on 1 January 20X1.
 Depreciation on vehicles of C10 000 was recorded instead of C25 000 in 20X1 but this was only discovered during 20X2 after the 20X1 financial statements had been published.
 The error is considered to be immaterial.
 The normal tax rate is 30%.

Required:

Journalise the correction of this error and disclose (where relevant).

Solution to example 8: correction of immaterial errors occurring in a prior year/s**Adjusting journal in 20X2 (notice that the adjustment is not made in 20X1!)**

	Debit	Credit
Depreciation	15 000	
Vehicles: accumulated depreciation		15 000
<i>Correction of journal dated ...20X1 (25 000 – 10 000)</i>		
Deferred taxation	4 500	
Taxation expense		4 500
<i>Tax effect of reduced profits (15 000 x 30%)</i>		

Notice that, since the tax authorities disregard the accountant's depreciation when calculating taxable profits, the incorrect depreciation would not have affected the current tax payable (see proof 1 below).

The tax adjustment will therefore be a deferred tax adjustment instead (see proof 2 below).

Proof 1:	Incorrect	Correct	Difference
Current tax calculation			
Profit before depreciation (assumed figure)	200 000	200 000	
Less depreciation	(10 000)	(25 000)	
<i>Profit before tax</i>	190 000	175 000	
Add back depreciation	10 000	25 000	
Less wear and tear	(4 000)	(4 000)	
Taxable profits	196 000	196 000	0
<i>Current normal income tax at 30%</i>	58 800	58 800	0

This proves that the error did not affect current tax.

Proof 2:	CA	TB	TD	DT	
Deferred tax calculation					
<i>Balance at 31 December 20X1:</i>					
• Incorrect balance	90 000	96 000	6 000	1 800	Asset
(CA: 100 000 – 10 000)					
(TB: 100 000 – 4 000)					
• Correct balance:	75 000	96 000	21 000	6 300	Asset
(CA: 100 000 – 25 000)					
(TB: 100 000 – 4 000)					
• Correction required				4 500	Dr DT; Cr TE

This proves that the error affected deferred tax.

Disclosure

No disclosure of this correction is required in either year.

5.2.3 Material errors that occurred in a prior period/s

If in the current year discovery is made of an error that occurred in a previous period that is material:

- Corrections should be made to the particular period/s in which the error/s are made (retrospective restatement);
- Full disclosure of the error and the effects of the correction would be required.

Such a discovery is serious and means that previous issued financial statements are wrong and that the figures that were included therein need correction (retrospective restatement). We also need to be sure to alert the user to the fact that we have made an error in a previous year.

Retrospective restatement is defined in IAS 8.5 as ‘correcting the recognition, measurement and disclosure of amounts of elements of financial statements as if a prior period error had never occurred’.

The adjustments are the same as that for a change in accounting policy, but the disclosure differs slightly.

The following disclosure is required when a material prior period error has been corrected:

- the nature of the error;
- an extra year of comparatives in the statement of financial position (IAS 1 requirement);
- the amount of the adjustment made to each line item of the financial statement (including basic and diluted earnings per share if these are shown) for each *prior* period presented;
- the amount of the correction made at the beginning of the first prior period presented.

Financial statements of subsequent periods need not repeat these disclosures.

Example 9: correction of a material error that occurred in the prior period

A company processed depreciation of machines as C70 000 in 20X1 instead of as C170 000. The draft financial statements for 20X2 *before* correcting this error are as follows:

Draft Statement of financial position As at 31 December 20X2 (extracts)	20X2 C	20X1 C
ASSETS		
Property, plant and equipment	400 000	500 000
LIABILITIES AND EQUITY		
Retained earnings	360 000	205 000
Deferred tax	100 000	120 000
Draft Statement of changes in equity For the year ended 31 December 20X2 (extracts)		
		Retained earnings C
Balance: 1 January 20X1		42 000
Total comprehensive income		163 000
Balance: January 20X2		205 000
Total comprehensive income		155 000
Balance: December 20X2		360 000
Draft Statement of comprehensive income For the year ended 31 December 20X2 (extracts)	20X2 C	20X1 C
Profit before tax	200 000	245 000
Taxation	45 000	82 000
Profit for the year	155 000	163 000
<i>Other comprehensive income</i>	0	0
Total comprehensive income	155 000	163 000

The balances in the statement of financial position at 31 December 20X0 reflected:

- property, plant and equipment: 300 000
- retained earnings: 42 000
- deferred tax: 100 000

The normal tax rate is 30%

Required:

Correct this error and disclose (where relevant).

Solution to example 9: correction of a material error that occurred in the prior period

Correcting journal in 20X2

	Debit	Credit
Opening retained earnings $(170\,000 - 70\,000) \times 70\%$	70 000	
Deferred taxation	30 000	
Machines: accumulated depreciation		100 000
<i>Correction: depreciation incorrectly expensed</i>		

Please notice that the effect on tax is a deferred tax adjustment rather than an adjustment to the current tax payable. This is because the tax authorities calculated current tax owed after deducting an allowance on the cost of items of property, plant and equipment (e.g. wear and tear allowance). The tax authorities do not deduct the depreciation processed by the accountant and therefore the current tax calculated by the tax authorities is not affected by a change in depreciation.

Notice that there is no need to adjust each specific year in which there was an error so long as the opening retained earnings in 20X2 are adjusted. The following would be the adjusting journal entries in 20X1, had the error been found in 20X1:

	Debit	Credit
Depreciation $(170\,000 - 70\,000)$	100 000	
Machines: accumulated depreciation		100 000
Deferred taxation $(100\,000 \times 30\%)$	30 000	
Taxation expense		30 000
<i>Correction of journals dated ...20X1</i>		

Disclosure:

Company name

Notes to the financial statements (extracts)

For the year ended 31 December 20X2

	20X2 C	20X1 C
5. Correction of Error		
During 20X1, depreciation was incorrectly recorded as C70 000 instead of as C170 000.		
The effect of the correction is as follows:		
Effect on the statement of comprehensive income		
<i>Increase/ (decrease) in expenses or losses</i>		
- Depreciation	100 000	
- Tax expense	(30 000)	
<i>(Increase)/ decrease in income or profits</i>		
- Profit for the year	<u>70 000</u>	
Effect on the statement of financial position		
<i>Increase/ (decrease) in assets</i>		
- Property, plant and equipment	(100 000)	0
<i>(Increase)/ decrease in liabilities and equity</i>		
- Deferred taxation	30 000	0
- Retained earnings	<u>70 000</u>	<u>0</u>
	<u>0</u>	<u>0</u>

Comment:

Please notice that the effect of an error on the statement of comprehensive income only shows the:

- effect on the current year: 20X2.

Please also notice that the effect of an error on the statement of financial position must show both the:

- effect on the prior year: 20X1; and
- effect on the year before the prior year (when restating figures, 2 comparative years are needed).

Company name**Statement of comprehensive income (extracts)****For the year ended 31 December 20X2**

		20X2	20X1
		C	C
			Restated
Profit before tax	245 000 – 100 000 *	200 000	145 000
Taxation expense	82 000 – 30 000 *	(45 000)	(52 000)
Profit for the year		155 000	93 000
Other comprehensive income		0	0
Total comprehensive income		155 000	93 000

* these adjustments could be taken either from your note or from your journals, whichever you have available in a test – or whichever you prefer, if you have both.

Company name**Statement of changes in equity (extracts)****For the year ended 31 December 20X2**

		Note	Retained Earnings
			C
Balance: January 20X1	(not affected: the error occurred in 20X1)		42 000
Total comprehensive income: restated	(revised statement of compr. income)		93 000
Balance: January 20X2 - restated	(42 000 + 93 000)		135 000
- as previously reported	(given)		205 000
- correction of material error	(journal: 100 000 – 30 000)	5	(70 000)
Total comprehensive income	(statement of compr. income)		155 000
Balance: December 20X2			290 000

Comment:

The closing retained earnings for the current year should not be further broken down into:

- as previously reported
- correction of material error

The reason for this is that the balance of retained earnings at end 20X2 has never been reported before.

Company name**Statement of financial position (extracts)****For the year ended 31 December 20X2**

		20X2	20X1	20X0
		C	C	C
ASSETS				
Property, plant and equipment	20X2: (400 000 – 100 000)* 20X1: (500 000 – 100 000)* 20X0: (300 000 – 0) *	300 000	400 000	300 000
EQUITY AND LIABILITIES				
Retained earnings	statement of changes in equity	290 000	135 000	42 000
Deferred taxation	20X2: (100 000 – 30 000) * 20X1: (120 000 – 30 000)* 20X0: (100 000 – 0) *	70 000	90 000	100 000

* these adjustments could be taken either from your note or from your journals, whichever you

have available in a test – or whichever you prefer, if you have both.

Example 10: correction of a material error that occurred in a prior period

The draft financial statements of a company are as follows:

Company name Statement of financial position As at 31 December 20X3 (extracts)	20X3 C	20X2 C
ASSETS		
Plant	600 000	650 000
EQUITY AND LIABILITIES		
Retained earnings	85 000	25 000
Deferred taxation	100 000	120 000
Current tax payable	250 000	80 000

Company name Statement of changes in equity For the year ended 31 December 20X3 (extracts)	Retained earnings C
Balance: January 20X2 (a loss)	(24 600)
Total comprehensive income	49 600
Balance: January 20X3	25 000
Total comprehensive income	60 000
Balance: December 20X3	85 000

Company name Statement of comprehensive income of ... For the year ended 31 December 20X3 (extracts)	20X3 C	20X2 C
Profit before tax	100 000	80 000
Taxation expense	(40 000)	(30 400)
Profit for the period	60 000	49 600
<i>Other comprehensive income</i>	0	0
Total comprehensive income	60 000	49 600

During the year it was discovered that the purchase of plant on 1 January 20X0 had been written off as a repair expense, (cost: C120 000). This error affected the tax calculations and forms submitted.

The balance in the statement of financial position at 31 December 20X1 showed plant of 300 000, deferred tax of C90 000 and current tax payable of C70 000.

The company writes off depreciation at 25% pa straight-line (not reduced for part of a year). The wear and tear allowed by the tax authorities is the same. The tax rate has been 30% for the past 8 years.

Required:

- Show the correcting journal entries.
- Disclose the corrected financial statements.

Solution to example 10A: correcting journal entries

The following would be the adjusting journal entries if it were possible to process correcting entries in each specific year in which there was an error:

		Debit	Credit
Entries in 20X0			
Plant: cost	<i>given</i>	120 000	
Repair expense			120 000
Depreciation	$(120\,000 / 4 \text{ years})$	30 000	
Plant: accumulated depreciation			30 000
Taxation expense	$(120\,000 - 30\,000) \times 30\%$	27 000	
Current tax payable			27 000
<i>Correction of journals dated ...20X0</i>			

Entries in 20X1			
Depreciation	$(120\,000 / 4 \text{ years})$	30 000	
Plant: accumulated depreciation			30 000
Current tax payable	$(30\,000 \times 30\%)$	9 000	
Taxation expense			9 000
<i>Correction of journals dated ...20X1</i>			

Entries in 20X2			
Depreciation	$(120\,000 / 4 \text{ years})$	30 000	
Plant: accumulated depreciation			30 000
Current tax payable	$(30\,000 \times 30\%)$	9 000	
Taxation expense			9 000
<i>Correction of journals dated ...20X2</i>			

Notice that there is no need to (and due to computer software limitations, it is generally not possible to) adjust *each specific* year in which there was an error as long as the opening retained earnings in 20X3 are adjusted. In such an instance, the following journal entries would be required:

		Debit	Credit
Entries in 20X3			
Retained earnings (opening balance)	$[120K - (30K \times 3 \text{ years})] \times 70\%$		21 000
Deferred taxation/current tax payable	$[120K - (30K \times 3 \text{ years})] \times 30\%$		9 000
Plant: cost		120 000	
Plant: accumulated depreciation	$(30K \times 3 \text{ years})$		90 000
<i>Correction of errors in years prior to 20X3</i>			
Depreciation		30 000	
Plant: accumulated depreciation			30 000
<i>Depreciation on equipment: 20X3</i> $(120\,000 / 4 \text{ years})$			
Current tax payable		9 000	
Taxation			9 000
<i>Tax effect of reduced profit: 20X3</i> $(30\,000 \times 30\%)$			

Solution to example 10B: disclosure**Company name****Notes to the financial statements (extracts)****For the year ended 31 December 20X3****5. Correction of Error**

Purchase of equipment in 20X0 had erroneously been expensed.

The effect of the correction on the prior years is as follows:

Effect on the statement of comprehensive income		20X2	
<i>Increase/ (decrease) in expenses or losses</i>		C	
- Depreciation	<i>120 000 / 4 years</i>	30 000	
- Tax expense	<i>30 000 x 30%</i>	(9 000)	
<i>(Increase)/ decrease in income or profits</i>			
- Profit for the year		<u>21 000</u>	
Effect on the statement of financial position		20X2	20X1
<i>Increase/ (decrease) in assets</i>		C	C
- Plant	<i>(cost capitalised – acc depr to date)</i>	30 000	60 000
	<i>(20X1: +120K – 120K / 4 x 2 yrs)</i>		
	<i>(20X2: +120K – 120K / 4 x 3 yrs)</i>		
<i>(Increase)/ decrease in liabilities and equity</i>			
- Current tax payable	<i>(repair disallowed – w&t allowed to date) x30%</i>	(9 000)	(18 000)
	<i>(20X1: 120K – 120K / 4 x 2 yrs) x 30%</i>		
	<i>(20X2: 120K – 120K / 4 x 3 yrs) x 30%</i>		
- Retained earnings	<i>(balancing)</i>	(21 000)	(42 000)
	<i>(20X1: 60 000 – 18 000)</i>		
	<i>(20X2: 30 000 – 9 000)</i>		
		<u>0</u>	<u>0</u>

Just as with the previous example of a correction of prior period error:

Please notice that the effect of an error on the statement of comprehensive income only shows the:

- effect on the current year: 20X2.

Please also notice that the effect of an error on the statement of financial position must show both the:

- effect on the prior year: 20X1; and
- effect on the year before the prior year (when restating figures, 2 comparative years are needed).

Company name**Statement of comprehensive income (extracts)****For the year ended 31 December 20X3**

		20X3	20X2
		C	C
			Restated
Profit before tax	<i>(20X2: 80 000 – 30 000) (20X3: 100 000 – 30 000)</i>	70 000	50 000
Tax expense	<i>(20X2: 30 400 – 30 000 x 30%)</i>	31 000	21 400
	<i>(20X3: 40 000 – 30 000 x 30%)</i>		
Profit for the period		<u>39 000</u>	<u>28 600</u>
Other comprehensive income		0	0
Total comprehensive income		<u>39 000</u>	<u>28 600</u>

Company name**Statement of changes in equity (extracts)****For the year ended 31 December 20X3**

		Note	Retained earnings C
Balance: 1 January 20X2: restated	(balancing)		17 400
- as previously reported	(given)		(24 600)
- correction of material error	(per note)	5.	42 000
Total comprehensive income: restated	(revised statement of compr. income)		28 600
Balance: 31 December 20X2: restated	(balance: 17400 + 28600 & 25K + 21K)		46 000
- as previously reported	(given)		25 000
- correction of material error	(per note)	5.	21 000
Total comprehensive income	(statement of comprehensive income)		39 000
Balance: 31 December 20X3			85 000

Company name**Statement of financial position (extracts)****For the year ended 31 December 20X3**

		20X3 C	20X2 C Restated	20X1 C Restated
ASSETS				
Plant	(20X1: 300K + 60K per note) (20X2: 650K + 30K per note) (20X3: 600K + 30K per note in 20X2 – 30K deprec in 20X3)	600 000	680 000	360 000
EQUITY AND LIABILITIES				
Retained earnings	(per statement of changes in equity)	85 000	46 000	17 400
Deferred taxation	(no change)	100 000	120 000	90 000
Current tax payable	(20X1: 70K + 18K per note) (20X2: 80K + 9K per note) (20X3: 250K + 9K per note in 20X2 – 30 K x 30% tax on depr in 20X3)	250 000	89 000	88 000

Workings:

Proof that the tax effect would require an adjustment to current tax (W1) and not deferred tax (W2):

W1: Current tax proof:

	In 20X0		
Calculation of current normal tax:	Correct	Incorrect	Difference
Profit before depr/ rep (assume any amt)	500 000	500 000	
Less depreciation	(30 000)	0	
Less repair	0	(120 000)	
	470 000	380 000	
Add depreciation	30 000	0	
Less wear and tear	(30 000)	0	
Taxable income	470 000	380 000	
Current normal income tax at 30%	141 000	114 000	27 000
Adjustment required: 27 000			Debit TE Credit CTP

Calculation of current normal tax:	In each subsequent year 20X1 – 20X3		Difference
	Correct	Incorrect	
Profit before depr/ rep (assume any amt)	500 000	500 000	
Less depreciation	(30 000)	0	
	470 000	500 000	
Add depreciation	30 000	0	
Less wear and tear	(30 000)	0	
Taxable income	470 000	500 000	
Current normal income tax at 30%	141 000	150 000	9 000
Adjustment required: 27 000			Debit CTP Credit TE

W2: Deferred tax proof:

Calculation of deferred tax balances	Carrying amount	Tax base	Temporary difference	Deferred taxation	Adj/ bal
Incorrect balance: 31/12/20X0	0	0	0	0	
Correct balance: 31/12/20X0	90 000	90 000	0	0	
Adjustment required				0	No adjustment
Incorrect balance: 31/12/20X1	0	0	0	0	
Correct balance: 31/12/20X1	60 000	60 000	0	0	
Adjustment required				0	No adjustment
Incorrect balance: 31/12/20X2	0	0	0	0	
Correct balance: 31/12/20X2	30 000	30 000	0	0	
Adjustment required				0	No adjustment
Incorrect balance: 31/12/20X3	0	0	0	0	
Correct balance: 31/12/20X3	0	0	0	0	
Adjustment required				0	No adjustment

6. Summary

Plan your answer: identify which of the above five areas are being examined and then prepare a skeleton answer as follows (depending on the 'required section!'):

	Correction of PPE	Change in AP	Change in AE
Statement of comprehensive income:			
- PY: 'restated'	✓	✓	N/A
- Disclosure on face	N/A	N/A	N/A
Statement of changes in equity:			
- reconciliation of opening retained earnings	✓	✓	N/A
- profit for the prior year 'restated'	✓	✓	N/A
Statement of financial position:			
- PY: 'restated'	✓	✓	N/A
Notes:			
- Brief description of 'what'	✓	✓	✓
- Explanation of 'why'	N/A	✓	N/A
- Comparatives are restated	✓	✓	N/A
- Effect on each line item of the financial statements (including basic and diluted earnings per share, where these are provided):			
- current year	N/A	✓	✓
- prior year	✓	✓	N/A
- year before prior year	✓	✓	N/A
- future years	N/A	N/A	✓
- Effect on opening retained earnings:			
- current year	✓	✓	N/A
- prior year	✓	✓	N/A

Legend (abbreviations used):

PPE: errors occurring in a prior period that are material

AP: accounting policy

AE: accounting estimate

Chapter 19

Foreign Currency Transactions

Reference: IAS 21, IAS 39 and IFRS 7

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1. Definitions

The following definitions are provided:

- **Exchange rate:** is the ratio of exchange for two currencies.
- **Spot exchange rate:** is the exchange rate for immediate delivery.
- **Closing Rate:** is the spot exchange rate at the reporting date.
- **Exchange difference:** is the difference resulting from translating a given number of units of one currency into another currency at different exchange rates.
- **Fair value:** is the amount for which an asset could be exchanged, or a liability settled, between knowledgeable, willing parties in an arm's length transaction.
- **Foreign currency:** is a currency other than the functional currency of the entity.
- **Functional currency:** is the currency of the primary economic environment in which the entity operates.
- **Foreign currency transaction:** is a transaction that is denominated and/or requires settlement in a foreign currency.
- **Presentation currency:** is the currency in which the financial statements are presented.
- **Monetary items:** are units of currency held and assets and liabilities to be received or paid in a fixed or determinable number of units of currency.
- **Transaction date:** the date on which the risks and rewards of ownership transfer (simplified definition: see the full definition from IAS 21).
- **Settlement date:** the date upon which a foreign debtor or creditor pays or is paid.
- **Translation date:** the date on which the balance in foreign currency is converted into local currency (transaction date, settlement date and reporting dates).

2. Foreign currency transactions

2.1 General

Businesses frequently enter into transactions with foreign entities. These transactions (involving incomes, expenses, assets and liabilities) may be denominated in foreign currencies (e.g. an invoice that is in dollars, is referred to as 'denominated in dollars'). Since financial statements are prepared in one currency only, all foreign currency amounts must be converted into the currency used for the financial statement (presentation currency). To complicate matters, there is often a considerable time lag between the date that a foreign debtor or creditor is created and the date upon which that debtor pays or creditor is paid. This inevitably results in exchange differences because exchange rates fluctuate on a daily basis. This chapter deals with *IAS 21 – The Effects of Changes in Foreign Exchange Rates*, which sets out the method to be used in converting currencies for inclusion in financial statements.

2.2 How exchange rates are quoted

An exchange rate is the price of one currency in another currency. For example, if we have two currencies, a local currency (LC) and a foreign currency (FC), we could quote the FC:LC exchange rate as, for example, FC1:LC4. This effectively means that to purchase 1 unit of FC, we would have to pay 4 units of LC. It is also possible to quote the same exchange rate as LC1: FC0.25. This effectively means that 1 unit of LC would purchase 0.25 units of the FC.

Global market forces determine currency exchange rates. If you ask a bank or other currency dealer to buy or sell a particular currency, you will be quoted an exchange rate that is valid for that particular day only (i.e. immediate delivery). This exchange rate is called a 'spot rate'.

Example 1: quoted exchange rates

You are quoted a spot exchange rate on 1 March 20X1 of £1: \$2.

Required:

- A. If you had £1 000 to exchange (i.e. sell), how many \$ would you receive (i.e. buy) from the currency dealer?
- B. If you had \$1 000 to exchange (i.e. sell), how many £ would you receive (i.e. buy) from the currency dealer?
- C. Restate the exchange rate in the format £ ...: \$1.

Solution to example 1: quoted exchange rates

A: $£1\,000 / 1 \times 2 = \$2\,000$

B: $\$1\,000 / 2 \times 1 = £500$

C: $£1 / 2 = £0.5$ therefore, the exchange rate would be £0.5: \$1

2.3 Transactions

The types of foreign currency transactions that can be entered into are numerous. Common examples of transactions with foreign entities include:

- borrowing or lending money;
- purchasing or selling inventory; and
- purchasing or selling depreciable assets.

2.4 Dates

Dates involved with foreign currency transactions are very important because exchange rates differ from day-to-day. The following dates are significant when recording the foreign currency transaction:

- transaction date – this is when a loan is raised/made or an item is purchased or sold;
- settlement date – this is when cash changes hands in settlement of the transaction (e.g. the creditor is paid or payment is received from the debtor); and
- translation date – this is the financial year-end of the local entity.

The transaction is recognised on transaction date, which is the date on which the definition and recognition criteria are met. The order date occurs before the transaction date. Since we are normally not interested in the events before transaction date, the order date is normally irrelevant.

2.4.1 Determining the transaction date

The first thing that must be determined in a foreign currency transaction is the transaction date. The date on which the transaction must be recognised is established with reference to the IFRS that applies to the type of transaction in question. A rule of thumb for a purchase or sale transaction is that the transaction date would be when the risks and rewards of ownership transfer from one entity to the other entity.

For regular import or export transactions, establishing the date that risks and rewards are transferred is complicated by the fact that goods sent to or ordered from other countries usually spend a considerable time in transit.

There are two common ways of shipping goods between countries. Goods can be shipped:

- Free on Board (F.O.B); or
- Cost, Insurance, Freight (C.I.F).

If a transaction is arranged on a Free on Board (F.O.B) basis, the situation is:

- generally, as soon as the entity shipping the goods has delivered the goods to the port of departure and they have been loaded onto a ship, the risks of the remaining voyage transfers to the entity that will be receiving those goods; and therefore
- the transaction date will generally be the date that the goods are loaded onto a ship in the originating country.

If a transaction is arranged on a Cost Insurance Freight (C.I.F) basis, the situation is:

- generally, the entity shipping the goods retains the risks of the voyage until the goods arrive in the receiving port and are cleared through customs; and therefore
- the transaction date will generally be the date that the goods are offloaded at the destination harbour and are cleared through customs.

The exact wording of the terms of the shipping documentation must, however, always be investigated first before determining the transaction date.

2.4.2 Determining the settlement date

Next, the settlement date must be determined. The settlement date is the date on which:

- a foreign creditor is fully or partially paid; or
- full or partial payment is received from a foreign debtor.

The settlement date is generally not difficult to establish.

2.4.3 Determining the translation date (if applicable)

It is possible for a foreign currency transaction to spread over more than one financial year. In other words, where such a transaction is spread over more than one financial year, at least one year-end occurs between transaction date and settlement date. The year-end/s falling between transaction and settlement date is known as the translation date.

Example 2: determining transaction, settlement and translation dates

On 13 January 20X4, Home Limited faxed an order for 1 000 yellow bicycles to Far Away Limited, a bicycle manufacturer in Iceland.

On 16 January 20X4, Home Limited received a faxed confirmation from Far Away Limited informing them that the order had been accepted.

On 25 January 20X4, Far Away Limited finished production of the required bicycles and packed them for delivery.

On 1 February 20X4, the bicycles were delivered to one of Iceland's many harbours and were loaded onto a ship.

The ship set sail on 4 February 20X4.

Due to stormy weather it only arrived at the port in Home Limited's country on 31 March 20X4.

The bicycles were offloaded and released from customs on the same day.

On 5 April 20X4, the bicycles finally arrived in Home Limited's warehouse.

Far Away Limited was paid on 30 April 20X4.

Home Limited has a 28 February financial year-end. .

Required:

- A. State the transaction, translation and settlement dates assuming the bicycles were shipped F.O.B.
- B. State the transaction, translation and settlement dates assuming the bicycles were shipped C.I.F.

Solution to example 2: determining transaction, settlement and translation dates

A.

The transaction date is 1 February 20X4: in terms of an F.O.B. transaction, the risks of ownership of the bicycles would pass to Home Limited on the date the bicycles are loaded at the originating port.

The translation date is 28 February 20X4 since this is Home Limited's year-end on which date the foreign currency monetary item (foreign creditor) still exists, (the transaction date has occurred and the settlement has not yet happened).

The settlement date is 30 April 20X4 being the date on which Home Limited pays the foreign creditor.

B.

The transaction date is 31 March 20X4: in terms of a C.I.F. transaction, the risks of ownership of the bicycles would pass to Home Limited on the date that the bicycles are cleared from customs.

There is no translation date because at both 28 February 20X4 and 28 February 20X5 no foreign currency monetary item (foreign creditor) existed. Thus there are no items to translate at either year-end. (explanation: at 28 February 20X4 the transaction date had not yet occurred and 28 February 20X5 the foreign transaction had already been settled).

The settlement date is 30 April 20X4 being the date when the foreign creditor was paid.

2.5 Recognition and measurement

2.5.1 Initial recognition and measurement (IAS 21.20 - .22)

The foreign currency transaction is initially recognised on transaction date.

The foreign currency transaction is measured by:

- applying to the foreign currency amount
- the exchange rate between foreign currency and functional currency
- at the spot rate on transaction date.

It is permissible to use an average exchange rate for the past week or month as long as it approximates the spot exchange rate.

2.5.2 Subsequent measurement: monetary items

2.5.2.1 Overview

As an exchange rate changes (and most fluctuate on a daily basis), the measurement of amounts owing to or receivable from a foreign entity changes. For example, an exchange rate of FC1: LC4 in January can change to an exchange rate of FC1: LC7 in February and strengthen back to FC1: LC6 in March. Due to this, a foreign debtor or creditor will owe different amounts depending on which date the balance is measured.

Monetary items (amounts owing or receivable) are translated to the latest exchange rates:

- on each subsequent reporting period; and
- on settlement date.

2.5.2.2 Translation at the end of the reporting period

If the monetary item is not settled by end of the reporting period, then an exchange difference is likely to be recognised. This is because the item was originally measured at the spot rate on transaction date. If it is not yet settled at the date a report is being drafted, the balance owing or receivable will need to be re-measured at the spot rate on the date of the report. If there is

a difference between the spot rate on transaction date and the spot rate on reporting date (sometimes referred to as the closing rate), then an exchange difference arises.

2.5.2.3 Translation at settlement date

The amount paid or received is based on the spot rate on settlement date. If the spot rate on transaction / reporting date (whichever is applicable) is different to the spot rate on settlement date, an exchange difference will arise.

2.5.2.4 Exchange differences

The translation of monetary items will almost always result in exchange differences: gains or losses (unless there is no change in the exchange rate since transaction date).

The exchange differences on monetary items are recognised in profit or loss in the period in which they arise. ♥

- ♥ If the foreign exchange gain or loss relates to a foreign operation that is *consolidated* into the entity's books, then this exchange gain or loss will not be recognised in profit or loss but rather in *other comprehensive income*. It would be reclassified as being part of profit or loss only on disposal of the foreign operation. Consolidations are not covered in this textbook and therefore this issue will not be covered further.

Example 3: exchange differences – monetary item

On 31 January an entity has a foreign debtor of FC2 000.

The local currency is denominated as LC and the foreign currency is denominated as FC.

The exchange rates of FC: LC are as follows:

31 January:	FC1: LC4
28 February:	FC1: LC7
31 March:	FC1: LC6

Required:

- A. Calculate the value of the foreign debtor in local currency units at the end of the months January, February and March.
- B. Calculate the exchange differences arising over those 3 months and in total.
- C. Show how the debtor and exchange differences would be journalised in the entity's books on 31 January, 28 February and 31 March. Assume the debtor was created on 31 January through a sale of goods. Ignore the journal required for the cost of the sale.

Solution to example 3: exchange differences – monetary item

A.

On 31 January the foreign debtor would be worth $FC2\ 000 \times LC4 = LC8\ 000$.

On 28 February the foreign debtor would be worth $FC2\ 000 \times LC7 = LC14\ 000$.

On 31 March the foreign debtor would be worth $FC2\ 000 \times LC6 = LC12\ 000$.

B.

Between 31 January and 28 February, an exchange difference (gain) of LC6 000 arises:
[LC14 000-LC8 000].

Between 28 February and 31 March, an exchange difference (loss) of LC2 000 arises:
[LC12 000-LC14 000].

In total, between 31 January and 31 March, a net exchange difference (net gain) of LC4 000 arises:
[LC12 000-LC8 000].

C.**Journals:**

	Debit	Credit
<i>31 January</i>		
Foreign debtor	8 000	
Sales		8 000
<i>Sold goods to foreign customer</i>		
<i>28 February</i>		
Foreign debtor	6 000	
Foreign exchange gain		6 000
<i>Translating foreign debtor</i>		
<i>31 March</i>		
Foreign exchange loss	2 000	
Foreign debtor		2 000
<i>Translating foreign debtor</i>		

Notice how the amount of sales income recognised is unaffected by changes in the exchange rates.

2.5.3 Subsequent measurement: non-monetary items

Non-monetary items include assets such as:

- property, plant and equipment;
- intangible assets; and
- inventories.

Foreign currency can affect non-monetary items in two basic ways:

- *Local currency denominated non-monetary items:*
They could have been purchased using foreign currency, in which case they are converted into the local currency at the spot rate on transaction date, and are thereafter denominated in the local currency (called the functional currency)
- *Foreign currency denominated non-monetary items:*
They could be owned by a foreign branch or foreign operation of the entity (the latter would require consolidation into the books of the entity), in which case they are denominated in foreign currency in the books of the branch (these will have to be converted into the local currency).

Non-monetary items that:

- are measured at historical cost in a foreign currency are translated using the exchange rate on transaction date;
- are measured at a value other than historical cost (e.g. fair value or recoverable amount) in a foreign currency are translated using the exchange rate when the fair value was determined.

The subsequent measurement of *local* currency denominated non-monetary items occurs simply in terms of the relevant IFRS. These items *are not affected* by subsequent changes in exchange rates. For example, if an item of plant is purchased where the purchase was denominated in a foreign currency, this is converted into the local currency on transaction date and the plant is then measured in terms of *IAS 16 Property, plant and equipment*.

The subsequent measurement of *foreign* currency denominated non-monetary items, whilst measured in terms of the relevant IFRS, *may be affected* by a change in an exchange rate. This occurs when the measurement of the item depends on the comparison of two or more amounts. Typical examples are plant, where the measurement at year-end depends on a comparison of the carrying amount with the recoverable amount. Another example includes inventory, where the measurement at year-end depends on a comparison of the cost with the net realisable value.

The reason that an exchange rate can affect such items is because:

- the cost or carrying amount, as appropriate, is translated at the spot rate when the amount was determined (e.g. on transaction date); and
- the net realisable value or recoverable amount, as appropriate, is translated at the spot rate on the date that this amount is calculated (e.g. on reporting date).

Example 4: non-monetary item: measurement of plant bought from a foreign supplier

On 1 January 20X1, a South African company bought plant from an American company for \$100 000. The South African company settled the debt on 31 March 20X1.

Date	Spot rates
	(Rand: Dollar)
1 January 20X1	R6.0: \$1
31 March 20X1	R6.3: \$1
31 December 20X1	R6.5: \$1
31 December 20X2	R6.2: \$1

The plant is depreciated to a nil residual value over 5 years using the straight-line method. The recoverable amount was calculated on 31 December 20X2: R320 000.

Required:

Show all journal entries relating to plant for the years ended 31 December 20X1 and 20X2 in the books of the South African entity.

Solution to example 4: non-monetary item: journals

		Debit	Credit
<i>1 January 20X1</i>			
Plant: cost	$\$100\,000 \times R6$	600 000	
Foreign creditor			600 000
<i>Purchased plant from a foreign supplier (translated at spot rate)</i>			
<i>31 March 20X1</i>			
Foreign exchange loss	$\$100\,000 \times R6.30 - R600\,000$	30 000	
Foreign creditor			30 000
<i>Translating foreign creditor on settlement date (at latest spot rate)</i>			
Foreign creditor	$\$100\,000 \times R6.30$	630 000	
Bank			630 000
<i>Payment of foreign creditor</i>			
<i>31 December 20X1</i>			
Depreciation	$(R600\,000 - 0) / 5 \text{ years}$	120 000	
Plant: accumulated depreciation			120 000
<i>Depreciation of plant</i>			
<i>31 December 20X2</i>			
Depreciation	$(R600\,000 - 0) / 5 \text{ years}$	120 000	
Plant: accumulated depreciation			120 000
<i>Depreciation of plant</i>			
Impairment loss	$CA: 600\,000 - 120\,000 - 120\,000$	40 000	
Plant: accumulated impairment loss	$- \text{Recoverable amount: } 320\,000$		40 000
<i>Translating foreign debtor</i>			

Notice how the measurement of the non-monetary asset (plant) is not affected by the changes in the exchange rates. This is because it is a local currency denominated item.

Example 5: non-monetary item: measurement of inventory owned by foreign branch

A South African company (local currency: Rands: R) has a branch in Britain (local currency: Pound: £). On 1 January 20X1, the branch in Britain bought inventory from a British supplier for £100 000 in cash.

Date	Spot rates (Rand: Pound)
1 January 20X1	R10.0: £1
31 December 20X1	R12.0: £1

The inventory is still in stock and its net realisable value is estimated to be £90 000 at 31 December 20X1.

Required:

Show all journal entries for the years ended 31 December 20X1:

- A. in the books of the British branch; and
B. in the books of the South African entity.

Solution to example 5A: inventory: journals in the books of a foreign branch**Journals in the foreign branch: denominated in Pounds**

		Debit	Credit
<i>1 January 20X1</i>			
Inventory	Given: £100 000	100 000	
Bank			100 000
<i>Purchased inventory from a local supplier (British)</i>			
<i>31 December 20X1</i>			
Inventory write-down	£100 000 – £90 000	10 000	
Inventory			10 000
<i>Inventory written down to lower of cost or net realisable value</i>			

Notice how, in the branch's books, the inventory is written down since the net realisable value in Pounds is less than the carrying amount in Pounds.

Solution to example 5B: inventory: journals in the books of the local entity**Journals in the local entity: denominated in Rands**

		Debit	Credit
<i>1 January 20X1</i>			
Inventory	£100 000 x R10	1 000 000	
Bank			1 000 000
<i>Purchased inventory from a foreign supplier (translated at spot rate)</i>			

Notice how there is no write-down of inventory in the SA entity's books because the net realisable value is measured using the spot rate on the date at which the recoverable amount is calculated (R12: £1) and the cost is measured using the spot rate on transaction date (R10: £1). The fact that the British branch recognises a write-down whereas the South African books does not, is purely as a result of the change to the exchange rates!

		Pounds	Rands
Cost: 31/12/20X1	Pounds: £100 000	100 000	1 000 000
	Rands: £100 000 x R10		
Net realisable value: 31/12/20X1	Pounds: £90 000	90 000	1 080 000
	Rands: £90 000 x R12		
Write-down		10 000	N/A

Example 6: non-monetary item: measurement of plant owned by foreign branch

A South African company (local currency: Rands: R) has a branch in Britain (local currency: Pound: £). On 1 January 20X1, the branch in Britain bought a plant for £100 000 in cash.

Date	Spot rates
	(Rand: Pound)
1 January 20X1	R12.0: £1
31 December 20X1	R10.7: £1
31 December 20X2	R10.0: £1

The plant is depreciated to a nil residual value over 5 years using the straight-line method. The recoverable amount was calculated on 31 December 20X2: £70 000.

Required:

Show all journal entries for the years ended 31 December 20X1 and 31 December 20X2:

- A. in the books of the British branch; and
B. in the books of the South African entity.

Solution to example 6A: plant: journals in the books of the foreign branch**Journals in the books of the foreign branch: denominated in Pounds**

		Debit	Credit
1 January 20X1			
Plant: cost	<i>Given: £100 000</i>	100 000	
Bank			100 000
<i>Purchased plant</i>			
31 December 20X1			
Depreciation	<i>(£100 000 – 0) / 5 years</i>	20 000	
Plant: accumulated depreciation			20 000
<i>Depreciation of plant</i>			
31 December 20X2			
Depreciation	<i>(£100 000 – 0) / 5 years</i>	20 000	
Plant: accumulated depreciation			20 000
<i>Depreciation of plant</i>			

Notice how, in the branch's books, the asset is not considered to be impaired, since the recoverable amount in Pounds (£70 000) is greater than the carrying amount in Pounds (£100 000 – 20 000 – 20 000). Notice that there are obviously no exchange differences in this example since the purchase in Pounds is recorded in Pounds in the books of the British branch.

Solution to example 6B: plant: journals in the books of the local entity**Journals in the books of the local entity: denominated in Rands**

		Debit	Credit
1 January 20X1			
Plant: cost	<i>£100 000 x R12</i>	1 200 000	
Bank			1 200 000
<i>Purchased plant from a foreign supplier (translated at spot rate)</i>			
31 December 20X1			
Depreciation	<i>(1 200 000 – 0) / 5 years</i>	240 000	
Plant: accumulated depreciation			240 000
<i>Depreciation of plant</i>			
31 December 20X2			
Depreciation	<i>(1 200 000 – 0) / 5 years</i>	240 000	
Plant: accumulated depreciation			240 000
<i>Depreciation of plant</i>			
Impairment loss	<i>CA: 1 200 000 – 240 000 – 240 000 –</i>	20 000	
Plant: accumulated imp loss	<i>Recoverable amount: £70 000 x R10</i>		20 000
<i>Impairment of plant (CA measured at spot rate on transaction date; RA measured at spot rate at year-end)</i>			

Notice how the South African entity reflects an impairment on the plant despite the fact that, in Pound terms, the plant is not impaired! This is because of the change in the exchange rate.

- the recoverable amount in the SA entity's books is measured using the spot rate on the date at which the recoverable amount is calculated (R10: £1); whereas
- the cost and related accumulated depreciation is measured using the spot rate on transaction date (R12: £1).

Thus the change in exchange rate causes a South African impairment loss despite the fact that the British branch does not recognise an impairment loss!

		Pounds	Rands
Carrying amount: 31/12/20X2	Pounds: £100 000 x 3 / 5 yrs	60 000	720 000
	Rands: £100 000 x 3 / 5 yrs x R12		
Recoverable amount: 31/12/20X2	Pounds: £70 000	70 000	700 000
	Rands: £70 000 x R10		
Impairment		N/A	20 000

2.6 Exchange differences on monetary items

It should now be quite clear that fluctuating currency exchange rates will therefore have an effect on all monetary items that are denominated in a foreign currency, including:

- sales to a foreign customer (export) on credit;
- purchases from a foreign supplier (import) on credit;
- loans made to a foreign borrower; and
- loans raised from a foreign lender.

Although the basic principles apply to import, export and loan transactions, loan transactions have an added complexity, being the interest accrual. Let us therefore first look at the journals involving exports and imports and then let us look at loan transactions.

2.6.1 Import and export transactions

2.6.1.1 Transaction and settlement on the same day (cash transaction)

If the date on which the transaction is journalised (transaction date) is the same date on which cash changes hands in settlement of the transaction (settlement date), then there would obviously be no exchange differences to account for.

Example 7: import transaction - settled on same day (cash transaction)

A company in Botswana purchased inventory for £100 from a company in Britain on 5 March 20X1, the transaction date.

The purchase price was paid on this same day, when the spot rate was P3: £1.

The local currency (functional currency) in Botswana is the Pula (P).

The local currency (functional currency) in Britain is the Pound (£).

Required:

Show the journal entry/ies in the books of the company in Botswana.

Solution to example 7: import transaction - settled on same day

	Debit	Credit
5 March 20X1		
Inventory	300	
Bank		300
Purchase of inventory: £100 x 3 = P300		

No exchange differences are possible since there is no balance payable that would need translation.

Example 8: export transaction - settled on same day (cash transaction)

A company in the United Kingdom sold inventory for P1 200 to a company in Botswana on 17 May 20X5, the transaction date.

The sale proceeds were received on the same day when the spot rate was P4: £1.

The cost of the inventory to the UK company was £150.

The local currency (functional currency) in Botswana is the Pula (P).

The local currency (functional currency) in the United Kingdom is the Pound (£).

Required:

Show the journal entries in the books of the company in the United Kingdom.

Solution to example 8: export transaction - settled on same day

17 May 20X5	Debit	Credit
Bank	300	
Sales		300
<i>Sale of inventory for cash: P1200 / 4 = £300</i>		
Cost of sales	150	
Inventory		150
<i>Recording cost of the inventory sold: amount given</i>		

2.6.1.2 Settlement deferred (credit transactions)

Exchange differences arise when the settlement date occurs after transaction date. The initial transaction (e.g. asset acquired, expense incurred or sale earned) is recorded at the spot rate on the transaction date and remains unaffected by movements in the exchange rates. Any movement in the exchange rate after transaction date relating to the amount outstanding (payable or receivable) is recorded as a foreign exchange gain (income) or foreign exchange loss (expense).

2.6.1.2.1 Settlement of a credit transaction before year-end

When the settlement of a credit transaction occurs before year-end:

- record the initial transaction at spot rate on transaction date;
- convert the outstanding balance (owing or receivable) to the spot rate on settlement date;
- record the payment (made or received).

Example 9: import - credit transaction settled before year-end

A company in Botswana purchased inventory for £100 from a company in Britain on 5 March 20X1, the transaction date. The purchase price was paid on 5 April 20X1. The year-end of the company in Botswana is 30 April 20X1.

Date	Spot rates (Pula: Pound)
5 March 20X1	P3: £1
5 April 20X1	P4: £1

Required:

Show the journal entry/ies in the books of the company in Botswana.

Solution to example 9: import - credit transaction settled before year-end

5 March 20X1	Debit	Credit
Inventory	300	
Foreign creditor		300
<i>Purchase of inventory on credit: £100 x 3 = P300</i>		

5 April 20X1

Foreign exchange loss

Foreign creditor

Translation of creditor to spot rate on settlement date: (£100 x 4) - 300 = P100

Foreign creditor

Bank

Payment of creditor at spot rate on settlement date: £100 x 4 = P400

Debit	Credit
100	
	100
400	
	400

Notice that since the £ became more expensive (£1 cost P3 on transaction date but cost P4 on date of settlement), the Botswana company made a loss of P100 by not paying for the inventory on date of acquisition (transaction date). The cost of the inventory, however, remains unaffected since this is a non-monetary item!

Example 10: export - credit transaction settled before year-end

A company in the United Kingdom sold inventory for P1 200 to a company in Botswana on 17 May 20X5, the transaction date. The inventory was paid for on 13 June 20X5.

The inventory cost the UK company £150.

The year-end of the company in the United Kingdom is 30 September.

Relevant exchange rates are:

Date	Spot rates (Pound: Pula)
17 May 20X5	£1: P4
13 June 20X5	£1: P3

Required:

Show the journal entries in the books of the company in the United Kingdom.

Solution to example 10: export - credit transaction settled before year-end**17 May 20X5**

Foreign debtor

Sales

Sale of inventory: P1 200 / 4 = £300

Debit	Credit
300	
	300

31 March 20X5

Cost of sales

Inventory

Recording cost of sale of inventory: Cost = £150 (given)

150	
	150

13 June 20X5

Foreign debtor

Foreign exchange gain

Translating debtor at settlement date: P1 200 / 3 = 300

Bank

Foreign debtor

Amount received from foreign debtor: P1 200 / 3

100	
	100
400	
	400

2.6.1.2.2 Settlement of a credit transaction after year-end

When the settlement of a credit transaction occurs after year-end:

- record the initial transaction at spot rate on transaction date;
- translate the outstanding balances (owing or receivable) to the spot rate on translation date (year-end);
- convert the outstanding balances (owing or receivable) to the spot rate on settlement date;
- record the payment (made or received).

Example 11: import - credit transaction settled after year-end

A company in Botswana purchased inventory for £100 from a company in Britain on 5 March 20X1, the transaction date. The purchase price was paid on 5 April 20X1. The year end of the company in Botswana is 31 March.

Date	Spot rates (Pound: Pula)
5 March 20X1	£1: P3
31 March 20X1	£1: P3.70
5 April 20X1	£1: P4

Required:

Show the journal entry/ies in the books of the company in Botswana.

Solution to example 11: import - credit transaction settled after year-end

		Debit	Credit
5 March 20X1			
Inventory	$£100 \times 3 = P300$	300	
Foreign creditor			300
<i>Purchase of inventory on credit</i>			
Foreign exchange loss	$(£100 \times 3.7) - 300 = P70$	70	
Foreign creditor			70
<i>Translation of creditor to spot rate at year-end</i>			
5 April 20X1			
Foreign exchange loss	$(£100 \times 4) - (300 + 70) = P30$	30	
Foreign creditor			30
<i>Conversion of creditor to spot rate on settlement date</i>			
Foreign creditor	$£100 \times 4 = P400$	400	
Bank			400
<i>Payment of creditor at spot rate on settlement date</i>			

Notice that since the £ became more expensive (£1 cost P3 on transaction date but cost P4 on date of settlement), the Botswana company made a loss of P100 by not paying for the inventory on the date of acquisition (transaction date). This loss is recognised partially in the year ended 31 March 20X1 (P70) and partially in the year ended 31 March 20X2 (P30).

The cost of inventory remained unaffected because this is a non-monetary item!

Example 12: export - credit transaction settled after year-end

A company in the United Kingdom sold inventory for P1 200 to a company in Botswana on 17 May 20X5, the transaction date. The sale proceeds were received on 13 June 20X5.

The cost of the inventory to the UK company was £150.

The UK company has a 31 May financial year-end.

Relevant exchange rates are:

Date	Spot rates (Pound: Pula)
17 May 20X5	£1: P4
31 May 20X5	£1: P3.4
13 June 20X5	£1: P3

Required:

Show the journal entries in the books of the company in the United Kingdom.

Solution to example 12: export - credit transaction settled after year-end

		Debit	Credit
17 May 20X5			
Foreign debtor	$P1200 / 4 = £300$	300	
Sales			300
<i>Sale of inventory</i>			
Cost of sales	$Cost = £150 \text{ (given)}$	150	
Inventory			150
<i>Recording the cost of the inventory sold</i>			
31 May 20X5			
Foreign debtor	$P1200 / £3.4 = £353 - 300$	53	
Foreign exchange gain			53
<i>Translating the foreign debtor at year-end</i>			
13 June 20X5			
Foreign debtor	$P1200 / £3 = 400 - (300 + 53) = £47$	47	
Foreign exchange gain			47
<i>Translating foreign debtor at settlement date</i>			
Bank	$P1200 / £3$	400	
Foreign debtor			400
<i>Proceeds received from foreign debtor</i>			

Notice how the sales figure of 300 remains unaffected by changes in the exchange rate. This is because sales is a non-monetary item (you may want to read the definition of monetary items).

Example 13: import – credit transaction – another example

A company in the United Kingdom ordered inventory to the value of \$900 from an American company on 16 January 20X1. The transaction date is 5 February 20X1. The year-end is 31 March 20X1. The relevant exchange rates are as follows:

Date	Spot rates (Pound: dollar)
16 January 20X1	£1: \$2.2
5 February 20X1	£1: \$2.5
31 March 20X1	£1: \$2.25
5 April 20X1	£1: \$3.0

Required:

Show all journal entries and show the balances in the trial balance of the UK company as at 31 March 20X1 assuming that the UK company paid the American company on:

- 5 February 20X1 (on transaction date; i.e. before year-end).
- 31 March 20X1 (at year-end).
- 5 April 20X1 (after year-end).

Solution to example 13A: import – credit transaction – payment before year-end**Journals:**

5 February 20X1		Debit	Credit
Inventory	$\$900 / £2.5$	360	
Bank			360
<i>Purchase of inventory: exchange rate £1: \$2.5</i>			

Trial balance as at 31 March 20X1 (extracts)

	Debit	Credit
Inventory	360	
Creditor		0

Solution to example 13B: import – credit transaction – payment at year-end**Journals:****5 February 20X1**

		Debit	Credit
Inventory	\$900 / £2.5	360	
Foreign creditor			360

*Purchase of inventory: exchange rate £1: \$2.5***31 March 20X1**

Foreign exchange loss (expense)	\$900 / 2.25 – 360	40	
Foreign creditor			40

Translation of foreign creditor before payment

Foreign creditor	\$900 / 2.25 = 400	400	
Bank			400

*Payment of foreign creditor:***Trial Balance****As at 31 March 20X1 (extracts)**

	Debit	Credit
Inventory	360	
Foreign creditor		0
Foreign exchange loss (expense)	40	

Solution to example 13C: import – credit transaction – payment after year-end**Journals:****5 February 20X1**

		Debit	Credit
Inventory	\$900 / £2.5	360	
Foreign creditor			360

*Purchase of inventory: exchange rate £1: \$2.5***31 March 20X1**

Foreign exchange loss (expense)	\$900 / 2.25 – 360	40	
Foreign creditor			40

*Translation of foreign creditor at year-end***5 April 20X1**

Foreign creditor	\$900/3 – (360 + 40)	100	
Foreign exchange gain (income)			100

Translation of the foreign creditor before payment

Foreign creditor	\$900/3	300	
Bank			300

*Payment of foreign creditor***Trial Balance****As at 31 March 20X1 (extracts)**

	Debit	Credit
Inventory	360	
Foreign creditor		400
Foreign exchange loss (expense)	40	

Notice that there is no exchange gain or loss when the amount is paid on transaction date (part A). Contrast this with:

- part B where the foreign exchange loss recognised to payment date is 40; and
- part C where a foreign exchange loss of 40 is recognised in 20X1 and a foreign exchange gain of 100 is recognised in 20X2 (i.e. a net foreign exchange gain of $100 - 40 = 60$ on this transaction).

In all 3 scenarios, the value of the inventory remains at £360 because this is a non-monetary item.

2.6.2 Foreign loans

The third type of possible transactions is the granting of loans to foreign entities or the receipt of a loan from a foreign lender.

Interest receivable (on loans made) or interest payable (on loans received) must be calculated based on the outstanding *foreign* currency amount and then translated into the *local* currency at the average rate over the period that the interest was earned.

The easiest way to do this correctly is:

- calculate the loan amortisation table in the foreign currency;
- journalise the payment at the spot rate;
- journalise the interest at the average rate; and
- calculate the difference between the carrying amount of the loan and the value of the balance owing at spot rate at year end.

This is best explained by way of an example:

Example 14: foreign loans

Brix 'n Stones Limited, a South African brick laying conglomerate, obtained a long term loan from Gill Bates, living in the Cayman Islands. The terms of the loan were as follows:

- Gill transfers EUR100 000 into Brix 'n Stones Limited's bank account on 1 January 20X4.
- The interest rate on the loan was 7,931% p.a.
- Brix 'n Stones is required to make repayments on the loan of EUR25 000 annually, with the first payment falling due on 31 December 20X4.

Brix 'n Stones Limited has the ZAR (South African Rand) as its functional currency. The currency used in the Cayman Islands is the EUR (Euro). Brix 'n Stones Limited has a 31 December financial year-end.

Relevant exchange rates are:

Date	Spot rates	Average rates
1 January 20X4	EUR1: ZAR8	
31 December 20X4	EUR1: ZAR8.5	
31 December 20X5	EUR1: ZAR7.5	
20X4		EUR1: ZAR8.20
20X5		EUR1: ZAR7.70

Required:

Show the journal entries required to record the above loan transaction in Brix 'n Stones Limited's accounting records for the years ended 31 December 20X4 and 31 December 20X5.

Solution to example 14: foreign loans

Journals:

		Debit	Credit
1 January 20X4			
Bank	$100\,000 \times 8$	800 000	
Long-term loan			800 000
<i>Proceeds received on the foreign loan raised from Cayman Islands</i>			
31 December 20X4			
Finance cost	$7\,931 (W1) \times 8.2 = 213\,200$	65 034	
Long-term loan			65 034
<i>Interest expense on the foreign loan (converted at average rates)</i>			

31 December 20X4 continued ...		Debit	Credit
Long-term loan	25 000 x 8.5	212 500	
Bank			212 500
<i>Payment of instalment on loan: (at spot rate on pmt date)</i>			
Foreign exchange loss	82 931 (W1) x 8.5 – balance so far:	52 380	
Long-term loan	(800 000 + 65 034 – 212 500)		52 380
<i>Translating foreign loan at year end (at spot rate at year-end)</i>			
31 December 20X5			
Finance cost	6 577 (W1) x 7.70	50 643	
Long-term loan			50 643
<i>Interest expense raised on loan (converted at average rates)</i>			
Long-term loan	25 000 x 7.5	187 500	
Bank			187 500
<i>Payment of instalment on loan: (at spot rate on pmt date)</i>			
Long-term loan	64 508 (W1) x 7.5 – balance so far:	84 247	
Foreign exchange gain	(82 931 x 8.5 + 50 643 – 187 500)		84 247
<i>Translating foreign loan at year end (at spot rate at year-end)</i>			

Working 1: Effective interest rate table in foreign currency: Euros

Date	Interest 7,931%	Payments	Balance
			100 000
20X4	7 931	(25 000)	82 931
20X5	6 577	(25 000)	64 508
20X6	5 116	(25 000)	44 624
20X7	3 539	(25 000)	23 163
20X8	1 837	(25 000)	0
	25 000	(125 000)	

3. Presentation and functional currencies**3.1 General**

IAS 21 allows an entity to present its financial statements in whichever currency it chooses to, this is then known as the presentation currency. However, IAS 21 requires that an entity's transactions and balances be measured in that entity's functional currency. Thus entities must establish their functional currencies. It is possible for an entity's functional and presentation currency to be the same currency, but where it is not the same, a translation reserve will result.

3.2 Determining the functional currency

A functional currency is defined as the currency of the primary economic environment in which the entity operates. The primary economic environment in which an entity operates is usually taken to be the environment in which it primarily generates and expends cash.

In establishing its functional currency, an entity should consider (extracts from IAS 21):

- the currency that mainly influences the sales prices for goods and services (this will often be the currency in which prices for its goods and services are denominated and settled);
- the currency of the country whose competitive forces and regulations mainly determine the sales prices of its goods and services;

- the currency that mainly influences labour, material and other costs of providing goods or services (this will often be the currency in which such costs are denominated and settled);
- the currency in which funds from financing activities (i.e. issuing debt and equity instruments) are generated; and
- the currency in which receipts from operating activities are usually retained.

As these factors usually do not change often, once a functional currency is determined it is not changed unless an entity's circumstances have changed so significantly that the above factors would result in a different functional currency being more appropriate.

3.3 Accounting for a change in functional currency

An entity may not change its functional currency unless there is a change in the underlying transactions and conditions that result in changes to the factors discussed in 3.2 above.

Should there be a change in functional currency, it must be accounted for prospectively from the date of change of functional currency.

Accounting for such a change is relatively simple. All items are translated into the functional currency using the spot exchange rate available at the date of change. For non-monetary items, the new translated amount shall now be considered to be their historical cost.

3.4 Using a presentation currency other than the functional currency

As stated before, an entity may choose to present its financial statements in a currency of its choice. That currency is then known as the presentation currency. Should an entity choose to disclose financial statements in a currency other than its functional currency, it will have to translate all of its items from the functional to the presentation currency at year end.

The following procedure is used to translate an entity's trial balance into a presentation currency different to its functional currency:

- all assets and liabilities (including comparative amounts) shall be translated into the presentation currency using the closing rate available at the reporting date;
- all incomes and expenses shall be translated at the spot rate available at the dates of the various transactions (for practical purposes, it is often acceptable to use the average rate for the presentation period, provided the currency did not fluctuate too much); and
- all resulting exchange differences are recognised in other comprehensive income (the account in which these exchange differences are accumulated is often referred to as the foreign currency translation reserve).

3.4.1 Explanation of the foreign currency translation reserve

Exchange differences arise upon translation because:

- assets and liabilities are translated at one rate, while movements in those assets and liabilities (represented by incomes and expenses) are translated at a different rate; and
- opening balances of net assets are translated at a rate different to the previous closing rate.

Example 15: foreign currency translation reserve

Sticky Fingers Limited, a sweet manufacturer in Never-never Land, has a functional currency of Chocca's (C). It has decided to present its financial statements in the currency of Faraway Land, (an island nearby), as most of its shareholders reside on this island. Faraway Land's currency is the Flipper (F). The following exchange rates are available:

Dates	Exchange Rates
20X5	1 chocca: 6.5 flippers
31 December 20X5	1 chocca: 7 flippers
	Average rate Spot rate

Trial balance of Sticky Fingers Ltd at 31 December 20X5		Debit	Credit
Accounts payable			294 600
Accounts receivable		155 000	
Bank		300 000	
Land & buildings		944 300	
Property, plant & equipment		600 000	
Investments – at fair value		120 000	
Ordinary share capital			403 300
General reserve			680 900
Long-term loan			810 500
Sales			1 509 500
Cost of sales		733 200	
Operating expenses		407 000	
Taxation		439 300	
		3 698 800	3 698 800

Required:

Translate the above trial balance into the presentation currency using the method required by IAS 21.

Solution to example 15: foreign currency translation reserve

Account	Working	Debit	Credit
Accounts payable	$294\,600 \times 7$		2 062 200
Accounts receivable	$155\,000 \times 7$	1 085 000	
Bank	$300\,000 \times 7$	2 100 000	
Land & buildings	$944\,300 \times 7$	6 610 100	
Property, plant & equipment	$600\,000 \times 7$	4 200 000	
Investments – at fair value	$120\,000 \times 7$	840 000	
Ordinary share capital	$403\,300 \times 7$		2 823 100
General reserve	$680\,900 \times 7$		4 766 300
Long-term loan	$810\,500 \times 7$		5 673 500
Sales	$1\,509\,500 \times 6.5$		9 811 750
Cost of sales	$733\,200 \times 6.5$	4 765 800	
Operating expenses	$407\,000 \times 6.5$	2 645 500	
Taxation	$439\,300 \times 6.5$	2 855 450	
Foreign currency translation reserve	<i>Balancing figure</i>	35 000	
		25 136 850	25 136 850

If the foreign currency translation reserve relates to a foreign operation and if this foreign operation is subsequently disposed of, the reserve would be reclassified from other comprehensive income (where the exchange differences are accumulated as a separate component of equity) to profit or loss, and disclosed as a reclassification adjustment.

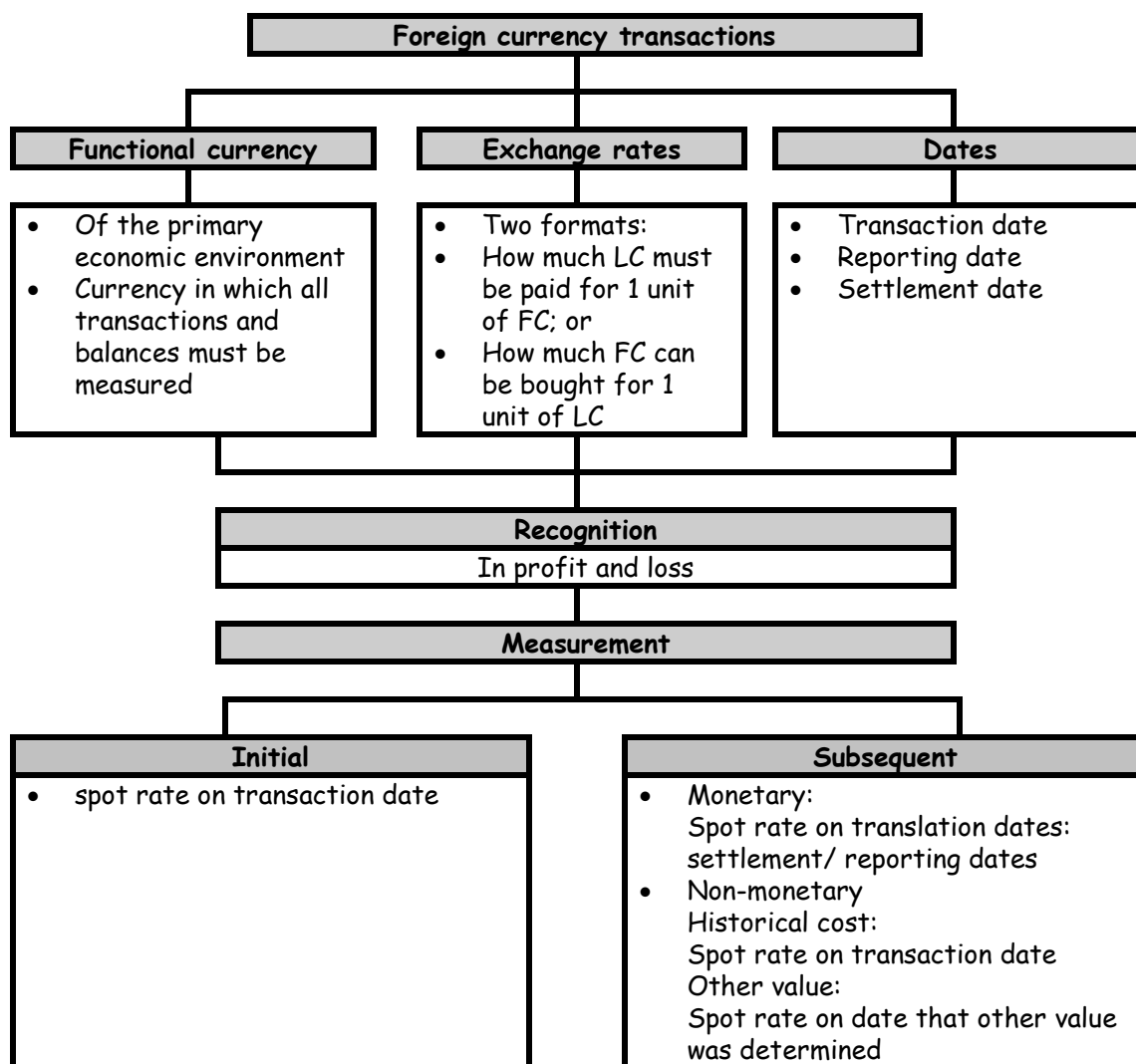
Since this textbook does not cover consolidations, foreign operations is not covered further in this chapter.

4. Presentation and disclosure

The following disclosures are required by IAS 21:

- the amount of the exchange differences recognised in profit and loss except for those arising on financial instruments measured at fair value through profit or loss;
- the net exchange difference recognised in other comprehensive income and accumulated in a separate component of equity, reconciling the amount of such exchange differences at the beginning and end of the period.
- if there is a change in the functional currency, state this fact and the reason for the change in functional currency.
- where the presentation currency differs from the functional currency,
 - state the functional currency and the reason for using a different presentation currency;
 - it shall describe the financial statements as complying with the IFRSs only if they comply with all the requirements of each applicable IFRS including the method required for translating functional currency items to presentation currency amounts.
- when an entity displays its financial statements or other financial information in a currency that is different from either its functional currency or its presentation currency and the IFRS requirements (referred to in the above bullet) are not all met, it shall:
 - clearly identify the information as supplementary information to distinguish it from the information that complies with IFRSs;
 - disclose the currency in which the supplementary information is displayed;
 - disclose the entity's functional currency and the method of translation used to determine the supplementary information.

5. Summary



Chapter 20

Forward Exchange Contracts

Reference: IAS 32, IAS 39 and IFRS 7

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1. Definitions (IAS 32 and IAS 39)

The following definitions are provided in IAS 32 and IAS 39:

- **Fair value:** is the amount for which an asset could be exchanged, or a liability settled, between knowledgeable, willing parties in an arm's length transaction.
- **Firm commitment:** is a binding agreement for the exchange of a specified quantity of resources at a specified price on a specified future date or dates.
- **Forecast transaction:** is an uncommitted but anticipated future transaction.
- **Hedging instrument:** is a designated derivative or (for a hedge of the risk of changes in foreign currency only) a designated non-derivative financial asset or non-derivative financial liability whose fair value or cash flows are expected to offset changes in the fair value or cash flows of a designated hedged item.
- **Financial instrument:** is any contract that gives rise to a financial asset of one entity and a financial liability or equity instrument of another entity. *Please see the chapter on financial instruments for more information.*
- **Hedged item:** is an asset, liability, firm commitment, highly probable forecast transaction or net investment in a foreign operation that (a) exposes the entity to risk of changes in fair value or future cash flows and (b) is designated as being hedged.
- **Hedge effectiveness:** is the degree to which changes in the fair value or cash flows of the hedged item that are attributable to a hedged risk, are offset by changes in the fair value or cash flows of the hedging instrument.

2. Hedging: an introduction

2.1 Overview

You may be forgiven for thinking that a hedge is simply a row of green bushes planted around the perimeter of a property. You may then also be forgiven for thinking that the hedged item is the house in the middle of the property and that the hedging instrument is the pair of garden shears that you use to trim the hedge.

As you are hopefully beginning to realise, the world of accounting has many odd and exciting things (perhaps exciting is not quite the right word?), including hedges, hedged items and hedging instruments. But these obviously do not relate to fuzzy green bushes!

In this chapter, we will be focussing on the hedging of foreign currency transactions using the most common method, being the use of a forward exchange contract (FEC).

2.2 What is a hedge?

So what is a hedge if it is not a green bush?

There are various definitions of 'hedging' including the following:

- 'to minimise or protect against loss by counterbalancing one transaction, such as a bet, against another' (American Heritage® Dictionary of the English Language, Fourth Edition); and
- 'any technique designed to reduce or eliminate financial risk; for example, taking two positions that will offset each other if prices change' (WordNet ® 2.0, © 2003 Princeton University).

When hedging a foreign currency transaction, it means:

- taking a position in a financial instrument;
- that would counter any change in value of the hedged item;
- caused by an exchange rate fluctuation.

2.3 What is a hedged item? (IAS 39.78 - .84)

So what is a hedged item if it is not the house in the middle of the hedged property?

The hedged item is an item that is exposed in some way or other (related cash flows or fair value) to a risk or many risks (e.g. the risk that the cash outflow will increase if the exchange rate deteriorates - this risk being referred to as a foreign currency risk).

A **hedged item** can be any:

- *recognised* asset or liability, or
- *unrecognised* firm commitment, or
- *unrecognised* highly probable forecast transaction; or a
- *combination* thereof, so long as each hedged item within the group of items have similar risk characteristics. For the purposes of foreign exchange hedging, this means that all the items within the group must be exposed to fluctuations in the same currency.

The hedged item could be a *single* asset or liability, firm commitment or forecast transaction or a *group* thereof. It could even be part of a *portfolio* of financial assets or liabilities, where the hedge involves interest rate risk only.

If the hedged item is a *non-financial* asset or liability (e.g. inventory), then it can only be designated as a hedged item for (a) all risks or (b) foreign currency risks. This is because it is difficult to prove (by isolating and measuring) that a change in its cash flows or fair value was caused by a specific risk (e.g. due to a price risk or interest rate risk etc). The only exception to this is that it may be possible to attribute a change in cash flow or fair value to foreign currency risk.

If the hedged item is a *financial* asset or liability (e.g. loan receivable), then it can be designated as a hedged item for specific risks, by isolating and measuring the effect on a portion of the cash flows or on a percentage of its fair value.

2.3.1 Forecast transactions (*uncommitted future transaction*)

A forecast transaction is defined as an uncommitted but anticipated future. In other words it is a transaction that:

- has not yet happened; and
- has not yet been committed to; but
- is expected to happen.

One can hedge a transaction:

- that has not yet occurred and has not even been committed to (e.g. there is no firm order),
- only if it is *highly probable* to occur (just to 'expect' it would not be good enough!).

IAS 39 states that *highly probable* means something that has:

- a much greater likelihood of happening than the term *more likely than not* (IAS 39).

The probability of the expected future transaction occurring must be assessed on observable facts and not just on management's intentions, because management's intentions can easily change. IAS 39IG lists some of the circumstances that should be considered when assessing the probability of a transaction occurring:

- the frequency of similar past transactions; and
- the financial and operating ability of the entity to carry out the transaction.

2.3.2 Firm commitments (*committed future transaction*)

One can hedge a transaction that:

- has not yet happened; but
- has been committed to.

Examples of a firm commitment to a future transaction include:

- the entity accepts an order to supply goods to an overseas customer; or
- the entity orders goods from a foreign supplier and the order is accepted by that supplier.

A firm commitment is defined as a binding agreement for the exchange of a specified quantity of resources at a specified price on a specified future date or dates.

Firm commitments are obviously not recognised in the financial statements since the definitions and recognition criteria of the elements would not be met. They are therefore often referred to as unrecognised firm commitments.

Once a firm commitment is made this commitment remains in force until the date of the transaction. The unrecognised firm commitment exists between order date and the date that the risks and rewards transfer (the date the transaction is entered into).

A summary of the periods during which a hedge may be in force are as follows:

Transaction highly probable	Firm commitment made	Transaction happens	Transaction settled	
↓	↓	↓	↓	
N/A	Hedge of a forecast transaction	Hedge of a firm commitment	Hedge of a transaction	N/A
Pre-transaction period			Post-transaction period	

2.4 What is a hedging instrument? (IAS 39.72 - .77)

So what is a hedging instrument if it is not the pair of garden shears that keeps the hedge around the house neat, tidy and effective?

A hedging instrument is:

- is a designated derivative; or
- is a designated non-derivative financial asset or non-derivative financial liability (but only when the hedge relates to the risk of changes in foreign currency exchange rates)
- whose fair value or cash flows are expected to offset changes in the fair value or cash flows of a designated hedged item.

There are many possible financial instruments that can be utilised as hedging instruments, for instance:

- a derivative could include options, swaps and futures contracts;
- a non-derivative could include a forward exchange contract.

An asset or liability denominated in a foreign currency (hedged item) can be hedged by any financial instrument that is expected to gain in value when the hedged item loses value or vice versa. The most common method of hedging foreign exchange denominated transactions is through the use of forward exchange contracts (a non-derivative).

This chapter's focus is hedging foreign currency transactions and we will therefore focus exclusively on using forward exchange contracts (FEC's) as the hedging instrument.

2.5 How hedging is achieved using a forward exchange contract

A forward exchange contract (FEC) is:

- an agreement between two parties;
- to exchange a given amount of currency;
- for another currency;
- at a predetermined exchange rate; and
- at a predetermined future date.

An entity can therefore 'lock-in' at an exchange rate and thereby avoid or minimise losses (of course, possible gains may also be lost or minimised!) on the hedged item that may otherwise have resulted from fluctuations in the exchange rate.

The forward rate agreed upon in the FEC contract will be different to the spot exchange rate available on that same date. This is because the forward rate of a FEC approximates the expected spot rate on the date that the FEC will expire. Thus, the forward rate consists of:

- the current spot rate; and
- a premium (if the exchange rate is expected to appreciate); or
- a discount (if the exchange rate is expected to depreciate).

Example 1: FEC to hedge an export transaction

Happy Limited, a British company, sold a tractor for \$100 000 to Lane Co, a USA company:

- The tractor was loaded F.O.B. onto a ship on 1 March 20X5.
- Lane Co paid \$100 000 to Happy Limited on 31 May 20X5 (due date for repayment).
- In order to protect itself against adverse fluctuations in the \$: £ exchange rate, Happy Limited entered into a FEC on 1 March 20X5 (expiring on 31 May 20X5).

Date	Spot rates	Forward Rate
1 March 20X5	\$1: £0.845	\$1: £0.840
31 May 20X5	\$1: £0.830	Not required

Required:

- Calculate the £ values of Happy Limited's debtor on 1 March 20X5 and 31 May 20X5.
- Calculate the £ amount actually received by Happy Limited.
- Prepare the journal entries required to record this transaction in Happy Limited's books for the year ended 30 June 20X5.

Solution to example 1: FEC to hedge an export transaction

- 1 March 20X5: Debtor £84 500 ($\$100\,000 \times 0.845$)
31 May 20X5: Debtor £83 000 ($\$100\,000 \times 0.830$)
- 31 May 20X5: Received £84 000 ($\$100\,000 \times 0.840$).

At spot exchange rate on the settlement date, Happy Limited would have received £83 000, but because it had entered into an FEC at a forward rate of \$1:£0.840, the \$100 000 is exchanged into £84 000 ($\$100\,000 \times 0.840$). Thus, the FEC limited the loss that Happy Limited would have made of £1 500 (£84 500 - £83 000) to a loss of only £500 (£84 500 - £84 000), on its debtor due to exchange rate fluctuations.

Note that if the exchange rate had moved in the opposite direction, i.e. if the £ had weakened against the \$, the FEC would have prevented Happy Limited from making a gain on its debtor.

C. Journals	Debit	Credit
1 March 20X5		
Debtor	84 500	
Sales		84 500
<i>Recording sale on transaction date: $(100\,000 \times 0.845)$</i>		
31 May 20X5		
Foreign exchange loss (profit or loss)	1 500	
Debtor		1 500
<i>Translating debtor at settlement date: $(100\,000 \times 0.83) - 84\,500$</i>		

C. 31 May 20X5 continued ...		Debit	Credit
FEC asset		1 000	
Foreign exchange gain (profit or loss)			1 000
<i>Recognising FEC asset at settlement date: $(0.84-0.83) \times 100\,000$</i>			
Bank	$(0.84 \times 100\,000)$	84 000	
FEC asset	<i>(balance in the account)</i>		1 000
Debtor	<i>(balance in the account)</i>		83 000
<i>Expiry of FEC and payment by debtor.</i>			

2.6 How to discount a forward exchange contract

The value of a FEC asset or liability at any one time will be the difference between:

- the forward rate agreed to in the FEC contract; and
- the forward rate of an FEC that could be entered into at valuation date, expiring on the same date as the original FEC.

As this value will only be payable or receivable in the future it should be discounted to its present value, assuming that the effects of present valuing are material.

Apart from this next example that shows the effect of present valuing, all other examples will ignore present valuing so that you are better able to learn and understand the principles.

Example 2: present value of a FEC

A German entity enters into an FEC on 28 February 20X5 to hedge an import transaction worth ¥1 000 000, due to be settled on 30 November 20X5. The following FECs are available at a German bank (in € on the Japanese Yen (¥)):

Date	Forward Rate to 30 November 20X5
28 February 20X5	€1: ¥140.239
30 June 20X5	€1: ¥135.058
31 August 20X5	€1: ¥146.631

An appropriate discount rate is 10%.

Required:

- Calculate the value of the FEC in € on:
 - 30 June 20X5;
 - 31 August 20X5.
- Show all journals needed to recognise the FEC in the German entity's books.

Solution to example 2A: present value of a FEC

30 June 20X5	Rate	Amount (¥)	Amount payable (€)	Present values (5 months to expiry)
Rate acquired	140.239	1 000 000	7 131 $1\,000\,000 / 140.239$	6 853 $7\,131 / [1.1^{(5/12)}]$
Rate now available	135.058	1 000 000	7 404 $1\,000\,000 / 135.058$	7 116 $7\,404 / [1.1^{(5/12)}]$
			<u>273</u> Asset/ gain	<u>263</u> Asset/ gain

The present value can be calculated using a financial calculator:

(1) FV = 7 131	N = 5/12	I = 10	Comp PV: 6 852
(2) FV = 7 404	N = 5/12	I = 10	Comp PV: 7 116

Explanation: at 30 June 20X5

- The German entity took out an FEC on 28 February 20X5 and has thus locked in at an exchange rate of 140.239 and will have to pay 7 131.
- Had it waited and taken out the FEC on 30 June 20X5, it would have obtained a rate of 135.058 and had to pay 7 404.

- By taking out the FEC on 28 February rather than on 30 June 20X5, it saved 273.
- There are 5 months to the settlement of the contract and therefore the present value of the gain is based on the present value factor for the next 5 months: 263.

31 August 20X5	Rate	Amount (¥)	Amount payable (€)	Present values (3 months to expiry)
Rate acquired	140.239	1 000 000	7 130 1 000 000/ 140.239	6 963 7 130 / [(1.1 ^ (3/12))]
Rate now available	146.631	1 000 000	6 820 1 000 000/ 146.631	6 659 6 820 / [1.1 ^ (3/12)]
			(310) Liability/ loss	(304) Liability/ loss

The present value can be calculated using a financial calculator:

(1) FV = 7 130	N = 3/12	I = 10	Comp PV: 6 962
(2) FV = 6 820	N = 3/12	I = 10	Comp PV: 6 659

Explanation: at 31 August 20X5

- The German entity took out an FEC on 28 February 20X5 and has thus locked in at an exchange rate of 140.239 and will have to pay 7 131.
- Had it waited and taken out the FEC on 31 August 20X5, it would have obtained a rate of 146.631 and had to pay 6 820.
- By taking out the FEC on 28 February rather than on 31 August 20X5, it has to pay an extra 310.
- There are now only 3 months to the settlement of the contract and therefore the present value is based on the present value factor for the next 3 months.

Solution to example 2B: journals

	Not Present Valued		Present Valued	
	Debit	Credit	Debit	Credit
30 June 20X5				
FEC asset	273		263	
Foreign exchange gain (profit or loss)		273		263
<i>Recognising FEC asset.</i>				
31 August 20X5				
Foreign exchange gain (profit or loss)	274		263	
FEC asset		274		263
<i>Reversing previous FEC asset and gain</i>				
Foreign exchange loss (profit or loss)	311		304	
FEC liability		311		304
<i>Re-measuring the FEC on 31 August 20X5</i>				

3. Hedge Accounting

3.1 Hedging requirements (IAS 39.88)

A hedging relationship between a hedged item and a hedging instrument qualifies for hedge accounting only if certain criteria set out in IAS 39 are met. These criteria are:

- at the inception of the hedge there is a formal designation and documentation of the hedging relationship and the entity's risk management objectives and strategy for undertaking the hedge. That documentation shall include identification of the hedging instrument, the hedged item or transaction, the nature of the risk being hedged (being foreign exchange risk) and how the entity will assess the hedging instrument's effectiveness in offsetting the exposure in the hedged item's fair value or cash flows attributable to the hedged risk;

- the hedge is expected to be highly effective in achieving offsetting changes in fair value or cash flows attributable to the hedged risk, consistently with the originally documented risk management strategy for that particular hedging relationship;
- for cash flow hedges, a forecast transaction that is the subject of the hedge must be highly probable and must present an exposure to variations in cash flows that could ultimately affect profit or loss.
- the effectiveness of the hedge can be reliably measured, ie the fair value or cash flows of the hedged item that are attributable to the hedged risk and the fair value of the hedging instrument can be reliably measured; and
- the hedge is assessed on an ongoing basis and determined actually to have been highly effective throughout the financial reporting periods for which the hedge was designated.

3.2 Hedge effectiveness

The definition of hedge effectiveness requires some elaboration. Remember that when hedging foreign currency transactions, an entity is trying to protect itself from losses due to exchange rate fluctuations (currency risk). To do so, it uses a hedging instrument, which, for the purposes of this chapter, is always a FEC. By hedging against currency risks, the entity hopes that any gain or loss on the foreign currency transaction will be exactly offset by an equivalent and opposite gain or loss on the hedging instrument: if, for example, due to a change in exchange rates a foreign creditor requires an extra LC100 to settle, the entity hopes the FEC will gain in value by LC100.

If the hedging instrument perfectly offsets the change in the hedged item, as depicted above, the hedging instrument is said to be 100% effective. It is, however, quite possible that the hedging instrument is not 100% effective: a weakening exchange rate results in a foreign creditor requiring an extra LC100 to settle, but the FEC only gains in value by LC80. As you can see, the hedge is no longer 100% effective, but 80% effective (80/ 100). Generally an effective hedge is a hedge that is 80% - 125% effective. Anything outside of that range will be an ineffective hedge.

3.3 Ineffective hedges

The ineffective portion of a cash flow hedge is simply recognised in profit or loss (i.e. not in other comprehensive income). Where the hedge is a fair value hedge and is considered to be ineffective, the hedge accounting is simply discontinued prospectively. Ineffective hedges are not discussed in this chapter.

3.4 Cash flow hedges versus fair value hedges

The main difference in accounting for cash flow hedges and fair value hedges is that:

- For fair value hedges: gains and losses are immediately recognised in profit or loss;
- For cash flow hedges: gains and losses (where the hedge is considered to be an effective hedge) is initially recognised in other comprehensive income and then either:
 - reclassified to profit or loss (a reclassification adjustment); or
 - set-off against the carrying amount of the hedged item (a basis adjustment).

3.5 Dates relevant to hedging

3.5.1 Post-transaction period

Just as in accounting for foreign currency transactions, the hedging relationship must be accounted for at transaction, translation and settlement dates. These dates obviously happen after the transaction has been entered into, being a period that we will refer to as the *post-transaction period*. As mentioned earlier, however, it is also possible to enter into a hedge before transaction date. We will refer to the period before transaction date the *pre-transaction period*.

3.5.2 Pre-transaction period

The pre-transaction period can be categorised into two:

- an uncommitted; and/ or
- a committed period.

A FEC may be taken out and designated as a hedge not only before a transaction takes place, but even before we have committed to the transaction. If the future expected transaction is not certain but it is highly probable that it will take place, it is still possible to use hedge accounting. We will call the period between the date on which the transaction becomes highly probable and the date on which the firm commitment is made (or the date of the transaction, if no firm commitment is made), the *uncommitted period*.

If an entity firmly commits to a future transaction, the period after making this firm commitment but before the actual transaction date may be referred to as the *committed period*.

The 'firm commitment' date is the date upon which:

- the entity accepts an order to supply goods to an overseas customer; or
- the entity orders goods from a foreign supplier and the order is accepted by that supplier.

It is important to determine whether a firm commitment is made before transaction date and whether the FEC hedge came into existence:

- before the firm commitment (uncommitted period);
- between the firm commitment date and transaction date (committed period); and/ or
- after transaction date

because a hedge during each of these different periods may be accounted for differently.

3.5.3 Summary of periods and descriptions

A summary of the different dates is as follows:

Transaction highly probable	Firm commitment made	Transaction happens	Transaction settled	
↓	↓	↓	↓	
N/A	Hedge of a forecast transaction	Hedge of a firm commitment	Hedge of a transaction	N/A
Pre-transaction period			Post-transaction period	

3.6 Types of hedges (IAS 39.85 - .102)

3.6.1 Overview

There are three types of hedges:

- fair value hedges;
- cash flow hedges; and
- hedge of a net investment in a foreign operation.

A *hedge of a net investment in a foreign operation* is not discussed in this chapter.

3.6.2 Fair value hedges (IAS 39.89 - .94)

A *fair value hedge* is defined as:

- a hedge of the exposure to changes in fair value:
- of a recognised asset or liability; or
- of an unrecognised firm commitment; or
- of an identified portion thereof
- that is attributable to a particular risk and
- that could affect profit.

All changes to the fair value are recognised in profit or loss (part of the statement of comprehensive income).

In terms of foreign currency risks, a ***fair value hedge***, hedges:

- a recognised asset or liability; or
- an unrecognised firm commitment
- against changes in its *fair value*
- that may result from fluctuations in exchange rates.

As an example of a fair value hedge, imagine an investment that is denominated in a foreign currency: if between transaction and settlement dates, the local currency strengthens against the foreign currency, the fair value of the investment in the entity's local (functional) currency will decrease. For example, an entity owns an investment with a fair value of FC100 000. At the end of the last financial year, it would take LC5 to buy FC1. It now only takes LC4 to buy FC1. The fair value of the investment has therefore dropped from LC500 000 to LC400 000. A fair value hedge would attempt to neutralise any such decrease in fair value.

3.6.3 Cash flow hedges (IAS 39.95 - .101)

A ***cash flow hedge*** is defined as:

- a hedge of the exposure to changes in cash flows:
- of a recognised asset or liability; or
- of a highly probable forecast transaction;
- that is attributable to a particular risk; and
- that could affect profit.

Also note that although not specifically mentioned in the definition of a cash flow hedge provided in IAS 39.86(b), a hedge can be designated a cash flow hedge if it relates to:

- a firm commitment, so long as the hedging instrument (FEC) hedges against foreign currency risks.

Therefore, in terms of foreign currency risks, a ***cash flow hedge***, hedges:

- a recognised asset or liability; or
- a highly probable forecast transaction; or
- a firm commitment; (applies only to the hedge of currency risk!)
- against any associated variability in cash flows attributable to exchange rate fluctuations.

For example, imagine a foreign creditor: if between transaction and settlement date the local currency weakens against the foreign currency, the amount payable will increase. For example, an entity owes a foreign creditor FC100 000. If at transaction date, it would take LC5 to buy FC1 and now it takes LC6 to buy FC1, the settlement of the foreign creditor would now require a cash outflow of LC600 000 instead of only LC500 000. A cash flow hedge would attempt to neutralise such an increase in the potential cash outflow arising from exchange rate fluctuations.

3.6.4 Summary of the hedges over the periods

It should be clear from the above that how a FEC is accounted for (i.e. as a cash flow hedge or a fair value hedge) depends largely on whether we are looking at its existence during:

- an uncommitted pre-transaction period (before a firm commitment is made and before transaction date);
- a committed pre-transaction period (after a firm commitment is made but before transaction date);
- the post-transaction period (between the transaction date and settlement date).

The following timeline summarises all the possible hedging treatments:

Transaction date		
Pre-transaction period		Post-transaction period
No firm commitment: Cash flow hedge		Fair value hedge* OR Cash flow hedge
Firm commitment:		* this chapter will treat all hedges during this period as fair value hedges
Before firm commitment: (uncommitted period)	After firm commitment: (committed period)	
Cash flow hedge	Cash flow hedge or Fair value hedge	

Explanation of the above summary timeline:

- If the FEC exists before the transaction date and before a firm commitment is entered into, the movement in the FEC rates up to the date that the firm commitment is made (or up to the transaction date, if no firm commitment is made at all) is always treated as a cash flow hedge.
- In all other periods of the FEC's existence, the FEC may be treated as *either* a cash flow hedge or a fair value hedge.
- Although IAS 39 allows a hedge after transaction date to be treated either as a cash flow hedge or a fair value hedge, this chapter, for the sake of simplicity, shall treat all hedges in the post-transaction period as fair value hedges.

3.7 Accounting for hedges

It is important to always separate in your mind:

- the basic foreign currency transaction (being the hedged item); and
- the FEC entered into (being the hedging instrument).

The *foreign currency transaction* is initially accounted for at the spot rate and then translated at year-end and settlement dates. The foreign exchange gains or losses are recognised directly in profit or loss. This is covered in the chapter on foreign currency transactions.

The *forward exchange contract* is accounted for either as a:

- cash flow hedge; or
- fair value hedge.

The hedge is measured at firm commitment date, year-end, transaction and settlement dates (whichever applies) and the gain or loss on the FEC is recognised:

- for *fair value hedges*: recognised directly in profit or loss; or
- for *cash flow hedges*: recognised in other comprehensive income (this equity account could have either a debit or credit balance!) and then either:
 - *using a basis adjustment*: the gain or loss in equity is set-off against the carrying amount of the hedged item (e.g. imported inventory) on transaction date. ; or
 - *using a reclassification adjustment*: the gain or loss in equity is reclassified to profit or loss when the hedged item affects profit or loss (e.g. reverse the other comprehensive income (or a portion thereof) to profit or loss as and when the inventory is sold (or a portion thereof is sold)).

The basis adjustment is only allowed if the hedged forecast transaction is going to result in non-financial assets or liabilities. Reclassification adjustments are allowed whether the hedged forecast transaction results in assets or liabilities that are financial or non-financial.

Both the basis adjustments and the reclassification adjustments have the same effect on profit over a period of time. When the basis adjustment is used, other comprehensive income (equity) is eventually recognised in profit or loss but only when the hedged item affects profit or loss (therefore other comprehensive income reaches profit or loss *indirectly*).

For example: imagine that a gain is recognised as other comprehensive income and that this gain is subsequently credited to inventory via a basis adjustment (debit OCI equity and credit inventory): the future cost of sales will be decreased. Thus, the gain will be recognised in profit or loss as and when the inventory (reduced by the basis adjustment) is expensed as cost of sales.

3.8 FEC's in the period post-transaction date

Transaction date	Settlement date
Post-transaction period	

If the FEC exists in the **post-transaction period** (i.e. **on or after** the transaction date) it can be treated as either:

- a fair value hedge; or
- a cash flow hedge.

Whether the FEC after transaction date is treated as a fair value hedge or a cash flow hedge has no effect on the profit or loss over a period of time,. Therefore, for the sake of simplicity, we will assume that an FEC that is in existence after transaction date is always treated as a fair value hedge.

The dates that are important during this period obviously include:

- transaction date
- settlement date
- reporting date (normally a financial year-end): a financial year-end may not necessarily occur between transaction and settlement date, but it is equally possible that there may even be more than one reporting date between these two dates.

Example 3: FEC taken out in the post-transaction period: fair value hedge

Inventory is purchased for \$100 000.

A FEC is taken out on transaction date at the FEC rate of C9: \$1 (set to expire on payment date). At 30 June 20X1 (year end), the rate available on similar FEC's expiring on this same payment date is C9,60: \$1.

100% of this inventory was sold on 15 July 20X1 for C1 000 000.

	Fair value hedge		
Dates:	1 March 20X1 Transaction date and FEC date	30 June 20X1 Year-end	7 July 20X1 Payment date
FEC rates:	9.00	9.60	N/A
Spot rate:	8.50	8.90	10

Required:

Show all related journal entries assuming that this FEC has been designated as a fair value hedge. .

Solution to example 3: FEC in the post-transaction period as a fair value hedge

Quick explanation: by entering into the FEC, we know that we will have to pay \$100 000 x 9 = C900 000 since this is the rate we committed to in the FEC.

If we look at the spot rate on payment date, we can see that had we not taken out the FEC, we would have had to pay \$100 000 x 10 = C1 000 000.

The FEC has therefore saved us C1 000 000 – C900 000 = C100 000.

This gain is recognised over the life of the FEC (60 000 at year-end and another 40 000 on payment date).

1 March 20X1: transaction date		Debit	Credit
Inventory	100 000 x 8.50 (spot rate on transaction date)	850 000	
Foreign creditor			850 000
<i>Inventory purchased, measured at spot rate on transaction date</i>			
No entries relating to the FEC are processed			
30 June 20X1: year-end			
Forex loss (profit or loss)	100 000 x 8.90: spot rate at year-end –	40 000	
Foreign creditor	100 000 x 8.50 previous spot rate		40 000
<i>Foreign creditor translated to spot rate at year-end</i>			
FEC asset	100 000 x 9.60 FEC rate at year-end –	60 000	
Forex gain (profit or loss)	100 000 x 9 FEC rate obtained		60 000
<i>Gain or loss on FEC recognised at year-end</i>			
7 July 20X1: payment date			
Forex loss (profit or loss)	100 000 x 10: spot rate at payment date	110 000	
Foreign creditor	– 100 000 x 8.90 previous spot rate		110 000
<i>Foreign creditor translated on payment date</i>			
FEC asset	100 000 x 10 spot rate on payment date –	40 000	
Forex gain (profit or loss)	100 000 x 9.60 prior FEC rate (30/6/X1)		40 000
<i>Gain or loss on FEC recognised on payment date</i>			
Foreign creditor	(850 000 + 40 000 + 110 000)	1 000 000	
FEC asset	(60 000 + 40 000)		100 000
Bank	(100 000 x 9)		900 000
<i>Payment of foreign creditor at FEC rate: the rate we agreed to in the contract</i>			
15 July 20X1: on sale of inventory			
Cost of sales		850 000	
Inventory			850 000
Debtor		1 000 000	
Sales			1 000 000
<i>100% of inventory sold: 850 000 x 100%</i>			

Note: 'Forex' is short for 'foreign exchange'

3.9 FEC's in the period pre-transaction date

If an FEC is entered into prior to transaction date, the pre-transaction date will be the period from when the FEC was entered into up to transaction date.

FEC date	Transaction date
Pre-transaction period	

Please note: the *FEC date* (on the above timeline) refers to the date on which the FEC is entered into.

If the FEC exists in the **pre-transaction period** (i.e. **before** the transaction date) it can be treated as either:

- a fair value hedge; or
- a cash flow hedge.

Whether the FEC is to be accounted for as a fair value or cash flow hedge is largely determined whether or not a firm commitment was in existence.

If the FEC exists in the pre-transaction period, one must therefore also ascertain whether a firm commitment was made before transaction date or not. If a firm commitment was made, we will also need to plot the date that we made this firm commitment onto our timeline.

3.9.1 If there is no firm commitment

FEC date	Transaction date
Pre-transaction period (uncommitted): always a cash flow hedge	

If no firm commitment is made, a FEC existing before transaction date is hedging an uncommitted but highly probable future transaction (also referred to as a hedged forecast transaction) and is always treated as a *cash flow hedge*. In this case:

- any gains or losses on the FEC *up to transaction date* are first recognised as other comprehensive income; and
- *on transaction date*, the other comprehensive income is used to adjust the related asset or liability (basis adjustment) or reclassify it to profit or loss when the related asset or liability affects profit or loss (a reclassification adjustment).

Any changes in the FEC rate *after transaction date* are either:

- taken directly to profit or loss, as explained above (i.e. as a **fair value hedge**) or are
- first recognised as other comprehensive income and then reversed to profit or loss (i.e. as a **cash flow hedge**).

Once again, for the sake of simplicity, we will always treat a FEC that is in existence during this transaction period as a **fair value hedge**.

Example 4: FEC taken out in the pre-transaction period (no firm commitment): cash flow hedge (with a basis adjustment)

Inventory is purchased for \$100 000. A FEC was taken out before transaction date.

- No firm commitment was made before transaction date.
- The FEC rate obtained was C9: \$1. This FEC will expire on payment date.
- FEC rates available on the relevant dates, on similar FEC's that would expire on this same payment date, are shown below.
- 40% of the inventory was sold on 15 July 20X1 for C400 000 and 60% of the inventory was sold on 20 August 20X1 for C600 00.

	Cash flow hedge		Fair value hedge	
	15 February 20X1	1 March 20X1	30 June 20X1	7 July 20X1
Dates:	FEC date	Transaction date	Year-end	Payment date
FEC rates:	9.00	9.10	9.60	N/A
Spot rate:	N/A	8.50	8.90	10

Required:

Show all related journal entries assuming that this FEC is accounted for as a cash flow hedge to transaction date and as a fair value hedge thereafter.

Any other comprehensive income created is reversed using the basis adjustment approach.

Solution to example 4: FEC in the pre-transaction period (no firm commitment): cash flow hedge (with a basis adjustment)

As with the previous example, we know that we will have to pay $\$100\,000 \times 9 = \text{C}900\,000$ since this is the rate we have committed to in the FEC.

If we look at the spot rate on payment date, we can see that had we not taken out the FEC, we would have had to pay $\$100\,000 \times 10 = \text{C}1\,000\,000$.

The FEC has therefore saved us $\text{C}1\,000\,000 - \text{C}900\,000 = \text{C}100\,000$.

		Debit	Credit
15 February 20X1: FEC entered into			
No entries relating to the FEC are processed			
1 March 20X1: transaction date			
Inventory	100 000 x 8.50 (spot rate on transaction date)	850 000	
Foreign creditor			850 000
<i>Inventory purchased at spot rate on transaction date</i>			
FEC asset	100 000 x 9.10 FEC rate on transaction date – 100 000 x 9 FEC rate obtained	10 000	
FEC equity (OCI)			10 000
<i>Cash flow hedge: gain/ loss recognised on transaction date as OCI</i>			
FEC equity (OCI)		10 000	
Inventory			10 000
<i>Basis adjustment of the cash flow hedge: OCI set-off against the hedged item on transaction date</i>			
30 June 20X1: year-end			
FEC asset	100 000 x 9.60 FEC rate at year end – 100 000 x 9.10 previous FEC rate	50 000	
Forex gain (profit or loss)			50 000
<i>Gain or loss on FEC recognised at year-end</i>			
Forex loss (profit or loss)	100 000 x 8.90: spot rate at year-end – 100 000 x 8.50 previous spot rate	40 000	
Foreign creditor			40 000
<i>Foreign creditor translated to spot rate at year-end</i>			
7 July 20X1: payment date			
FEC asset	100 000 x 10 spot rate on payment date – 100 000 x 9.60 previous FEC rate	40 000	
Forex gain (profit or loss)			40 000
<i>Gain or loss on FEC recognised on payment date</i>			
Forex loss (profit or loss)	100 000 x 10: spot rate at year end – 100 000 x 8.90 previous spot rate	110 000	
Foreign creditor			110 000
<i>Foreign creditor translated to spot rate on payment date</i>			
Foreign creditor	(850 000 + 40 000 + 110 000)	1 000 000	
FEC asset	(10 000 + 50 000 + 40 000)		100 000
Bank	(100 000 x 9)		900 000
<i>Payment of foreign creditor at FEC rate: (C9: \$1)</i>			
15 July 20X1: on sale of inventory			
Cost of sales	(850 000 – 10 000) x 40%	336 000	
Inventory			336 000
Debtor	Given	400 000	
Sales			400 000
<i>40% of inventory sold: sales and cost of sales</i>			
20 August 20X1: on sale of inventory			
Cost of sales	(850 000 – 10 000) x 60%	504 000	
Inventory			504 000
Debtor	Given	600 000	
Sales			600 000
<i>60% of inventory sold: sales and cost of sales</i>			

*** The basis adjustment decreases the cost of inventory. This then decreases cost of sales as the inventory is sold. The gain is thus indirectly taken to profit or loss as and when the hedged item affects profit/ loss.

Example 5: FEC taken out in the pre-transaction period (no firm commitment): cash flow hedge (with a reclassification adjustment)**Required:**

Repeat the previous example assuming that the entity used a reclassification adjustment for its other comprehensive income.

Solution to example 5: FEC in the pre-transaction period (no firm commitment): a cash flow hedge (with reclassification adjustments)**Comment:**

This example is the same as example 4 except that the other comprehensive income is reclassified.

The journal that reversed equity to inventory on transaction date in example 4 therefore does not happen in example 5 when using a reclassification adjustment.

The other differences have been highlighted in the following journals with asterisks so that you are better able to compare the journals of example 5 (reclassification adjustment) with those of example 4 (basis adjustment).

15 February 20X1: FEC entered into		Debit	Credit
No entries relating to the FEC are processed			
1 March 20X1: transaction date			
Inventory	100 000 x 8.50 (spot rate on transaction date)	850 000	
Foreign creditor			850 000
<i>Inventory purchased recognised at spot rate on transaction date</i>			
FEC asset	100 000 x 9.10 FEC rate on transaction date	10 000	
FEC equity (OCI)	– 100 000 x 9 FEC rate obtained		10 000
<i>Cash flow hedge: gain/ loss recognised on transaction date is OCI</i>			
30 June 20X1: year-end			
FEC asset	100 000 x 9.60 FEC rate at year-end –	50 000	
Forex gain (profit or loss)	100 000 x 9.10 previous FEC rate		50 000
<i>Gain or loss on FEC recognised at year-end</i>			
Forex loss (profit or loss)	100 000 x 8.90: spot rate at year-end –	40 000	
Foreign creditor	100 000 x 8.50 previous spot rate		40 000
<i>Foreign creditor translated to spot rate at year-end:</i>			
7 July 20X1: payment date			
FEC asset	100 000 x 10 spot rate on payment date –	40 000	
Forex gain (profit or loss)	100 000 x 9.60 previous FEC rate		40 000
<i>Gain or loss on FEC recognised on payment date to profit & loss</i>			
Forex loss (profit or loss)	100 000 x 10: spot rate at payment date	110 000	
Foreign creditor	– 100 000 x 8.90 previous spot rate		110 000
<i>Foreign creditor translated to spot rate on payment date</i>			
Foreign creditor	(850 000 + 40 000 + 110 000)	1 000 000	
FEC asset	(10 000 + 50 000 + 40 000)		100 000
Bank	(100 000 x 9)		900 000
<i>Payment of foreign creditor at FEC rate: C9: \$1</i>			

15 July 20X1: on sale of inventory		Debit	Credit
Cost of sales ***	850 000 x 40%	340 000	
Inventory ***			340 000
Debtor	Given	400 000	
Sales			400 000
40% of inventory sold: sales and cost of sales recognised			
FEC equity (OCI) ***		4 000	
Forex gain ***	10 000 x 40%		4 000
Reclassification adjustment of the cash flow hedge: reclassifying 40% of the OCI to profit or loss when 40% of the inventory is sold			
20 August 20X1: on sale of inventory			
Cost of sales ***	850 000 x 60%	510 000	
Inventory ***			510 000
Debtor	Given	600 000	
Sales			600 000
60% of inventory sold: sales and cost of sales recognised			
FEC equity (OCI) ***		6 000	
Forex gain ***	10 000 x 60%		6 000
Reclassification adjustment of the cash flow hedge: reclassifying 60% of the OCI to profit or loss when 40% of the inventory is sold			

By the way, if the entity had purchased an item of property, plant and equipment (instead of an item of inventory) and had chosen to use a reclassification adjustment, then the FEC equity (OCI) would be recognised as a gain (or as a loss, as the case may be) over the useful life of the asset (i.e. as the asset is depreciated). Compare this to where a gain is recognised as inventory is sold.

3.9.2 If there is a firm commitment

FEC date	Firm commitment	Transaction date
Pre-transaction period		
Uncommitted	Committed	
Always a cash flow hedge	Cash flow hedge/ Fair value hedge	

If the FEC exists *before* transaction date and before a *firm commitment* (e.g. a firm order) is entered into, the pre-transaction period is split into:

- before firm commitment is made (if applicable): the uncommitted period; and
- after the firm commitment is made (but before the transaction date): the committed period.

The FEC during an uncommitted period is always treated:

- as a cash flow hedge, (there is no option here): for treatment of a cash flow hedge, see previous discussion (3.9.1) and example 4 and 5.

The FEC during the committed period (after a firm commitment is made but before transaction date) may be treated either:

- as a cash flow hedge; or
- as a fair value hedge.

The FEC in a committed period may only be treated as a cash flow hedge if it is specifically a hedge against the foreign currency risk.

If your entity treats the movement in the FEC rates during the committed period as a cash flow hedge then read the previous discussion (3.9.1) and example 4 and 5.

If the entity chooses to record the movement in the FEC rates during the committed period as a fair value hedge, then the effect of the movement in *both* the spot rate and the FEC rates must be recorded as follows:

- *firm commitment asset/ liability:*
measured using: the movement in the spot rates
journalised as: Firm commitment asset/ liability (dr/ cr) and Profit or loss (cr/ dr)
reversed when: the firm commitment asset or liability will then be reversed on transaction date to the related transaction;
- *forward exchange contract asset/ liability:*
measured using: the movement in the FEC rates
journalised as: FEC asset/ liability (dr/ cr) and Profit or loss (cr/dr)
reversed when: the FEC asset will then be reversed on settlement date when paying the creditor or receiving cash from the debtor.

Example 6: FEC taken out in the pre-transaction period with a firm commitment: cash flow hedge up to transaction date

Inventory is purchased for \$100 000. A FEC is taken out before transaction date. After the FEC was taken out, a firm commitment was made.

- The FEC rate obtained was C9: \$1. This FEC will expire on payment date.
- FEC rates available on the relevant dates, on similar FEC's that would expire on the same payment date, are shown below. 40% of the inventory was sold on 15 July 20X1 for C400 000 and 60% of the inventory was sold on 20 August 20X1 for C600 000.

	Cash flow hedge			Fair value hedge	
	15 Feb 20X1 FEC taken out	22 February 20X1 Firm commitment	1 March 20X1 Transaction date	30 June 20X1 Year-end	7 July 20X1 Payment date
FEC rates:	9.00	9.06	9.10	9.60	N/A
Spot rates:	N/A	8.30	8.50	8.90	10.00

Required:

Show all related journal entries assuming that FEC is to be treated as a cash flow hedge for the entire period before transaction date whereas after transaction date, the FEC is to be treated as a fair value hedge.

Solution to example 6: firm commitment to transaction date as a cash flow hedge

1 March 20X1: transaction date		Debit	Credit
Forex loss (profit or loss)	$100\,000 \times 8.50 \text{ spot rate on transaction date}$	20 000	
Firm commitment liability	$- 100\,000 \times 8.30 \text{ on firm commitment date}$		20 000
<i>Gain or loss on firm commitment recognised on transaction date:</i>			
Firm commitment liability		20 000	
Inventory			20 000
<i>Firm commitment reversed to the hedged item on transaction date (similar to a basis adjustment)</i>			

If the entity reverses other comprehensive income using a:

- *basis adjustment, the journals will be the same as those under example 4;*
- *reclassification adjustment, the journals will be the same as those under example 5.*

Example 7 FEC taken out in the pre-transaction period: cash flow hedge up to firm commitment date and then a fair value hedge up to transaction date
Required:

Repeat example 6 assuming that the FEC

- before firm commitment date is a cash flow hedge, where any other comprehensive income is reversed using a basis adjustment
- is treated as a fair value hedge after the firm commitment date up to the transaction date; and
- is still treated as a fair value hedge after transaction date.

Solution to example 7: firm commitment to transaction date as a fair value hedge

Please remember that when a FEC exists before the firm commitment, there is no choice: it is always treated as a cash flow hedge.

As with the previous examples, the FEC has saved us $C1\,000\,000 - C900\,000 = C100\,000$.

This gain is recognised as the hedged item affects profit or loss (the cash flow hedge: 6 000 as the inventory is sold; and the fair value hedges: 4 000 on transaction date, 50 000 at year-end and 40 000 on payment date):

		Debit	Credit
15 February 20X1: date FEC entered into			
No entries relating to the FEC are processed			
22 February 20X1: firm commitment date			
FEC asset	$100\,000 \times 9.06$ FEC rate on firm commitment date	6 000	
FEC equity (OCI)	$100\,000 \times 9$ FEC rate obtained)		6 000
<i>Gain or loss on FEC recognised on firm commitment date</i>			
1 March 20X1: transaction date			
Inventory	$100\,000 \times 8.50$ (spot rate on transaction date)	850 000	
Foreign creditor			850 000
<i>Inventory purchased, measured at spot rate on transaction date</i>			
FEC equity (OCI)		6 000	
Inventory			6 000
<i>Cash flow hedge – basis adjustment: reclassifying OCI to the hedged item on transaction date</i>			
FEC asset	$100\,000 \times 9.10$ FEC rate on transaction date	4 000	
Forex gain (profit or loss)	$100\,000 \times 9.06$ previous FEC rate		4 000
<i>Gain or loss on FEC recognised on transaction date:</i>			
Forex loss (profit or loss)		20 000	
Firm commitment liability			20 000
<i>Gain or loss on firm commitment recognised on transaction date: $100\,000 \times 8.50$ spot rate on transaction date – $100\,000 \times 8.30$ spot rate on firm commitment date</i>			
Firm commitment liability		20 000	
Inventory			20 000
<i>Firm commitment reversed to the hedged item on transaction date (similar to a basis adjustment)</i>			
30 June 20X1: year-end			
FEC asset	$100\,000 \times 9.60$ FEC rate at year-end –	50 000	
Forex gain (profit or loss)	$100\,000 \times 9.10$ previous FEC rate		50 000
<i>Gain or loss on FEC recognised at year-end:</i>			

30 June 20X1: year-end continued ...		Debit	Credit
Forex loss (profit or loss)	$100\,000 \times 8.90$: spot rate at year-end –	40 000	
Foreign creditor	$100\,000 \times 8.50$ previous spot rate		40 000
<i>Foreign creditor translated to spot rate at year-end</i>			
7 July 20X1: payment date			
FEC asset	$100\,000 \times 10$ spot rate on payment date –	40 000	
Forex gain (profit or loss)	$100\,000 \times 9.60$ previous FEC rate		40 000
<i>Gain or loss on FEC recognised on payment date</i>			
Forex loss (profit or loss)	$100\,000 \times 10$: spot rate on payment date	110 000	
Foreign creditor	– $100\,000 \times 8.90$ previous spot rate		110 000
<i>Foreign creditor translated on payment date</i>			
Foreign creditor	$(850\,000 + 40\,000 + 110\,000)$	1 000 000	
FEC asset	$(6\,000 + 4\,000 + 50\,000 + 40\,000)$		100 000
Bank	$(100\,000 \times 9)$		900 000
<i>Payment of foreign creditor at FEC rate obtained: C9: \$1</i>			
15 July 20X1: date of sale of inventory			
Cost of sales	$(850\,000 - 6\,000 - 20\,000) \times 40\%$	329 600	
Inventory			329 600
Debtor	<i>Given</i>	400 000	
Sales			400 000
<i>40% of inventory sold: sales and cost of goods sold</i>			
20 August 20X1: date of sale of inventory			
Cost of sales	$(850\,000 - 6\,000 - 20\,000) \times 60\%$	494 400	
Inventory			494 400
Debtor	<i>Given</i>	600 000	
Sales			600 000
<i>60% of inventory sold: sales and cost of goods sold</i>			
<i>Notice that when using this basis adjustment approach to reversing other comprehensive income, the inventory is measured as follows:</i>			
<i>Inventory recognised at spot rate on transaction date</i>		$100\,000 \times 8.50$	850 000
<i>FEC equity (OCI) reversed to inventory on transaction date (the cash flow hedge)</i>			(6 000)
<i>Firm commitment liability reversed to inventory on transaction date</i>			(20 000)
			<u>824 000</u>
<i>Had we used the reclassification approach instead, the other comprehensive income would have been reclassified directly to profit or loss and would not have affected the inventory balance. The result would then have been that inventory would have been measured at the spot rate on the date that the firm commitment was made:</i>			
<i>Inventory recognised at spot rate on transaction date</i>		$100\,000 \times 8.50$	850 000
<i>Firm commitment liability reversed to inventory on transaction date</i>			(20 000)
		$100\,000 \times 8.30$	<u>830 000</u>

Example 8: FEC taken out in the pre-transaction period with a year-end after firm commitment but before transaction date

Inventory is purchased for \$100 000. A FEC is taken out before transaction date and before a firm commitment was made:

- The FEC rate obtained was C9: \$1. This FEC will expire on payment date.
- FEC rates available on similar FEC's expiring on payment date, are shown below.
- 40% of the inventory purchased was sold on 27 September 20X1.
- 60% of the inventory purchased was sold on 1 November 20X1.

	Cash flow hedge	Fair value hedge		Fair value hedge	
	1 March 20X1	15 April 20X1	30 June 20X1	20 July 20X1	31 August 20X1
	FEC taken out	Firm commitment	Year-end	Transaction date	Payment date
FEC rates:	9.00	9.06	9.10	9.60	N/A
Spot rates:	8.10	8.30	8.45	8.50	10.00

Required:

- A. Assume that the period between the firm commitment date and the transaction date is to be recognised as a fair value hedge and that after transaction date, the hedge is also to be treated as a fair value hedge. Where the FEC is treated as a cash flow hedge, the entity uses the basis adjustment to reclassify other comprehensive income.
- B. Show how the journals would change if the reclassification approach was used instead.

Solution to example 8A: FEC in the pre-transaction period with a firm commitment**1 March 20X1: date FEC entered into**

Debit	Credit
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No entries relating to the FEC are processed

15 April 20X1: firm commitment date

FEC asset	$100\,000 \times 9.06$ FEC rate on transaction date	9 060	
FEC equity (OCI)	$100\,000 \times 9$ FEC rate obtained		9 000
Gain or loss on FEC recognised on firm commitment date			

30 June 20X1: year-end

FEC asset	$100\,000 \times 9.10$ FEC rate at year-end –	9 100	
Forex gain	$100\,000 \times 9.06$ previous FEC rate		9 060
Gain or loss on FEC recognised at year-end			

Forex loss	$100\,000 \times 8.45$ spot rate at yr-end –	8 450	
Firm commitment liability	$100\,000 \times 8.30$ spot rate on firm commitment date		8 300
Gain or loss on firm commitment recognised at year-end			

20 July 20X1: transaction date

Inventory	$100\,000 \times 8.50$ spot rate on transaction date	850 000	
Foreign creditor			850 000
Inventory purchased, measured at spot rate on transaction date			

FEC asset	$100\,000 \times 9.60$ FEC rate on transaction date –	9 600	
Forex gain	$100\,000 \times 9.10$ previous FEC rate		9 100
Gain or loss on FEC recognised on transaction date			

Forex loss	$100\,000 \times 8.50$ spot rate on trans date –	8 500	
Firm commitment liability	$100\,000 \times 8.45$ prior spot rate		8 450
Gain or loss on firm commitment recognised on transaction date			

Firm commitment liability	$(8 450 + 8 500)$	16 950	
Inventory			16 950
Firm commitment reversed to inventory on transaction date			

20 July 20X1: transaction date continued ...

	Debit	Credit
FEC equity (OCI)	6 000	
Inventory		6 000
<i>Cash flow hedge – basis adjustment: reclassifying OCI against the hedged item on transaction date (this journal would not be posted if the reclassification approach was used instead)</i>		

31 August 20X1: payment date

FEC asset	<i>100 000 x 10 spot rate on payment date –</i>	40 000	
Forex gain	<i>100 000 x 9.60 previous FEC rate</i>		40 000
<i>Gain or loss on FEC recognised on payment date</i>			

Forex loss	<i>100 000 x 10 spot rate on payment date –</i>	150 000	
Foreign creditor	<i>100 000 x 8.50 previous spot rate</i>		150 000
<i>Foreign creditor translated to spot rate on payment date</i>			

Foreign creditor	<i>(850 000 + 150 000)</i>	1 000 000	
FEC asset	<i>(6 000 + 4 000 + 50 000 + 40 000)</i>		100 000
Bank	<i>(100 000 x 9 FEC rate obtained)</i>		900 000
<i>Foreign creditor paid at FEC rate obtained:</i>			

27 September 20X1: sale of 40% of the inventory

Cost of sales	<i>(850 000 – 20 000 – 6 000) x 40%</i>	329 600	
Inventory			329 600
<i>40% of inventory sold</i>			

1 November 20X1: sale of 60% of the inventory

Cost of sales	<i>(850 000 – 20 000 – 6 000) x 60%</i>	494 400	
Inventory			494 400
<i>60% of inventory sold</i>			

Solution to example 8B: FEC in the pre-transaction period with a firm commitment

If the reclassification adjustment is used, the following entry will be posted on 27 September 20X1 instead of the basis adjustment entry posted on 20 July 20X1 (notice that the cost of sales entry is also different because the inventory balance has not been reduced by the C6 000 basis adjustment):

27 September 20X1: sale of 40% of the inventory

FEC equity (OCI)	6 000 x 40%	2 400	
Forex gain			2 400
<i>Cash flow hedge – reclassification adjustment: reclassifying 40% of the OCI to profit or loss when 40% of the inventory is sold</i>			
<hr/>			
Cost of sales	(850 000 – 20 000) x 40%	332 000	
Inventory			332 000
<i>40% of inventory sold</i>			

1 November 20X1: sale of 60% of the inventory

FEC equity (OCI)	<i>6 000 x 60%</i>	3 600	
Forex gain			3 600
<i>Cash flow hedge – reclassification adjustment: reclassifying 60% of the OCI to profit or loss when 60% of the inventory is sold</i>			
Cost of sales	<i>(850 000 – 20 000) x 60%</i>	498 000	
Inventory			498 000
<i>60% of inventory sold</i>			

4. Disclosure (IAS 32)

Disclosure requirements for hedges are set out in IAS 32.

An entity shall describe its financial risk management objectives and policies including its policy for hedging each main type of forecast transaction that is accounted for as a hedge.

An entity shall disclose the following for designated fair value and cash flow hedges:

- a description of the hedge;
- a description of the financial instruments designated as hedging instruments and their fair values at the end of the reporting period;
- the nature of the risks being hedged; and
- for cash flow hedges: the periods in which the cash flows are expected to occur, when they are expected to affect profit or loss and a description of any forecast transaction for which hedge accounting had been used but which is no longer expected to occur.

When a gain or loss on a hedging instrument in a cash flow hedge has been recognised in other comprehensive income, an entity shall disclose the amount that was:

- recognised in other comprehensive income during the period;
- reclassified from equity and included in profit or loss for the period (reclassification adjustment); and
- removed from other comprehensive income during the period and included in the initial measurement of the acquisition cost or carrying amount of a non-financial asset or non-financial liability (basis adjustment).

Example 9: cash flow hedge and fair value hedge: disclosure

Use the same information as in the previous example 8A, where an inventory purchase of \$100 000 is hedged by an FEC. The details are repeated here for your convenience:

	Cash flow hedge		Fair value hedge		Fair value hedge
	1 March 20X1	15 April 20X1	30 June 20X1	20 July 20X1	31 August 20X1
	FEC taken out	Firm commitment	Year-end	Transaction date	Payment date
FEC rates:	9.00	9.06	9.10	9.60	N/A
Spot rates:	8.10	8.30	8.45	8.50	10.00
				20X2	20X1
Revenue				12 000 000	10 000 000
Cost of sales				5 000 000	3 000 000

Required:

Disclose all information possible in the financial statements for the year ended 30 June 20X2 (assuming, once again, that the period up to firm commitment date is a cash flow hedge and that, thereafter, the hedge is designated as a fair value hedge).

The basis adjustment is used for any cash flow hedge recognised in other comprehensive income. You may assume that all the necessary journals have been processed correctly.

Ignore tax.

Solution to example 9: cash flow hedge and fair value hedge: disclosure
Apple Limited
Statement of comprehensive income
For the year ended 30 June 20X2

	Notes	20X2 C	20X1 C
Revenue		12 000 000	10 000 000
Cost of sales		(5 000 000)	(3 000 000)
Other income		90 000	4 000
Other expenses		(155 000)	(15 000)
Profit before tax	10	6 935 000	6 989 000
Tax expense (ignored)		0	0
Profit for the year		6 935 000	6 989 000
<i>Other comprehensive income, net of tax</i>	11		
Cash flow hedges		(6 000)	6 000
Total comprehensive income		6 929 000	6 995 000

Apple Limited
Statement of changes in equity (extracts)
For the year ended 30 June 20X2

	Retained earnings C	Cash flow hedges C	Total C
Balance 1/7/20X0	xxx	0	xxx
Total comprehensive income	6 989 000	6 000	6 995 000
Balance 1/7/20X1	xxx	6 000	xxx
Total comprehensive income	6 935 000	(6 000)	6 929 000
Balance 30/6/20X1	xxx	0	xxx

Apple Limited
Notes to the financial statements (extracts)
For the year ended 30 June 20X2

	20X2 C	20X1 C
10. Profit before tax		
Profit before tax is stated after taking into account the following separately disclosable (income)/ expense items		
Foreign exchange gain	20X2: 50 000 ⁽²⁾ + 40 000 ⁽³⁾	(90 000) ⁽¹⁾
Foreign exchange loss	20X2: 5 000 ⁽⁵⁾ + 150 000 ⁽⁶⁾	15 000 ⁽⁴⁾
11. Other comprehensive income		
Gain arising during the year on movement in cash flow hedge		6 000
Basis adjustment (adjustment for amounts transferred to the initial carrying amounts of the hedged items)	(6 000)	

(1) $(9.10 - 9.06) \times \$100\,000 = R4\,000$ (gain on FEC FV hedge at year-end)

(2) $(9.60 - 9.10) \times \$100\,000 = R50\,000$ (gain on FEC FV hedge on transaction date)

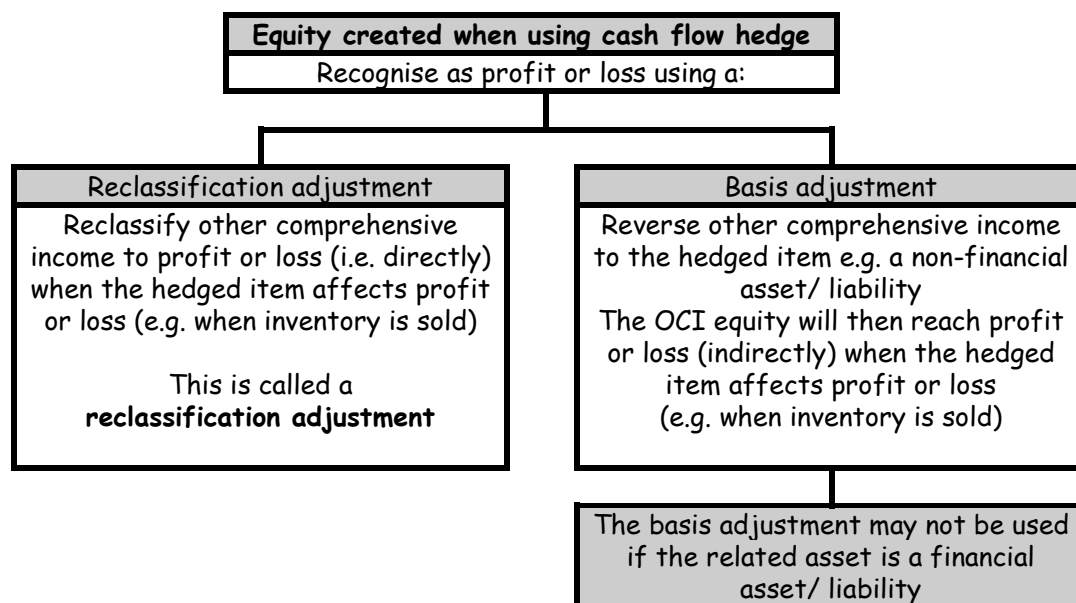
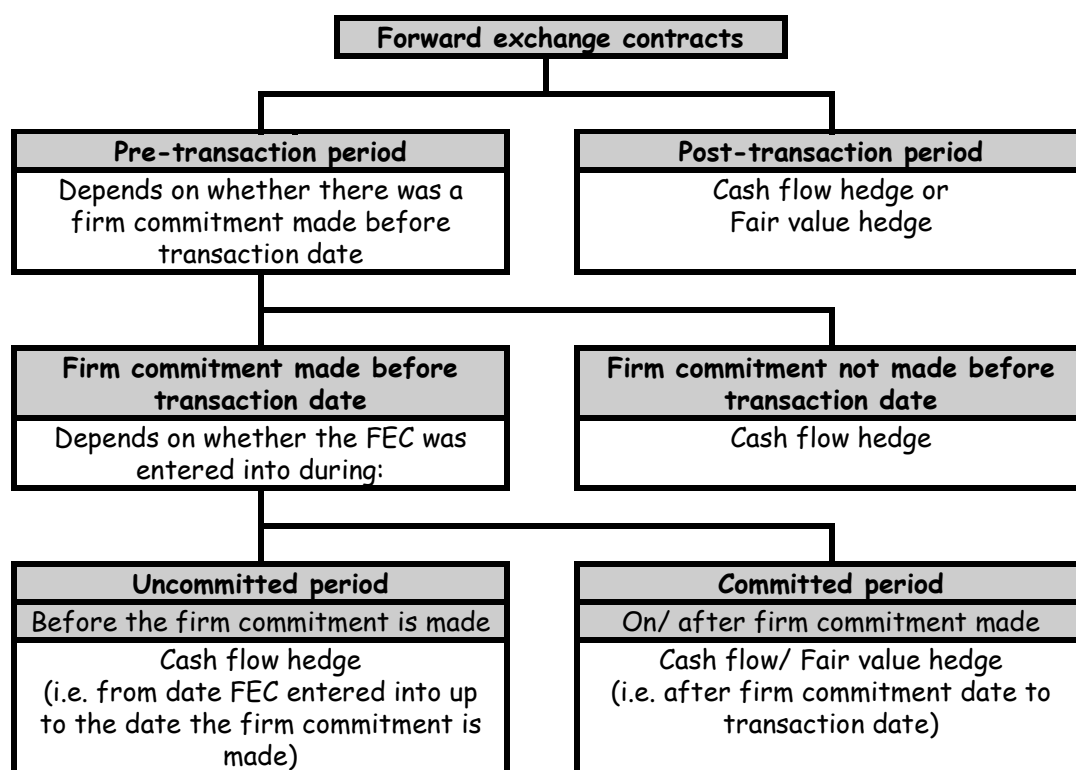
(3) $(10.00 - 9.60) \times \$100\,000 = R40\,000$ (gain on FEC FV hedge on payment date)

(4) $(8.45 - 8.30) \times \$100\,000 = R15\,000$ (loss on translation of firm commitment at year-end)

(5) $(8.50 - 8.45) \times \$100\,000 = R5\,000$ (loss on translation of firm commitment on transaction date)

(6) $(10.00 - 8.50) \times \$100\,000 = R150\,000$ (loss on translation of creditor on payment date)

5. Summary



Chapter 21

Financial Instruments

Reference: IAS 32; IAS 39 and IFRS 7

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1. Introduction

Most students find the financial instruments section very difficult, but by simply learning and understanding the various definitions and rules, it will be made a lot easier. The IAS and IFRS standards covering the recognition, measurement and disclosure of financial instruments are very long, and therefore this chapter contains only the most important aspects.

2. Definitions

The definitions that follow may be found in IAS 32 and 39.

Financial instrument: is any contract that gives rise to a financial asset in one entity and a financial liability or equity instrument in another. The contract need not be in writing.

An equity instrument: is any contract that results in a residual interest in the assets of an entity after deducting all of its liabilities

A financial asset: is any asset that is:

- cash;
- an equity instrument of another entity;
- a contractual right to receive cash or another financial asset from another entity;
- a contractual right to exchange financial instruments with another entity under conditions that are potentially favorable to the entity; or
- a contract that will or may be settled in the entity's own equity instruments and is:
 - a non-derivative for which the entity is or may be obliged to receive a variable number of the entity's own equity instruments; or
 - a derivative that will or may be settled other than by the exchange of a fixed amount of cash or another financial asset for a fixed number of the entity's own equity instruments.

A financial liability: is a liability that is:

- a contractual obligation to deliver cash or another financial asset to another entity;
- a contractual obligation to exchange financial instruments with another entity under conditions that are potentially unfavorable to the entity;
- a contract that will or may be settled in the entity's own equity instruments and is:
 - a non-derivative for which the entity is or may be obliged to deliver a variable number of the entity's own equity instruments; or
 - a derivative that will or may be settled other than by the exchange of a fixed amount of cash or another financial asset for a fixed number of the entity's own equity instruments.

Compound instruments: are instruments that contain both a liability and equity component.

A derivative: is a financial instrument or other contract with all three of the following characteristics:

- its value changes in response to a change in a specified interest rate, financial instrument price, foreign exchange price etc;
- it requires no initial net investment or an initial net investment that is smaller than would be required for other types of contracts that would be expected to have a similar response to changes in market factors; and
- is settled at a future date.

Derivatives are commonly used to manage financial risks.

Example 1: financial assets

Discuss whether any of the following are financial assets:

- a. Inventory
- b. Debtors
- c. Cash
- d. Property, plant and equipment

Solution to example 1: financial assets

- a. No, there is no contractual agreement to receive cash or otherwise simply by holding stock.
- b. Yes, there is a contractual right to receive a payment of cash from the debtor.
- c. Yes, it is cash
- d. No, there is no contractual right to cash or another instrument by owning property, plant and equipment.

Example 2: financial liabilities

Discuss whether any of the following are financial liabilities:

- a. Creditors
- b. Redeemable preference shares
- c. Warranty obligations
- d. Bank loans

Solution to example 2: financial liabilities

- a. Yes, the entity is contractually obligated to settle the creditor with cash.
- b. Yes, the entity must, in the future, redeem the preference shares with cash.
- c. If the entity has to pay the warranty obligation in cash, it is a financial liability. If the entity merely has to repair the goods, then, since there is no obligation to pay cash or any other financial instrument, it is not a financial liability.
- d. Yes, there is a contractual obligation to repay the bank for the amount of cash received plus interest.

3. Financial risks**3.1 Overview**

There are three categories of financial risks and they are:

- market risk (affected by price risk, interest rate risk and currency risk);
- credit risk; and
- liquidity risk.

3.2 Market risk (IFRS7; Appendix A)

Market risk is the risk that the fair value or future cash flows of a financial instrument will fluctuate because of changes in market prices. Market risk comprises of:

- interest rate risk;
- currency risk; and
- other price risk.

3.2.1 Interest rate risk

Interest rate risk is the risk that the value of the instrument will fluctuate with changes in the market interest rate. A typical example is a bond: a bond of C100 earning a fixed interest of 10% (i.e. C10) would decrease in value if the market interest rate changed to 20%, (theoretically, the value would halve to C50: C10/ 20%). If the bond earned a variable interest rate instead, the value of the bond would not be affected by interest rate fluctuations.

3.2.2 Currency risk

Currency risk is the risk that the value of the instrument will fluctuate because of changes in the foreign exchange rates. A typical example would be where we have purchased an asset from a foreign supplier for \$1 000 and at the date of order, the exchange rate is \$1: C10, but where the local currency weakens to \$1: C15. The amount owing to the foreign creditor has now grown in local currency to C15 000 (from C10 000).

3.2.3 Price risk

Price risk is the risk that the value of the financial instrument will fluctuate as a result of changes in the market prices. For example: imagine that we committed ourselves to purchasing 1 000 shares on a certain date in the future, when the share price was C10 on date of commitment. By making such a commitment, we would be opening ourselves to the risk that the share price increases (e.g. if the share price increased to C15, we would have to pay C15 000 instead of only C10 000).

3.3 Credit Risk

This is the risk that the one party to a financial instrument will fail to discharge an obligation and cause the other party to incur a financial loss. A typical example is a debtor, being a financial asset to the entity, who may become insolvent and not pay the debt due (i.e. where a debtor becomes a bad debt).

3.4 Liquidity Risk

This is the risk that the entity will encounter difficulty in raising funds to meet commitments associated with the financial instrument. An example would be where we (the entity) found ourselves with insufficient cash to pay our suppliers (i.e. where we become a bad debt to one of our creditors).

4. Derivatives

There are many types of derivatives of which we discuss a few:

4.1 Options

An option gives the holder the opportunity to buy or sell a financial instrument on a future date at a specified price. The most common option that we see involves options to buy shares on a future date at a specific price (strike price). These are often granted to directors or employees of companies. Another example is an option to purchase currency on a future date at a specific exchange rate. Options may be used to limit risks (as the exercise price of an option is always specified) or they may be used for speculative purposes (i.e. to trade with).

4.2 Swaps

A swap is when two entities agree to exchange their future cash flows relating to their financial instruments with one another. A common such agreement is an 'interest rate swap'. For example, one entity (A) has a fixed-rate loan and another entity (B) has a variable-rate loan. The two entities may agree to exchange their interest rates if A would prefer a variable rate and B would prefer a fixed rate.

Example 3: swaps

Company A has a loan of C100 000 with a fixed interest rate of 10% per annum.
Company B has a loan of C100 000 with a variable interest rate, which is currently 10% per annum.
Company A and Company B agree to swap their interest rates.
The variable rate changed to 12% in year 2.
The variable rate changed to 8% in year 3.

Required:

Journalise the receipts/ payments of cash in Company A's books for year 2 and year 3.

Solution to example 3: swaps

	Debit	Credit
Year 2		
Interest expense (finance charges)	10 000	
Bank		10 000
<i>Interest on fixed rate loan paid to lender: 100 000 x 10%</i>		
Interest expense (finance charges)	2 000	
Bank		2 000
<i>Difference between variable and fixed rate loan paid to Company B: 100 000 x (12% - 10%)</i>		
Year 3		
Interest expense (finance charges)	10 000	
Bank		10 000
<i>Interest on fixed rate loan paid to lender: 100 000 x 10%</i>		
Bank	2 000	
Interest income		2 000
<i>Difference between variable and fixed rate loan received from Company B: 100 000 x (12% - 10%)</i>		

4.3 Futures

A future is an agreement by the entity to buy a specified type and quantity of a financial instrument on a specified future date at a specified price. For example, if A does not have the cash to purchase shares immediately but believes that they are a worthwhile investment, it may enter into a futures contract with another entity (B) whereby A commits to buying them on a future date. The difference between a future and an option is that a future commits the entity whereas an option does not.

5. Compound financial instruments (IAS 32.15 - .16)

Some financial instruments have both equity and liability portions. These are referred to as *compound instruments*. These instruments must be split into the two separate elements based on their substance rather than on their legal form.

The difference between equity and liabilities is that:

- liabilities involve a contractual obligation to deliver cash or exchange financial instruments with another entity under conditions that are potentially unfavorable; whereas
- equity involves no such obligation.

The method used to split a compound financial instrument is:

- first: find the value of the liability portion; and
- then: balance back to the equity portion (the total value – the value of the liability).

It must be remembered that the classification of an instrument in the statement of financial position will affect other financial statements too: if, for example, a financial instrument such as preference shares is treated as partly equity and partly liability, then the portion of the preference dividend that relates to the equity component will be recognised as a dividend in the statement of changes in equity, but the portion of the dividend that relates to the liability component will be recognised as interest (finance costs) in the statement of comprehensive income.

Example 4: splitting of compound financial instruments

Barmy Limited issued 100 000 cumulative, 10% preference shares on 1 January 20X5 at an issue price of C5 each (par value). These preference shares are convertible on the 31 December 20X7 into ordinary shares at the option of the holder. If they are not converted they will be redeemed on this date at par. The market interest rate is 15%.

Required:

Split the compound financial instrument into its equity and liability portions.

Solution to example 4: splitting of compound financial instruments**Comment:**

The preference shares that we issued are convertible into ordinary shares. The conversion is at the option of the shareholder: in order to be prudent, we assume the worst from a cash flow point of view and therefore assume that all the shareholders will choose to the redemption instead of the conversion.

The potential liability that we have is therefore (1) the interest that we know we will have to pay each year for three years plus (2) the possible redemption (repayment) of capital after three years. The liability is measured at the present value of these two cash outflows.

The difference between the amount we receive and the amount we recognise as a liability (measured at its present value) is recognised as equity.

Step 1: Calculate the liability portion**1.1 Annuity**

Interest payment each year for 3 years	$(100\,000 \times C5 \times 10\%)$	50 000
Discount factor for 3 years (based on 15%)	$(15\% \text{ for a 3-year annuity})^*$	2.2832
Liability portion		<u>114 160</u>

1.2 Redemption

Lumpsum payment after 3 years	$(100\,000 \times C5 \times 100\%: \text{par value})$	500 000
Discount factor after 3 years (based on 15%)	$(15\% \text{ after 3-years})^*$	0.6575
Liability portion		<u>328 750</u>

* Discount factor at 15% for a 3-year annuity

$1/1.15$	0.8696
$0.870/1.15$	0.7561
$0.756/1.15$	0.6575
	<u>2.2832</u>

1.3 Total liability

Present value of the 3 interest payments	W1.1	114 160
Present value of the lump-sum payment	W1.2	328 750
Liability portion		<u>442 910</u>

Step 2: Calculate the equity portion

Total cash received	$100\,000 \times C5 (\text{par value})$	500 000
Less recognised as a liability	W1.3	442 910
Recognise as equity	Balancing	<u>57 090</u>

Example 5: compulsorily convertible preference shares

Crazee Limited issued 500 000 C15 par value 20% preference shares on 2 January 20X4. The preference shares were issued at par and are compulsorily convertible into ordinary shares (1 ordinary share for every 5 preference shares) on 31 December 20X6. The appropriate adjusted market dividend rate for 'pure' redeemable preference shares is 25%.

Required:

Prepare journal entries to record the financial instrument over its three-year life in the accounting records of Crazee Limited. You may ignore the journal entry for its conversion on 31 December 20X6.

Solution to example 5: compulsorily convertible preference shares**Comment:**

The preference shares that we issued are convertible into ordinary shares. The conversion is compulsory. This means that there is definitely no chance that we will have to repay any of the cash received).

*The potential liability that we have is therefore **only the interest** that we know we will have to pay each year for three years. The liability is measured at the present value of these cash outflows.*

The difference between the amount we receive and the amount we recognise as a liability (measured at its present value) is recognised as equity.

Step 1: Calculate the liability portion

Interest payment each year for 3 years	(500 000 x C15 x 20%)	1 500 000
Discount factor for 3 years (based on 25%)	(25% for a 3-year annuity) *	1.952
Liability portion		<u>2 928 000</u>

* Discount factor at 25% for a 3-year annuity

1/ 1.25	0.800
0.8/ 1.25	0.640
0.64/ 1.25	0.512
	<u>1.952</u>

Step 2: Calculate the equity portion

Total cash received	(500 000 x C15)	7 500 000
Less recognised as a liability	Step 1	<u>2 928 000</u>
Therefore equity portion	Balancing	<u>4 572 000</u>

Step 3: Loan amortisation table

	Interest 25%	Bank	Liability
2 Jan 20X4		2 928 000	(2 928 000)
31 Dec 20X4	732 000	(1 500 000)	(2 160 000)
31 Dec 20X5	540 000	(1 500 000)	(1 200 000)
31 Dec 20X6	300 000	(1 500 000)	0
	<u>1 572 000</u>	<u>(1 572 000)</u>	

Journals**2 January 20X4**

	Debit	Credit
Bank	7 500 000	
Financial liability (preference shares)		2 928 000
Preference share equity		4 572 000
<i>Issue of convertible preference shares</i>		

31 December 20X4

Finance costs	732 000	
Financial liability (balancing)	768 000	
Bank		1 500 000
<i>Payment of preference dividend</i>		

31 December 20X5

Finance costs	540 000	
Financial liability (balancing)	960 000	
Bank		1 500 000
<i>Payment of preference dividend</i>		

31 December 20X6

Finance costs	300 000	
Financial liability (balancing)	1 200 000	
Bank		1 500 000
<i>Payment of preference dividend</i>		

Example 6: redeemable debentures issued at a discount

On 2 January 20X4, Redvers Limited issued 10 000 C500 par value debentures, at a discount of C100 on par value, details of which are as follows:

- These debentures are compulsorily redeemable at a premium of 10% over par value, 4 years later.
- The debentures bear interest at 15% per annum payable in arrears.
- The internal rate of return on the debentures is 25.23262%.

Required:

Prepare journal entries to record the financial instrument over its three-year life in the accounting records of Redvers Limited.

Solution to example 6: redeemable debentures issued at a discount

Comment: The debentures that we issued are redeemable. There is no possibility of conversion and therefore there is definitely no equity component.

The liability that we have is therefore (1) the interest that we know we will have to pay each year for four years plus (2) the definite redemption (repayment) of capital after four years. The liability is measured at the present value of these two cash outflows.

The difference between the amount we receive and the amount we recognise as a liability (measured at its present value) is recognised as equity. This will work out to zero since the issue price will have been worked out based on our rate of return combined with the 15% interest cost and the 10% premium.

Step 1: Calculate the liability portion*1.1 Annuity*

Interest payment each year for 4 years	$(10\,000 \times C500 \times 15\%)$	750 000
Discount factor for 4 years (for 25.23262%)	$(25.23262\% \text{ for a 4-year annuity})^*$	2.3518567
Liability portion		<u>1 763 890</u>

1.2 Redemption

Lumpsum payment after 4 years	$(10\,000 \times C500 \times 110\%)$	5 500 000
Discount factor after 3 years (for 25.23262%)	$(15\% \text{ after 3-years})^*$	0.4065654
Liability portion		<u>2 236 110</u>

* Discount factor at 25.2326% for a 4-year annuity

$1/1.252326$	0.7985141
$0.7985/1.252326$	0.6376248
$0.6376/1.252326$	0.5091524
$0.5092/1.252326$	0.4065654
	<u>2.3518567</u>

1.3 Total liability

Present value of the 4 interest payments	W1.1	1 763 890
Present value of the lump-sum payment	W1.2	2 236 110
Liability portion		<u>4 000 000</u>

Step 2: Calculate the equity portion (not required: there can be no equity since these are compulsorily redeemable: calculation provided for interest)

Total cash received	$10\,000 \times C400$ (issue value)	4 000 000
Less recognised as a liability	W1.3	4 000 000
Recognise as equity	Balancing	<u>0</u>

Step 3: Loan amortisation table

	Interest 25.23262%	Bank	Liability
2 Jan 20X4		4 000 000	4 000 000
31 Dec 20X4	1 009 305	(750 000)	4 259 305
31 Dec 20X5	1 074 734	(750 000)	4 584 039
31 Dec 20X6	1 156 673	(750 000)	4 990 712
31 Dec 20X7	1 259 287	(750 000)	5 500 000
		(5 500 000)	
	<u>4 500 000</u>	<u>(4 500 000)</u>	

Journals

	Debit	Credit
2 January 20X4		
Bank	4 000 000	
Financial liability debentures		4 000 000
Issue of convertible preference shares		

Journals continued ...	Debit	Credit
<i>31 December 20X4</i>		
Finance costs	1 009 305	
Financial liability (balancing)		259 305
Bank		750 000
<i>Finance costs on debentures</i>		
<i>31 December 20X5</i>		
Finance costs	1 074 734	
Financial liability (balancing)		324 734
Bank		750 000
<i>Finance costs on debentures</i>		
<i>31 December 20X6</i>		
Finance costs	1 156 673	
Financial liability (balancing)		406 673
Bank		750 000
<i>Finance costs on debentures</i>		
<i>31 December 20X7</i>		
Finance costs	1 259 287	
Financial liability (balancing)		509 287
Bank		750 000
<i>Finance costs on debentures</i>		
Financial liability	5 500 000	
Bank		5 500 000
<i>Redemption of debentures</i>		

6. Categories of financial liabilities

6.1 Overview (IAS 39.9 and .43)

There are two main categories of financial liabilities, classified based on how they are measured. Financial liabilities may be measured at:

- Fair value through profit or loss; or
- Not at fair value through profit or loss ('other financial liabilities').

Measurement of financial liabilities that are classified as fair value through profit or loss does not include transaction costs.

Financial liabilities that are not classified as fair value through profit and loss are initially recognised at the fair value of the consideration received, *net* of transaction costs. For example if debentures were issued for C100 000, with C1 000 transaction costs, the entity would have received a net amount of C99 000 and therefore the debentures would be recognised at C99 000 in the statement of financial position.

6.2 Financial liabilities that are measured at fair value through profit or loss (IAS 39.9)

These financial liabilities are essentially liabilities that are:

- held for trading (i.e. purchased with the intention to sell or repurchase in the short term; derivatives other than hedging instruments or are part of a portfolio of financial instruments where there is a recent actual evidence of short-term profiteering or are derivatives); or
- designated by the entity as *fair value through profit and loss*. This designation is only allowed where it provides more relevant information:

- through eliminating measurement or recognition inconsistency, or
- because the financial liability is evaluated by the entity's key management personnel (e.g. board of directors) on a fair value basis in accordance with its documented risk management or investment strategy.

The designation of fair value through profit and loss is not allowed if

- the contract including the financial liability includes embedded derivatives that do not significantly change the cash flows otherwise required by the contract, or where the separation of the embedded derivative is not allowed; and
- it involves an equity instrument that does not have an active market in which it has a quoted market price and whose fair value cannot be measured reliably.

Fair value through profit or loss financial liabilities are carried at fair value and any changes in fair value from one year to the next are recognised in profit or loss.

Example 7: fair value through profit or loss

Mousse Limited issued 100 000 debentures on the 1 January 20X5, proceeds totaled C200 000. On the 31 December 20X5 the debentures had a fair value of C300 000. Mousse Limited designated these debentures to be held at 'fair value through profit or loss'.

Required:

Provide the necessary journal entries to show how Mousse Limited should account for the change in the fair value of the debentures.

Solution to example 7: fair value through profit or loss

	Debit	Credit
<i>1 January 20X5</i>		
Bank	200 000	
Debentures (liability)		200 000
<i>Issue of debentures</i>		
<i>31 December 20X5</i>		
Loss on financial liabilities held at fair value (expense)	100 000	
Debentures (liability)		100 000
<i>Re-measurement of debentures at year-end</i>		

6.3 Financial liabilities that are not measured at fair value through profit or loss

A liability that is not held for trading, (and not otherwise designated as fair value through profit or loss on acquisition) is measured at amortised cost using the effective interest rate method. This ensures that all the finance costs incurred are recognised over the life of the financial liability.

Example 8: other financial liabilities

Tempo Limited issued 200 000 debentures on the 1 January 20X5 at par of C7. The debentures are redeemable on the 31 December 20X7 for C10.

Required:

Calculate the finance costs and the carrying amount of the debentures for each affected year.

Solution to example 8: other financial liabilities

The effective interest rate is calculated using a financial calculator as 12.6248%

PV = -7 FV=10 N = 3 COMP i

Date	Finance Costs @ 12,6248%	Carrying Amount	
1 Jan 20X5		1 400 000	<i>200 000 x C7</i>
31 Dec 20X5	176 747	1 576 747	
31 Dec 20X6	199 061	1 775 808	
31 Dec 20X7	224 192	2 000 000	
Redemption		(2 000 000)	

7. Categories of financial assets**7.1 Overview (IAS 39.9)**

There are four main categories of financial assets and they are:

- Fair value through profit or loss;
- Held to maturity;
- Loans and receivables; and
- Available for sale.

7.2 Fair value through profit or loss (IAS 39.9; .11A and .50)

These financial assets are essentially assets that are:

- held for trading, being:
 - acquired with the intention to sell in the short term;
 - acquired as part of a selling portfolio; or
 - derivatives; or
- designated by the entity as *fair value through profit and loss*. This designation is only allowed where it provides more relevant information:
 - through eliminating measurement or recognition inconsistency, or
 - because the financial asset is evaluated by the entity's key management personnel (e.g. board of directors) on a fair value basis in accordance with its documented risk management or investment strategy.

The designation of fair value through profit and loss is not allowed if:

- the contract including the financial asset includes embedded derivatives that do not significantly change the cash flows otherwise required by the contract, or where the separation of the embedded derivative is not allowed; and
- it involves an equity instrument that does not have an active market in which it has a quoted market price and whose fair value cannot be measured reliably.

Any financial asset may be deemed by the entity, when acquired, to be held for trading, but may not be later reclassified.

Fair value through profit or loss financial assets are carried at fair value and any changes in fair value from one year to the next are recognised as income or expenses.

Example 9: fair value through profit or loss financial assets

Grime Limited purchased 25 000 debentures at a total cost of C 25 000 on the 1 November 20X5.

At the year end (31 December 20X5) the fair value of the debentures was C55 000.

Grime Limited purchased these debentures with the intention to sell in the short term.

Required:

Show the necessary journal entries to record the change in fair value.

Solution to example 9: fair value through profit or loss financial assets

		Debit	Credit
<i>1 November 20X5</i>			
Debentures (asset)	<i>Given</i>	25 000	
Bank			25 000
<i>Purchase of debentures</i>			
<i>31 December 20X5</i>			
Debentures (asset)	<i>55 000 – 25 000</i>	30 000	
Profit on financial liabilities held at fair value			30 000
<i>Re-measurement of debentures at year-end</i>			

7.3 Held to maturity financial assets (IAS 39.9)

These assets include:

- non-derivatives;
- fixed rate instruments;
- fixed maturity instruments; and
- assets that the entity has both the ability and intention to hold until maturity.

If, however, one of these assets has been sold by the entity in the past 2 years that type of asset is now *tainted* and may not be classified as held to maturity.

Held to maturity financial assets are held at amortised cost using the effective interest rate.

Example 10: held to maturity

Eternity Ltd purchased 10% debentures for C 200 000 on 1 January 20X5, (redeemable on the 31 December 20X6). They intended to hold them to maturity, (and had the ability to do so). They had never held such debentures before. The fair value on 31 December 20X5 was C400 000.

Required:

Prepare the necessary journal entries to show how Eternity Ltd should account for the debentures for the year ended 31 December 20X5.

Solution to example 10: held to maturity

		Debit	Credit
<i>1 January 20X5</i>			
Debentures (asset)	<i>Given</i>	200 000	
Bank			200 000
<i>Purchase of debentures</i>			
<i>31 December 20X5</i>			
Debentures (asset)	<i>200 000 x 10%</i>	20 000	
Interest income			20 000
<i>Interest earned on debentures</i>			

Notice that no entry is made for the increase in fair value.

7.4 Loans and receivables (IAS 39.9)

These assets are:

- Non-derivatives
- Involving fixed/ determinable payments
- That are not quoted in an active market.

These assets include, for example, debtors, loans granted to a third party, and bank deposits.

Loans and receivables are carried at amortised cost using the effective interest rate method.

Example 11: loans and receivables

Obliged Limited lent C50 000 to Grateful Limited on 30 June 20X5.
Interest as per the agreement was charged at 20%.
No repayments were made on the loan.

Required:

Show the necessary journals to account for the loan for the year ended 31 December 20X5.

Solution to example 11: loans and receivables

		Debit	Credit
<i>30 June 20X5</i>			
Loan to Grateful Limited (asset)	<i>Given</i>	50 000	
Bank			50 000
<i>Loan granted to Grateful Ltd</i>			
<i>31 December 20X5</i>			
Loan to Grateful Limited (asset)	$50\,000 \times 20\% \times 6 / 12 \text{ months}$	5 000	
Interest income			5 000
<i>Interest charged for the year ended 31 December 20X5</i>			

7.5 Available for sale financial assets (IAS 39.9)

Available for sale financial assets are all those non derivative financial assets that are designated as Available for Sale or are classified into any of the three other categories. Available for sale financial assets are recorded at fair value, with the resultant changes in fair value recognised in other comprehensive income (i.e. equity).

Example 12: available for sale

Dilly Limited purchased 500 000 shares in Sane Limited on the 31 March 20X5.
They were purchased for C1 000 000.
On the 31 December the fair value of these shares was C2 000 000.
These shares were classified as available for sale.

Required:

Prepare the necessary journal entries to show how Dilly Limited should account for these shares.

Solution to example 12: available for sale

		Debit	Credit
<i>31 March 20X5</i>			
Shares in Sane Limited (asset)	<i>Given</i>	1 000 000	
Bank			1 000 000
<i>Purchase of shares in Sane Limited</i>			
<i>31 December 20X5</i>			
Shares in Sane Limited (asset)	$2\,000\,000 - 1\,000\,000$	1 000 000	
Equity: gain on revaluation of shares			1 000 000
<i>Shares in Sane Limited revalued to fair value</i>			

8. Reclassification of financial instruments

8.1 Overview

There are a variety of situations where financial instruments may need to be re-classified. The most important issues are stated below.

8.2 Fair value through profit or loss (IAS 39.50)

An entity is not allowed to reclassify a financial instrument into or out of the 'fair value through profit or loss' category whilst it is held or issued.

8.3 Held to maturity (IAS 39.51)

If, as a result of a change in intention or ability, it is no longer appropriate to classify an instrument as 'held to maturity', it shall be reclassified as 'available for sale' and re-measured at fair value. The difference between carrying amount and fair value must be recognised in other comprehensive income.

8.4 Available for sale (IAS 39.54)

If, as a result of a change in intention or ability (or the fair value is no longer able to be reliably measured), it becomes appropriate to measure at cost or amortised cost rather than at fair value, then the previous fair value carrying amount becomes the de facto cost or amortised cost from that date onwards. Any gain or loss recognised in other comprehensive income whilst it was measured as available for sale must be recognised in profit or loss:

- over the remaining life of the financial asset if it has a fixed maturity;
- when the financial asset is sold or otherwise disposed of.

8.5 Instruments previously measured at amortised cost (IAS 39.53)

If a reliable measure becomes available for a financial instrument which was previously not available, and the financial instrument would have been measured at fair value had fair value been available, such financial instrument shall be re-measured at fair value. The difference between its fair value and its carrying amount must be taken directly to equity. [IAS 39.53]

9. Impairment of financial instruments (IAS 39.58 – 70)

The entity must assess whether its financial assets are impaired at the end of the reporting period. A financial asset (or group of financial assets) is only impaired at the end of a reporting period if there is objective evidence that suggests:

- that one or more events occurred after the initial recognition;
- where the event causes loss; and where
- this 'loss event' has an impact on estimated future cash flows of the financial asset or group of financial assets; and
- the amount of the loss can be reliably estimated.

10. Offsetting of financial assets and liabilities (IAS 32.42 - .50)

Financial assets and liabilities may not be offset against one another unless:

- the entity has a legal right to set off the two amounts; and
- the entity intends to settle the two instruments simultaneously or on a net basis.

11. Disclosure

The following narrative disclosure is required (required by IFRS 7):

- For credit risk:
 - Amount of maximum credit risk
 - Collateral held as security
 - Other credit enhancements
 - Credit quality of financial assets (not past due)
 - Carrying amount of financial assets past due/ impaired/ re-negotiated.
- For liquidity risk:
 - Maturity analysis for financial liabilities
 - Description of how liquidity risk is managed.
- For market risk
 - Sensitivity analysis for each market risk
 - Methods and assumptions used in the analysis
 - Any changes in the above assumptions, together with reasons for the changes.
- For each class of financial assets and liabilities:
 - The criteria for recognition;
 - Basis for measurement
 - Methods and assumptions made to determine fair value
 - Fair value of the financial instrument (or the reasons why it cannot be determined, information about the related market and the range of possible fair values).

The following figures must be separately disclosed:

- finance costs from financial liabilities must be presented as a separate line item.
- the total change in fair value of the instruments reported in the statement of comprehensive income
- the changes in fair value that were taken directly to equity.

The following is a suggested layout that you may find useful.

Name of Company					
Statement of changes in equity					
For the year ended 31 December 20X5 (extracts)					
	Ordinary share capital	Share premium	Available for sale financial assets	Retained earnings	Total
	C	C	C	C	C
Balance: 1 January 20X5	xxx	xxx	xxx	xxx	xxx
Ordinary shares issued	xxx	xxx			xxx
Total comprehensive income			xxx	xxx	xxx
Balance: 31 December 20X5	xxx	xxx	xxx	xxx	xxx

Name of Company			
Statement of financial position (extracts)			
As at 31 December 20X5			
	Note	20X5 C	20X4 C
EQUITY AND LIABILITIES or ASSETS			
Loan		xxx	xxx
Financial instruments	39	xxx	xxx
Preference shares		xxx	xxx

Name of Company
Statement of comprehensive income (extracts)
For the year ended 31 December 20X5

	Note	20X5 C	20X4 C
Profit before finance costs		xxx	xxx
Finance costs:			
• Fair value adjustment of financial instruments		xxx	xxx
Profit before tax		xxx	xxx
Taxation expense		xxx	xxx
Profit for the year		xxx	xxx
<i>Other comprehensive income</i>			
• Gain/ (loss) on available for sale financial asset		xxx	xxx
o Gains arising during the year		xxx	xxx
o Less reclassification adjustment: gains now recognised in profit/ loss		(xxx)	(xxx)
Total comprehensive income		xxx	xxx

Name of Company
Notes to the financial statements of
For the year ended 31 December 20X5 (extracts)

1. Statement of compliance

2. Accounting policies

2.1 Financial Instruments

The following recognition criteria are used for financial instruments...

The fair value of the financial instruments are determined with reference to ...

39. Financial instruments

The company uses ... to manage Financial Risks.

Such risks and methods are:

- We are exposed to Currency risk in ... and Foreign Currency risk is managed by ...
- We are exposed to Interest rate risk in ... and Interest rate risk is managed by ...
- We are exposed to Market risk in ... and Market risk is managed by ...
- We are exposed to Credit risk in ... and Credit risk is managed by ...
- We are exposed to Liquidity Risk in ... and Liquidity Risk is managed by ...

Example 13: disclosure of financial instruments

On 1 January 20X5 Nic Limited issued 10 000 C20 par value 10% compulsory redeemable debentures at par.

The debentures will be redeemed on 31 December 20X9. Interest is paid annually in arrears on 31 December.

Tiff Limited purchased all 10 000 debentures on the 1 January 20X5. The debentures were classified as available for sale.

The ex-dividend market value of the debentures is as follows:

Date	Market price (C)
31/12/20X5	22
31/12/20X6	24
31/12/20X7	25
31/12/20X8	27
31/12/20X9	30

The following information was extracted from Tiff Limited accounting records (year ended 31 December):

	20X5	20X7	20X9
Revenue	1 000 000	2 000 000	4 000 000
Cost of sales	(500 000)	(1 000 000)	(1 500 000)

The investment in Nic Limited's debentures is Tiff Limited's only investment.

Required:

Disclose the above information in the financial statements of Tiff Limited in accordance with IFRSs for the years ended 31 December 20X5, 20X7 and 20X9.

Solution to example 13: disclosure of financial instruments

Tiff Limited

Statement of comprehensive income

For the year ended 31 December

	20X9 C	20X7 C	20X5 C
Revenue	4 000 000	2 000 000	1 000 000
Cost of sales	(1 500 000)	(1 000 000)	(500 000)
Gain on redemption	100 000		
Profit for the year	2 600 000	1 000 000	500 000
Other comprehensive income			
• Available for sale financial asset	(70 000)	10 000	20 000
• gains arising during the year	30 000	10 000	20 000
• less reclassification adjustment: gain now included in profit or loss	(100 000)		
Total comprehensive income	2 530 000	1 010 000	520 000

Tiff Limited

Statement of changes in equity (extract)

For the year ended 31 December

	Retained earnings C	Available for sale financial asset C	Total C
Balance: 1/1/20X5	xxx	xxx	xxx
Total comprehensive income	500 000	W1 20 000	520 000
Balance: 1/1/20X6	xxx	20 000	xxx
Total comprehensive income	xxx	W1 20 000	xxx
Balance: 1/1/20X7	xxx	40 000	xxx
Total comprehensive income	1 000 000	W1 10 000	1 010 000
Balance: 1/1/20X8	xxx	50 000	xxx
Total comprehensive income	xxx	W1 20 000	xxx
Balance: 1/1/20X9	xxx	70 000	xxx
Total comprehensive income	2 600 000	W1 (70 000)	2 530 000
Balance: 31/12/20X9	xxx	0	xxx

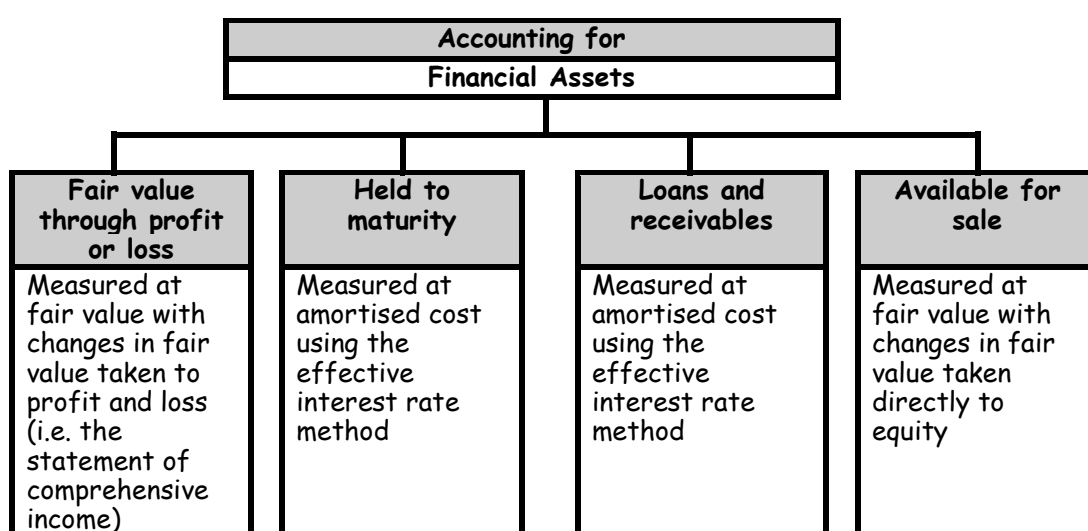
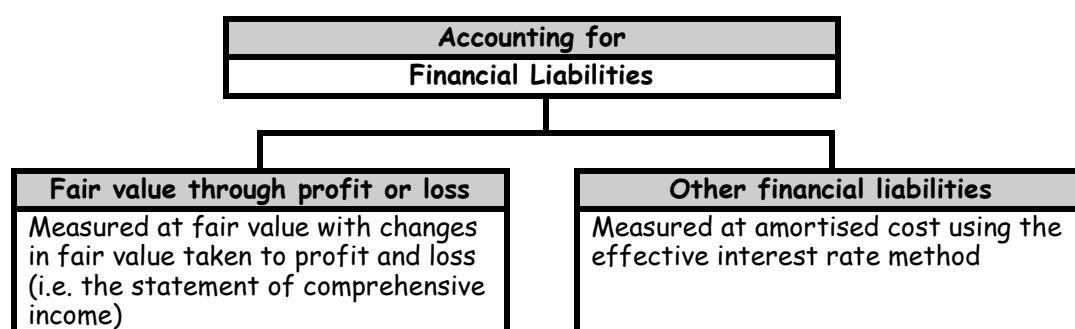
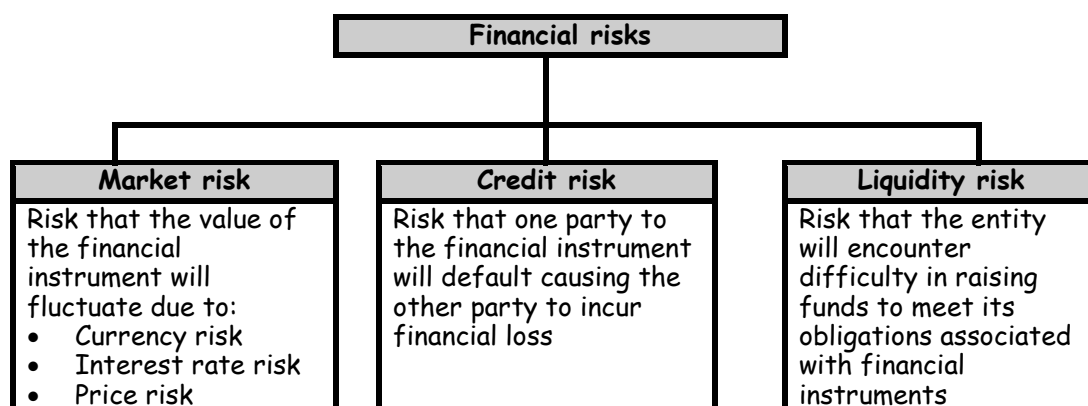
Tiff Limited
Statement of financial position (extract)
As at 31 December

	20X9	20X7	20X5
	C	C	C
ASSETS			
<i>Non-current assets</i>			
Financial assets	0	250 000	220 000

W1. Calculation of gains recognised in other comprehensive income

		C
Financial asset initially measured: 1/1/20X5	$10\,000 \times 20$	200 000
Fair value adjustment	<i>Balancing</i>	20 000
Fair value on 31/12/20X5	$10\,000 \times 22$	220 000
Fair value adjustment	<i>Balancing</i>	20 000
Fair value on 31/12/20X6	$10\,000 \times 24$	240 000
Fair value adjustment	<i>Balancing</i>	10 000
Fair value on 31/12/20X7	$10\,000 \times 25$	250 000
Fair value adjustment	<i>Balancing</i>	20 000
Fair value on 31/12/20X8	$10\,000 \times 27$	270 000
Fair value adjustment	<i>Balancing</i>	30 000
Fair value on 31/12/20X9	$10\,000 \times 30$	300 000
Total fair value adjustments	$20\,000 + 20\,000 + 10\,000 + 20\,000 + 30\,000$	100 000

12. Summary



Chapter 22

Share Capital

Reference: Companies Ordinance, 1984 and IAS 39

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1. Introduction

A business entity requires funds to start and continue running a business. These funds can be obtained from one – or a combination of – two basic sources:

- capital from owners including retained profits (an internal source); and
- loans or debentures (an external source).

In the case of a partnership, the owners would be referred to as partners. In the case of a close corporation, the owners would be referred to as members and in the case of companies, the owners would be referred to as shareholders. This chapter concentrates on the acquisition of funds by a *company* through its *shareholders*.

There are two basic classes of shares that a company may issue:

- ordinary shares (also referred to as common stock); and
- preference shares (also referred to as preferred stock);.

There are two sides to the share capital coin:

- the entity issuing the shares will see the shares as share capital (or financial liabilities under certain circumstances); and
- the entity investing in the shares will see the shares as a financial asset.

This chapter looks at shares from the perspective of the entity that issued the shares. Shares capital from the perspective of the investor is explained in the financial instruments chapter.

2. Ordinary shares and preference shares

2.1 Ordinary dividends and preference dividends

Preference shareholders have preference over the ordinary shareholders in the case of the company being liquidated. Ordinary shares are therefore riskier from an investor perspective than preference shares but they usually outperform preference shares on the stock markets.

Ordinary shareholders are not guaranteed to receive dividends because ordinary dividends are dependant on both the profitability of the company and its cash flow. It should be noted that an interim ordinary dividend is often declared during the year with a final ordinary dividend declared at year-end or shortly thereafter. A dividend should only be recognised once the company has a present obligation to pay the dividend. This obligation arises when the dividends are declared (e.g. a final ordinary dividend for the year ended 31 December 20X2 that is declared in January 20X3, should be recorded in the financial statements for the year ended 31 December 20X3, since there was no obligation before the date of the declaration).

Preference shareholders generally receive a fixed preference dividend annually. The dividend is based on the coupon rate.

Example 1: preference dividend

The company has 1 000 12% preference shares with a par value of C2 each in issue.

Required:

Calculate the preference dividend for the year.

Solution to example 1: preference dividend

$$1\,000 \times C2 \times 12\% \text{ (coupon rate)} = C240$$

2.2 Cumulative and non-cumulative preference shares

‘Cumulative’ or ‘non-cumulative’ preference shares refer to the status of the dividends:

- ‘non-cumulative’ preference dividends are not recorded if they are not declared in any one year since the entity has no obligation to pay the dividend; whereas
- ‘cumulative’ preference dividends are dividends which *must* be paid and therefore if the company is unable to pay the dividend in any one year, this dividend accrues to the preference shareholder until it is paid. No ordinary dividend may be paid until all cumulative preference dividends have been paid.

Interestingly, when a company issues ‘cumulative preference shares’ it commits itself to the payment of preference dividends until either the company is wound up or the preference shares are redeemed. This means that the company creates a present obligation on the date of issue: a liability equal to all the future preference dividends.

It also stands to reason that if the share issue is to be recorded as a liability, the preference dividends payable thereon would be recognised – for accounting purposes – as finance charges (and not as preference dividends) and disclosed in the statement of comprehensive income (and not in the statement of changes in equity).

You may assume, for the rest of this chapter, that all preference shares are non-cumulative unless the question indicates otherwise.

2.3 Participating and non-participating preference shares

Non-participating preference shares are those where the shareholder does not participate in profits except to the extent of the fixed annual dividend, which is based on the coupon rate. Participating preference shares are those where the shareholders receive, in addition to the fixed annual dividend, a fluctuating dividend, which fluctuates in accordance with the ordinary dividend.

Example 2: participating dividend

A company has 1 000 12% non-cumulative preference shares of C2 each that participate to the extent of 1/5 of the ordinary dividend per share.

The ordinary dividend declared is 10c per share. There are 1 000 C3 ordinary shares in issue.

Required:

Journalise the ordinary and preference dividends.

Solution to example 2: participating dividend

	Debit	Credit
Ordinary dividends	100	
Ordinary shareholders for dividends (L)		100
<i>Ordinary dividends declared (1 000 x 10c)</i>		
Preference dividends	240	
Preference shareholders for dividends (L)		240
<i>Fixed preference dividend owing (1 000 x C2 x 12%)</i>		
Preference dividends	20	
Preference shareholders for dividends (L)		20
<i>Participating preference dividend owing (1 000 x 10c x 1/5)</i>		

Please note: the ordinary dividend and the preference dividend (assuming that the latter related to preference shares that were non-cumulative and non-redeemable and thus were recognised as pure equity) would appear in the statement of changes in equity as a distribution to equity participants.

2.4 Redeemable and non-redeemable preference shares

Redeeming a preference share means returning the capital to the preference shareholder. Therefore, when issuing a preference share that is redeemable at some date in the future, the company immediately commits itself to a future outflow of economic benefits. This issue of shares would then be recognised as a liability. The recognition and measurement of the liability would depend on many factors, inter alia:

- whether the redemption of the preference share is at the option of the company, option of the shareholder or is compulsory on a specific date;
- whether the redemption is to be made at a premium (profit to the shareholder) or discount (loss to the shareholder); and
- whether the coupon rate of the share is greater or less than the market-related interest rate.

If the preference shares are compulsorily redeemable, or are redeemable at the option of the shareholder, the company has, through the issue of such shares, created a present obligation the settlement of which will probably result in an outflow of future economic benefits – and thus created a liability.

If, on the other hand, the preference shares are either non-redeemable or are redeemable at the option of the company, there is technically no present obligation and therefore it is not a liability. These shares will therefore be recognised as equity shares.

Example 3: issue of non-redeemable preference shares recognised as equity

On 1 January 20X1 a company issues 50 000 10% non-cumulative, non-redeemable preference shares of C2. The company also has 100 000 ordinary C3 par value shares issued at C3.50. Half of the authorised ordinary and preference shares have been issued. All preference dividends were declared and paid before year-end with the exception of 20X6, when the preference dividend was declared but not yet paid by year-end.

Required:

- Calculate and show all journal entries from the date of issue of the preference shares to 31 December 20X6.
- Disclose the ordinary and preference shares in the financial statements for all years affected including 20X6. Show the statement of changes in equity for 20X6 only.

Solution to example 3A: issue of non-redeemable preference shares recognised as equity

	Debit	Credit
1/1/20X1		
Bank	100 000	
Preference share capital (equity)		100 000
<i>Issue of C2 10% non-redeemable preference shares</i>		
<i>The following two journals marked with an asterisk (*) would be repeated on 31/12/20X1; 31/12/20X2; 31/12/20X3; 31/12/20X4 and on 31/12/20X5:</i>		
Preference dividends (distribution to equity participants) *	10 000	
Preference shareholders (L) *		10 000
<i>Preference dividends: 50 000 x C2 x 10%</i>		
Preference shareholders (L) *	10 000	
Bank *		10 000
<i>Payment of preference dividend</i>		
31/12/20X6		
Preference dividends (distribution to equity participants)	10 000	
Preference shareholders (L)		10 000
<i>Preference dividends: 50 000 x C2 x 10%</i>		

Note: the dividends were paid in each year with the exception of 20X6.

Solution to example 3B: issue of preference shares recognised as equity**Company name****Statement of financial position (extracts)****At 31 December 20X6**

	Note	20X6 C	20X5 C	20X4 C	20X3 C	20X2 C	20X1 C
Equity and Liabilities							
<i>Share capital and reserves</i>							
Ordinary share capital	3	300 000	300 000	300 000	300 000	300 000	300 000
Preference share capital	4	100 000	100 000	100 000	100 000	100 000	100 000
Share premium	3	50 000	50 000	50 000	50 000	50 000	50 000
<i>Current liabilities</i>							
Preference shareholders for dividends		10 000	0	0	0	0	0

Company name**Statement of changes in equity****For the year ended 31 Dec 20X6**

	Ordinary shares C	Share premium C	Preference shares C	Retained earnings C	Total C
Opening balance	300 000	50 000	100 000	xxx	xxx
Ordinary dividends declared				(xxx)	(xxx)
Preference dividends declared				(10 000)	(10 000)
Total comprehensive income					xxx
Closing balance	⁽¹⁾ 300 000	⁽²⁾ 50 000	100 000	xxx	xxx

(1) ordinary shares: 100 000 shares x C3 each; and (2) share premium: 100 000 shares x C0.50 each

Company name**Notes to the financial statements****For the year ended 31 December 20X6 (extracts)****3. Ordinary share capital***Authorised:*

Ordinary shares of C3 each

**20X6
Number**

200 000

**20X5
Number**

xxx

Issued:

Shares in issue at the beginning of the year

100 000

xxx

Issued during the year

0

xxx

Shares in issue at year-end

100 000

100 000

Please note: No shares were issued to any director or member of his immediate family, therefore no details thereof are disclosed. The par value of the shares issued, the share premium and the consideration received (the total of the par value and the share premium) is disclosed in the statement of changes in equity. Any preliminary expenses, commission and expenses caused by the issue that may have been charged against the share premium account (if par value) or stated capital account (if no par value) during the period would be disclosed in the statement of changes in equity.

4. Preference shares*Authorised:*

100 000 10% non-redeemable non-cumulative preference shares of C2 each

	20X6 C	20X5 C	20X4 C	20X3 C	20X2 C	20X1 C
<i>Issued:</i>						
Opening balance	100 000	100 000	100 000	100 000	100 000	0
Issues during the year: 50 000 10% non-redeemable preference shares of C2 each	0	0	0	0	0	100 000
Closing balance	100 000	100 000	100 000	100 000	100 000	100 000

Please note: No shares were issued to any director or member of his immediate family, therefore no details thereof are disclosed.

Example 4: issue of redeemable preference shares recognised as a liability

On 1 January 20X1 a company issues 50 000 10% cumulative, redeemable preference shares (with a par value of C2 each) at their par value:

- These shares must be redeemed on 31 December 20X6 at a premium of C0.20 per share.
- The effective rate of interest paid is calculated to be 11.25563551%.
- Half of the authorised preference shares have been issued.

The company also has 100 000 issued ordinary C3 PV shares (issued at C3.50). There are a total of 120 000 authorised ordinary shares (unchanged since incorporation).

Required:

- Calculate and show all journal entries from the date of issue to the date of redemption
- Disclose the ordinary and preference shares in the financial statements for all years affected excluding 20X6 (the year of redemption). Show the statement of changes in equity for 20X5 only.

Solution 4A: issue of redeemable preference shares recognised as a liability

Preference share liability: Effective interest rate = 11.25563551% (given – or calculated as the internal rate of return using a financial calculator)

W1: Effective interest rate table:

	Interest	Bank	Premium accrued: liability	Pref. shares: liability	Total liability
	Dr/ (Cr)	Dr/ (Cr)	Dr/ (Cr)	Dr/ (Cr)	Dr/ (Cr)
1/1/20X1		100 000		(100 000)	(100 000)
31/12/20X1	11 256	(10 000)	(1 256)		(101 256)
31/12/20X2	11 397	(10 000)	(1 397)		(102 653)
31/12/20X3	11 554	(10 000)	(1 554)		(104 207)
31/12/20X4	11 729	(10 000)	(1 729)		(105 936)
31/12/20X5	11 924	(10 000)	(1 924)		(107 860)
31/12/20X6	12 140	(10 000)	(2 140)		(110 000)
31/12/20X6		(110 000)	10 000	100 000	110 000
	70 000	(70 000)	0	0	0

Notice that the total interest of C70 000 equals:

- dividends of C60 000 (C10 000 x 6 years) + premium on redemption of C10 000 (50 000 x C0.20)

1/1/20X1	Debit	Credit
Bank	100 000	
Preference share liability		100 000
<i>Issue of 50 000 C2 10% redeemable preference shares (50 000 x C2)</i>		
31/12/20X1		
Interest expense	11 256	
Premium accrued (L)		1 256
Preference shareholders (L)		10 000
<i>Interest on preference shares: 100 000 x 11.25563551</i>		
Preference shareholders (L)	10 000	
Bank		10 000
<i>Payment of preference dividend: 50 000 x C2 x 10%</i>		

Journals continued ...:**31/12/20X2**

Interest expense	11 397	
Premium accrued (L)		1 397
Preference shareholders (L)		10 000

Interest on preference shares: 101 256 x 11.25563551

Preference shareholders (L)	10 000	
Bank		10 000

Payment of preference dividend: 50 000 x C2 x 10%

31/12/20X3

Interest expense	11 554	
Premium accrued (L)		1 554
Preference shareholders (L)		10 000

Interest on preference shares: 102 653 x 11.25563551

Preference shareholders (L)	10 000	
Bank		10 000

Payment of preference dividend: 50 000 x C2 x 10%

31/12/20X4

Interest expense	11 729	
Premium accrued (L)		1 729
Preference shareholders (L)		10 000

Interest on preference shares: 104 207 x 11.25563551

Preference shareholders (L)	10 000	
Bank		10 000

Payment of preference dividend: 50 000 x C2 x 10%

31/12/20X5

Interest expense	11 924	
Premium accrued (L)		1 924
Preference shareholders (L)		10 000

Interest on preference shares: 105 936 x 11.25563551

Preference shareholders (L)	10 000	
Bank		10 000

Payment of preference dividend: 50 000 x C2 x 10%

31/12/20X6

Interest expense	12 140	
Premium accrued (L)		2 140
Preference shareholders (L)		10 000

Interest on preference shares: 107 860 x 11.25563551

Preference shareholders (L)	10 000	
Bank		10 000

Payment of preference dividend: 50 000 x C2 x 10%

Solution 4B: issue of redeemable preference shares recognised as a liability**Company name****Statement of financial position (extracts)****As at 31 December 20X5**

	Note	20X5 C	20X4 C	20X3 C	20X2 C	20X1 C
Equity and Liabilities						
<i>Share capital and reserves</i>						
- ordinary share capital	3	300 000	300 000	300 000	300 000	300 000
- share premium	3	50 000	50 000	50 000	50 000	50 000
<i>Non-current liabilities</i>						
- redeemable preference shares	4	0	105 936	104 207	102 653	101 256
<i>Current liabilities</i>						
- redeemable preference shares	4	107 860	0	0	0	0

Please note that had the preference dividend been declared before year-end and paid after year-end, there would have been a balance on the 'preference shareholders' account at year-end which would be disclosed in the statement of financial position as 'preference shareholders for dividends' under the heading of 'current liabilities'.

Company name**Statement of changes in equity****For the year ended 31 December 20X5**

	Ordinary shares C	Share premium C	Retained earnings C	Total C
Opening balance – 20X5	300 000	50 000	xxx	xxx
Ordinary dividends declared			(xxx)	(xxx)
Total comprehensive income			xxx	xxx
Closing balance	300 000	50 000	xxx	xxx

Notice that the preference shares do not appear in the statement of changes in equity since they appear as a liability in the statement of financial position and similarly the preference dividends do not appear in the statement of changes in equity since they are included as an expense (finance charges) in the statement of comprehensive income.

Company name**Statement of comprehensive income (extracts)****For the year ended 31 December 20X5**

	Note	20X5 C	20X4 C	20X3 C	20X2 C	20X1 C
Profit before finance charges		xxx	xxx	xxx	xxx	xxx
Finance charges		11 924	11 729	11 554	11 397	11 256
Profit before tax		xxx	xxx	xxx	xxx	xxx
<i>Other comprehensive income</i>		xxx	xxx	xxx	xxx	xxx
Total comprehensive income		xxx	xxx	xxx	xxx	xxx

Company name**Notes to the financial statements****For the year ended 31 December 20X5 (extracts)****2. Accounting policies***2.8 Preference shares*

Redeemable preference shares, which are redeemable on a specific date or at the option of the shareholder are recognised as liabilities, as the substance thereof is 'borrowings'. The dividends on such preference shares are recognised in the statement of comprehensive income as finance charges using the effective interest rate method.

Company name**Notes to the financial statements****For the year ended 31 December 20X5 (extracts) continued ...**

3. Ordinary share capital	20X6	20X5
	Number	Number
<i>Authorised:</i>		
Ordinary shares of C3 each	120 000	120 000
<i>Issued:</i>		
Shares in issue at the beginning of the year	100 000	xxx
Issued during the year	0	xxx
Shares in issue at year-end	100 000	100 000

Please note: We assumed that no shares were issued to any director or member of his immediate family (since no details thereof were provided in the question), therefore no details thereof are required. The par value of the shares issued, the share premium and the consideration received (the total of the par value and the share premium) is disclosed in the statement of changes in equity. Any preliminary expenses, commission and expenses caused by the issue that may have been charged against the share premium account (if par value) or stated capital account (if no par value) during the current period would also be disclosed in the statement of changes in equity.

4. Redeemable preference shares

	20X5	20X4	20X3	20X2	20X1
	C	C	C	C	C
<i>Authorised:</i>					
10% redeemable preference shares of C2 each	120 000	120 000	120 000	120 000	120 000
<i>Issued:</i>					
Issued 50 000 10% redeemable preference shares of C2 each	100 000	100 000	100 000	100 000	100 000
Premium accrued	7 860	5 936	4 207	2 653	1 256
Balance at year-end	107 860	105 936	104 207	102 653	101 256

The redeemable preference shares are compulsorily redeemable on 31 December 20X6 at a premium of C0.20 per share. The 10% preference dividends are cumulative. The effective interest rate is 11,25563551%.

Please note: It assumed that no shares were issued to any director or member of his immediate family (since no details thereof were given) therefore no disclosure thereof are required/ possible.

3. Other changes to share capital**3.1 Rights issue**

Rights issues are the offering of a certain number of shares to existing shareholders in proportion to their existing shareholding at an issue price that is lower than the market price.

Example 5: rights issue

A company has 1 000 ordinary shares in issue, each with a C2 par value (issued at C2,50). The company wishes to offer its shareholders 1 share for every 4 shares held at an issue price of C3. The current market price immediately before this issue is C4. All the shareholders had accepted the offer by the last day of the offer.

Required:

- A. Journalise this issue.
- B. Disclose the issue in the statement of changes in equity.

Solution example 5A: rights issue**Calculations**

Number of shares issued	$1\,000/4 \times 1$	250
Proceeds received	$250 \times C3$	C750
Share capital	$250 \times C2$	500
Share premium	$C750 - C500$ or $C250 \times (C3 - C2)$	250

Journals

	Debit	Credit
Bank	750	
Ordinary share capital		500
Share premium		250

Shares issued to existing shareholders (1:4) at C3 each (market price: C4)

Solution example 5B: rights issue

Company name	Ordinary share capital	Share premium	Retained earnings	Total
Statement of changes in equity				
For the year ended	C	C	C	C
Opening balance	2 000	500	xxx	xxx
Issue of shares in terms of a rights issue	500	250		750
Total comprehensive income			xxx	xxx
Closing balance	2 500	750	xxx	xxx

Notice that the shares are offered at C3, which is less than the current market price (C4) but greater than the par value (C2), thus still increasing the share premium by C1 (C3 – C2) per share.

3.2 Share splits

The company splits its authorised and issued share capital into more shares of a lower par value. This has the effect of reducing the market value as well since there are suddenly more shares on the market (supply and demand). This is therefore often done when the company feels that its share prices are too high and it wants to improve marketability.

Example 6: share split

A company has 1 000 shares of C2 each which it converts into 2 000 shares of C1 each.

Required:

Journalise the conversion.

Solution to example 6: share split

Although the number and par value of the authorised and issued share capital will change in the notes, there is no journal entry since there is no change in the share capital or cash resources:

Previously: 1 000 shares at C2 each = C2 000

Now: 2 000 shares at C1 each = C2 000

3.3 Share consolidations

This is the opposite of a share split and is often implemented when the company believes its share price is too low: the company reduces the number of authorised and issued shares and increases the par value. Through supply and demand, the market price should also increase.

Example 7: share consolidation

A company has 1 000 C2 par value shares which it converts into 500 C4 par value shares.

Required:

Journalise the conversion.

Solution example 7: share consolidation

Although the number and par value of the authorised and issued share capital will change in the notes, there is no journal entry since there is no change in the share capital or cash resources:

Previously: 1 000 shares at C2 each = C2 000

Now: 500 shares at C4 each = C2 000

3.4 Bonus issue

A company may issue shares to existing shareholders entirely for free. These bonus shares are often referred to as ‘fully paid up’ bonus shares meaning that the shareholder will not pay anything for them. A bonus issue is often made in order to make use of the company’s reserves – converting idle reserves into capital or instead of a dividend payment due to a possible shortage of cash.

The company may use the following accounts to offer bonus shares:

- The share premium account
- The capital redemption reserve account
- Any other distributable reserve.

Example 8: Bonus issue

The company has 1 000 C1 ordinary shares in issue (issued at C1.50) and issues a further 500 fully paid-up shares to its existing shareholders in proportion to their existing shareholding. The company has a balance of C4 000 in the ‘capital redemption reserve fund’ account which it would like to use for the purpose of the bonus issue.

Required:

A. Journalise the issue.

B. Disclose the issue in the statement of changes in equity.

Solution example 8A: bonus issue

	Debit	Credit
Capital redemption reserve fund (CRRF)	500	
Ordinary share capital		500
<i>Bonus issue of 500 ordinary C1 shares to existing shareholders</i>		

Solution example 8B: bonus issue

Company name

Statement of changes in equity

For the year ended ...

	Ordinary share capital	Share premium	Capital redemption reserve	Retained earnings	Total
	C	C	C	C	C
Opening balance	1 000	500	4 000	xxx	xxx
Bonus issue	500		(500)		0
Total comprehensive income				xxx	xxx
Closing balance	1 500	500	3 500	xxx	xxx

Please note that there is no change in either the equity or the cash resources of the company.

3.5 Share buy-backs

A company may, under certain circumstances, buy-back its own shares from its own shareholders. This may only be done under certain conditions including the following:

- The company has approved the buy-back by passing a special resolution;
- The company has prescribed minimum debt equity and current ratios ; and
- Directors have given a solvency declaration

The reason for these restrictions is that both the cash reserves and the capital base of the company are diminished through an acquisition of this kind – thus putting other shareholders and creditors at risk.

Shares that are bought back are no longer considered to be ‘issued shares’ (i.e. they are cancelled as issued shares) and are restored to authorised unissued shares (i.e. they are not cancelled entirely: these shares may be re-issued).

Example 9: share buy-back

A company has 1 000 authorised unissued ordinary shares of C2 par value each and 750 issued ordinary shares of C2 par value each (issued at C3 each). The company buys-back 250 of these shares at their par value.

Required:

A. Journalise the buy-back.

B. Disclose the ordinary share capital note and the statement of changes in equity.

Solution example 9A: share buy-back

	Debit	Credit
Ordinary share capital	500	
Bank		500
<i>Buy-back of 250 shares – at par value</i>		

Solution example 9B: share buy-back

Company name

Statement of changes in equity (extract)

For the year ended ...

	Ordinary share capital	Share premium	Retained earnings	Total
	C	C	C	C
Opening balance	1 500	750	xxx	xxx
Buy-back of shares	(500)	0		(500)
Total comprehensive income			xxx	xxx
Closing balance	1 000	750	xxx	xxx

Notice that there is no proportional decrease in the share premium account

Company name
Notes to the financial statements
For the year ended

3. Ordinary share capital

Authorised:

1 750 ordinary shares of C2 each

Issued:

Shares in issue at the beginning of the year

Acquisition of shares by the company

Shares in issue at year-end

Number

750

(250)

500

Please note that the total authorised and unissued shares has now increased by 250 shares to 1 250 shares (1 750 – 500).

Where shares are bought-back at a premium (being at a price greater than their par value) this premium should be set-off against:

- the share premium account restrictions on how much of this account may be used;
- the capital redemption reserve fund; or
- the distributable profits of the company

Example 10: share buy-back – ‘par value’ shares at a premium

A company has 1 000 authorised unissued ordinary shares of C2 par value each and 750 issued ordinary shares of C2 par value each (issued at C3 each). The company buys-back 250 of these shares at C2.50. The premium on redemption is to be set-off against the capital redemption reserve fund which stood at a balance of C4 000 before the buy-back.

Required:

A. Journalise the share buy-back.

B. Disclose the ordinary share capital note and the statement of changes in equity.

Solution example 10A: share buy-back – ‘par value’ shares at a premium

		Debit	Credit
Ordinary share capital	250 x C2	500	
Premium on buy-back	250 x C0.50	125	
Bank			625
<i>A s85 buy-back of 250 C2 shares – at a premium of C0.50</i>			
Capital redemption reserve fund		125	
Premium on buy-back			125
<i>Setting off the premium paid on buy-back against the CRRF</i>			

Solution example 10B: share buy-back – ‘par value’ shares at a premium

Company name
Statement of changes in equity
For the year ended ...

	Ordinary share capital	Share premium	Capital redemption reserve	Retained earnings	Total
	C	C	C	C	C
Opening balance	1 500	750	4 000	xxx	xxx
Share acquisition by the company	(500)		(125)		(625)
Total comprehensive income				xxx	xxx
Closing balance	1 000	750	3 875	xxx	xxx

Company name**Notes to the financial statements (extracts)****For the year ended**

3. Ordinary share capital	Number
<i>Authorised:</i>	
Ordinary shares of C2 each	1 750
<i>Issued:</i>	
Shares in issue at the beginning of the year	750
Acquisition of shares by the company in terms of s85 (<i>share buy-back</i>)	(250)
Shares in issue at year-end	<u>500</u>
<i>Please note that the total authorised and unissued shares has now increased by 250 shares to 1 250 shares (1 750 – 500) from 1 000 (1 750 – 750).</i>	

3.6 Redemption of preference shares

The redemption of a preference share entails the company paying out the preference shareholder for the preference share. This redemption could be compulsory or at the option of the company or at the option of the shareholder:

- If when the preference shares were originally issued, the company *knew* that the future redemption of these shares would occur or that the redemption would not be at the option of the company, then at the time of the issue, the company had created an obligation for itself. The issue of such shares is therefore recorded as a liability and not as equity.
- If, on the other hand, the preference shares could be redeemed in the future but such a redemption would be at the *option* of the company, then there is no obligation at the time of issue and therefore such preference shares are recognised as equity.

3.6.1 Capital maintenance

When redeeming shares, both the capital and the company's cash reserves are reduced thus putting the other remaining shareholders and creditors at risk. Please note that although redeemable preference shares may possibly be recognised as a liability in the financial statements, from a legal point of view, these are regarded as share capital. For this reason, some countries restrict how the preference shares may be redeemed in order to ensure the maintenance of capital:

- the redemption may only be made using:
 - distributable profits which would otherwise have been made available for dividends,
 - the proceeds of a fresh issue of shares made for that purpose; or
 - sale proceeds of any property of the company
- where the redemption is made out of distributable reserves (i.e. not from a fresh issue of shares), a transfer must be made from profits to a 'capital redemption reserve fund' equal to the amount applied in redeeming the shares.
- This 'capital redemption reserve fund', being a statutory *non*-distributable reserve, is created in order to counteract the risk to creditors caused by the reduction in the share capital.

Example 11: redemption of preference shares and capital maintenance

A company is to redeem its preference shares at their par value and to utilise its balance of retained earnings as far as possible except to ensure that a balance of C5 000 is left therein. The following information is relevant:

- 100 000 C3 ordinary shares issued are in issue (issued at C3.50 each)
- 100 000 C2 10% cumulative, redeemable preference shares are in issue
- The balance of retained earnings on the date of redemption is C80 000.

Required:

Advise the company as to what needs to be done and show the required journals.

Solution example 11: redemption of preference shares and capital maintenance

The redemption may only be made out of (a) profits that would otherwise be available for distribution as dividends or (b) out of a fresh issue of shares. The company prefers to use the retained earnings account for this purpose although requiring a balance of C5 000 to remain after redemption. Since there are insufficient profits, the company will also need to issue shares to make up the balance of the par value redeemed. This extra capital that must be raised is calculated as follows:

Calculation: extra capital to be raised

	C
Par value of preference shares to be redeemed $100\,000 \times C2$	200 000
Retained earnings to be used (C80 000 – C5 000)	(75 000)
Proceeds from a fresh issue of shares required	<u>125 000</u>

The *number* of shares to be issued depends entirely on the issue price of the shares. For example, if the company were to issue more ordinary shares with a par value of C3 at an issue price of C4, a further 31 250 ordinary shares would need to be issued (C125 000/ C4).

The journal entry that would be required is as follows:

	Debit	Credit
Bank	125 000	
Ordinary share capital (31 250 x C3)		93 750
Share premium (31 250 x (C4 – C3))		31 250
<i>Issue of C3 PV ordinary shares at an issue price of C4 each</i>		

Immediately after the issue of the new shares and the redemption of the preference shares, the capital will have been reduced as follows:

	Was C	Is C	Difference C
Preference share capital	200 000	0	(200 000)
Ordinary share capital (100 000 x C3) + (31 250 x C3)	300 000	393 750	93 750
Share premium (100 000 x 0.50) + (31 250 x C1)	50 000	81 250	31 250
Net decrease – a transfer to CRRF is required in order to maintain the level of capital at C550 000	550 000	475 000	(75 000)

Notice that the net decrease of C75 000 is because the company opted to utilise the retained earnings account to this extent instead of issuing more shares to this value. Utilising the retained earnings account requires a transfer to the CRRF of the amount of 'profits used': C75 000. This fund will be treated as capital if the need arises although it is treated as a 'non-distributable reserve' for accounting purposes.

The following 'capital maintenance' journal is therefore required:

	Debit	Credit
Retained earnings	75 000	
Capital redemption reserve fund		75 000
<i>Transfer to CRRF sufficient to restore the legal capital after redemption of the preference shares</i>		

The 'actual redemption' of the preference shares is journalised as follows (assuming that the preference shares had originally been treated as a *liability*):

	Debit	Credit
Preference shares (Non-current liability)	200 000	
Preference shareholders (Current liability)		200 000
<i>Preference shares to be redeemed</i>		
Preference shareholders (Current liability)	200 000	
Bank		200 000
<i>Preference shareholders paid: redemption of their shares</i>		

The 'actual redemption' of the preference shares is journalised as follows assuming that the preference shares had originally been recognised as *equity*:

	Debit	Credit
Preference shares (Equity)	200 000	
Preference shareholders (Current liability)		200 000
<i>Preference shares to be redeemed</i>		
Preference shareholders (Current liability)	200 000	
Bank		200 000
<i>Preference shareholders paid: redemption of their shares</i>		

3.6.2 Financing of the redemption

How the payment is made is referred to as the '*financing of the redemption*'. When a company makes a fresh issue of shares as part of the '*capital maintenance plan*', the proceeds of this issue may be used in the '*financing of the redemption*' although it may still be necessary to raise further cash. This is often done via an issue of debentures, the raising of a loan or an overdraft.

Example 12: redemption at par value – share issue dependant on financing

A company is to redeem all of its C2 preference shares at par. The company prefers not to have to issue any further ordinary shares unless absolutely necessary but if such an issue is necessary, these ordinary shares will be issued at C6 each (par value of C1 each). The company has C80 000 in the bank but the directors feel that only C30 000 of this should be used for the redemption. Any further cash required should be acquired via a debenture issue of 10 000 C1 debentures (redeemable after 3 years) at C1 each after which a bank loan of up to C40 000 (repayable after 4 years) may be raised.

There is a balance of C150 000 in the retained earnings account.

Required:

For each of the scenarios listed below:

- Calculate the number of ordinary shares that would need to be issued in terms of the *financing* of the redemption and calculate the amount that would need to be transferred to the capital redemption reserve fund.
- Show all related journal entries.

Scenario A: there are 10 000 preference shares to be redeemed

Scenario B: there are 35 000 preference shares to be redeemed

Scenario C: there are 70 000 preference shares to be redeemed

Solution to example 12: redemption at par value – share issue dependant on financing

Part i): Calculations

The financing plan

		Scenarios		
		A: 10 000 pref shares	B: 40 000 pref shares	C: 70 000 pref shares
Need for the redemption of preference shares	A: 10 000 x 2; B: 35 000 x 2 C: 70 000 x 2	20 000	70 000	140 000
Cash available through:				
- cash in bank	given	(30 000)	(30 000)	(30 000)
- new debenture issue	10 000 x 1	(0)	(10 000)	(10 000)
- new bank loan	balancing up to 40 000	(0)	(30 000)	(40 000)
- new share issue	balancing	(0)	(0)	(60 000)
Cash shortage/ (surplus)		(10 000)	0	0

Part i): Calculations continued ...**The capital maintenance plan**

		Scenarios		
		A: 10 000 pref shares	B: 40 000 pref shares	C: 70 000 pref shares
Redemption of preference shares at par value	A: 10 000 x 2; B: 35 000 x 2 C: 70 000 x 2	20 000	70 000	140 000
Less new share issue at issue price	See financing plan	(0)	(0)	(60 000)
Capital redemption reserve fund to be created		20 000	70 000	80 000

Please note: since the number of ordinary shares to be issued is not stipulated but is to be determined after calculating the amount of cash required, the 'financing plan' calculation is performed first and is followed by the 'capital maintenance plan' calculation.

Part ii): Journals

	Scenarios					
	A		B		C	
	Debit	Credit	Debit	Credit	Debit	Credit
Preference shares (non-current liability)	20 000		70 000		140 000	
Preference shareholders (current liability)		20 000		70 000		140 000
<i>Preference shares to be redeemed</i> A: 10 000 x 2; B: 35 000 x 2; C: 70 000 x 2						
Bank	N/A		10 000		10 000	
Debentures		N/A		10 000		10 000
<i>Issue of debentures</i> A: N/A; B: 10 000 x 1; C: 10 000 x 1						
Bank	N/A		30 000		40 000	
Loan		N/A		30 000		40 000
<i>Loan raised</i>						
Bank	N/A		N/A		60 000	
Ordinary share capital		N/A		N/A		10 000
Share premium		N/A		N/A		50 000
<i>C only: Issue of ordinary shares (PV of 1):</i> 60 000 cash / 6 issue price = 10 000 shares <i>Par value: 10 000 x 1 = 10 000;</i> <i>Premium: 10 000 x (6 - 1) = 50 000</i>						
Preference shareholders (current liability)	20 000		70 000		140 000	
Bank		20 000		70 000		140 000
<i>Preference shares redeemed</i>						
Retained earnings	20 000		70 000		80 000	
Capital redemption reserve fund		20 000		70 000		80 000
<i>Transfer : capital maintenance</i>						

Example 13: redemption at par value – share issue not dependant on financing

A company is to redeem all of its 20 000 preference shares (having a par value of C2) at their par value. The company will fund this out of a new share issue of 10 000 ordinary shares (having a par value of C2 each). The rest of the redemption payment must be funded by raising a bank loan.

Required:

For each of the scenarios listed below:

- i) Calculate the cash required in terms of the *financing* of the redemption and calculate the amount that would need to be transferred to the capital redemption reserve fund.
- ii) Show all related journal entries.

Scenario A: the ordinary shares are to be issued at C4 each

Scenario B: the ordinary shares are to be issued at C3 each

Solution to example 13: redemption at par value – share issue not dependant on financing
Part i): Calculations**The financing plan**

Need to redeem preference shares $20\,000 \times 2$

Cash available through:

- new share issue $A: 10\,000 \times 4; B: 10\,000 \times 3$

- new bank loan needed *balancing*

Cash shortage/ (surplus)

Scenarios	
A: Issue price C4	B: Issue price C3
40 000	40 000
(40 000)	(30 000)
(0)	(10 000)
0	0

The capital maintenance plan

Redeem preference shares at par $20\,000 \times 2$

Less new share issue at issue price $A: 10\,000 \times 4; B: 10\,000 \times 3$

Capital redemption reserve fund to be created

40 000	40 000
(40 000)	(30 000)
0	10 000

Since the number of ordinary shares to be issued was given, the capital maintenance calculation did not depend on the financing plan of the company. The capital maintenance plan calculation could therefore have been done before doing the financing plan calculation.

Part ii): Journals

Preference shares (non-current liability)
 Preference shareholders (current liability)
Preference shares to be redeemed: $20\,000 \times 2$

Bank
 Ordinary share capital
 Share premium

Issue of ordinary shares:

Par value: $10\,000 \times 2 = 20\,000$;

A: Premium: $10\,000 \times (4 - 2) = 20\,000$

B: Premium: $10\,000 \times (3 - 2) = 10\,000$

Bank
 Loan
Loan raised

Preference shareholders (current liability)
 Bank
Preference shares redeemed

Retained earnings
 Capital redemption reserve fund
capital maintenance

Scenarios			
A		B	
Debit	Credit	Debit	Credit
40 000		40 000	
	40 000		40 000
40 000		30 000	
	20 000		20 000
	20 000		10 000
N/A		10 000	
	N/A		10 000
40 000		40 000	
	40 000		40 000
N/A		10 000	
	N/A		10 000

3.6.3 Redemption at a premium

A redemption that requires a company to pay the preference shareholder an amount in excess of its *par value* is referred to as a redemption at a premium. The premium payable must be set off against either the profits of the company or the share premium account.

Example 14: redemption at a premium – preference shares were recognised as equity

A company is to redeem all of its 20 000 preference shares (having a par value of C2) at C3 each (i.e. at a premium). The company will fund this out of a new share issue of 10 000 ordinary shares (having a par value of C2 each). The rest of the redemption payment must be funded by raising a bank loan. These preference shares were being redeemed at the option of the company and had therefore been recognised as equity.

Required:

For each of the scenarios listed below:

- Calculate the cash required in terms of the *financing* of the redemption and calculate the amount that would need to be transferred to the capital redemption reserve fund.
- Show all related journal entries.

Scenario A: the ordinary shares are to be issued at C4 each

Scenario B: the ordinary shares are to be issued at C3 each

Solution to example 14: redemption at a premium – preference shares were equity

Part i): Calculations

		Scenarios	
		A: Issue price C4	B: Issue price C3
The financing plan			
Need to redeem preference shares	20 000 x 3	60 000	60 000
Cash available through:			
- new share issue	A: 10 000 x 4 B: 10 000 x 3	(40 000)	(30 000)
- new bank loan needed	balancing	(20 000)	(30 000)
Cash shortage/ (surplus)		0	0
The capital maintenance plan			
Redeem preference shares at par	20 000 x 2	40 000	40 000
Less new share issue at issue price	A: 10 000 x 4 B: 10 000 x 3	(40 000)	(30 000)
Capital redemption reserve fund to be created		0	10 000

Since the number of ordinary shares to be issued was given, the capital maintenance calculation did not depend on the financing plan of the company. The capital maintenance plan calculation could therefore have been done before doing the financing plan calculation.

Please also note that the only difference between this example and the previous example is that the company needs more cash than previously (needing C60 000 instead of C40 000) and thus this changes the financing plan.

Part ii): Journals

	Scenarios			
	A		B	
	Debit	Credit	Debit	Credit
Preference shares (non-current liability)	40 000		40 000	
Share premium/ retained earnings	20 000		20 000	
Preference shareholders (current liability)		60 000		60 000
<i>Preference shares to be redeemed:</i> <i>20 000 x 2 + premium 20 000 x 1 = 60 000</i>				
Bank	40 000		30 000	
Ordinary share capital		20 000		20 000
Share premium		20 000		10 000
<i>Issue of ordinary shares:</i> <i>Par value: 10 000 x 2 = 20 000;</i> <i>A: Premium: 10 000 x (4 - 2) = 20 000</i> <i>B: Premium: 10 000 x (3 - 2) = 10 000</i>				
Bank	20 000		30 000	
Loan		20 000		30 000
<i>Loan raised</i>				
Preference shareholders (current liability)	60 000		60 000	
Bank		60 000		60 000
<i>Preference shares redeemed</i>				
Retained earnings	N/A		10 000	
Capital redemption reserve fund		N/A		10 000
<i>capital maintenance</i>				

Example 15: redemption at a premium – preference shares were recognised as a liability

On 1 January 20X1 a company issued 50 000 10% cumulative, redeemable preference shares of C2 each, which must be redeemed on 31 December 20X6 at a premium of C0.20 per share. The effective rate of interest paid is calculated to be 11,25563551%. The company also has 100 000 issued ordinary C3 PV shares (issued at C3.50 each). There are 120 000 authorised ordinary shares and 100 000 authorised preference shares.

Required:

- A.** Calculate and show the journal entries in respect of the redemption and any capital maintenance entries that may be required. Assume that the company issues the rest of the authorised ordinary shares at C4 each to facilitate both the maintenance of the capital and the financing of the payment. The balance of the retained earnings is C200 000 immediately before the redemption. Any balance of the payment still requiring financing after taking into account the proceeds on the share issue, will be paid for via C20 000 currently available cash in bank and lastly via the raising of a bank overdraft. The premium on redemption is to be set-off against profits.
- B.** Disclose the ordinary and preference shares in the financial statements for 20X6 (the year of redemption). The statement of changes in equity is only required for 20X6.

Solution example 15A: redemption at a premium –shares were recognised as a liability

The redemption may only be made out of profits that would otherwise be available for distribution as dividends or out of a fresh issue of shares. The company is going to make a fresh issue of shares and utilise the retained earnings account for any balance. This means that the company may need to make a transfer to the capital redemption reserve fund.

Please note: Detailed calculations of the balance on the 'redeemable preference share' account over the years are shown in example 4.

Calculations**The financing plan**

		C
Need for the redemption of preference shares	$50\,000 \times (2 + 0.2)$	110 000
Cash available through:		
- new share issue	$20\,000 \times 4$	(80 000)
- cash in bank	given	(20 000)
- bank overdraft utilised	balancing	(10 000)
Cash shortage/ (surplus)		0

The capital maintenance plan

		C
Redemption of preference shares at par value	$50\,000 \times 2$	100 000
Less new share issue at issue price	$(120\,000 - 100\,000) \times C4$	80 000
Capital redemption reserve fund to be created out of profits		20 000

Please note that since the number of shares to be issued was stipulated and was not dependent on the financing plan, the capital maintenance plan could be calculated before the financing plan if preferred.

Please also note that, although the preference shares are recognised as a liability in the financial records, the Companies Ordinance still considers it to be 'share capital'. Therefore, the 'share capital' before and after redemption appear as follows from this perspective:

	Was C	Is C	Difference C
Preference share capital	100 000	0	(100 000)
Ordinary share capital $(100\,000 \times 3) + (20\,000 \times 3)$	300 000	360 000	60 000
Share premium $(100\,000 \times (3.50 - 3)) + (20\,000 \times (4 - 3))$	50 000	70 000	20 000
Net decrease – a transfer to CRRF is required in order to maintain the previous level of capital at C450 000	450 000	430 000	(20 000)

The net decrease is because the company opted to utilise C20 000 of the retained earnings rather than issuing more shares to this value. Utilising the retained earnings account requires a transfer to the Capital Redemption Reserve Fund of the amount of profits 'used': C20 000. This fund will be treated as capital if the need arises although it is considered to be a 'non-distributable reserve' for accounting purposes.

Journal entries

	Debit	Credit
Bank	80 000	
Ordinary share capital (20 000 x C3 par value)		60 000
Share premium (20 000 x C1 premium)		20 000
<i>Issue of 20 000 C3 PV ordinary shares at an issue price of C4 each</i>		
Retained earnings	20 000	
Capital redemption reserve fund		20 000
<i>Capital maintenance: transfer sufficient earnings to CRRF to restore the legal capital after redemption of the preference shares</i>		

Journal entries continued ...	Debit	Credit
Preference shares (non-current liability) (50 000 x C2)	100 000	
Premium accrued (50 000 x C0.20) or (7 860 + 2 140: see example 4)	10 000	
Preference shareholders (current liability)		110 000
<i>Preference shares to be redeemed (see workings in example 4)</i>		
Preference shareholders (current liability)	110 000	
Bank (20 000 + 80 000 cash raised through the issue)		100 000
Bank overdraft		10 000
<i>Redemption of shares - payment to preference shareholders</i>		

The company has chosen to set the premium payable on redemption off against the retained earnings: no journal entry is required to set the premium off against retained earnings. This is because the preference shares were recognised as a liability with the result that both the premium payable on redemption and the preference dividends have already been included in finance charges (an expense) over the life of the preference shares. The premium has therefore already reduced the profits.

If the company wanted the premium to be set-off against the 'share premium account' instead, it would need to pass a journal entry debiting the 'share premium account' and crediting the 'retained earnings account', as follows:

	Debit	Credit
Share premium	10 000	
Retained earnings		10 000
<i>Reversing the effect of the finance charges (premium on redemption) on the retained earnings to the share premium account</i>		

Solution example 15B: redemption at a premium – shares were recognised as a liability

Company name							
Statement of financial position (extracts)							
As at 31 December 20X6	Note	20X6 C	20X5 C	20X4 C	20X3 C	20X2 C	20X1 C
<i>Share capital and reserves</i>							
- ordinary share capital	3	360 000	300 000	300 000	300 000	300 000	300 000
- share premium	3	70 000	50 000	50 000	50 000	50 000	50 000
<i>Non-current liabilities</i>							
- redeemable preference shares	4	0	0	105 936	104 207	102 653	101 256
<i>Current liabilities</i>							
- redeemable preference shares	4	0	107 860	0	0	0	0

Please note: The figures for the years 20X1 – 20X4 are not required and are given for explanatory purposes only.

Notice how the redeemable preference share liability gradually increases over the years until the date of redemption arrives. On the date of redemption, the balance of the 'redeemable preference share liability' account will have grown to C110 000, just before the preference shares are redeemed and the account is reduced to zero:

Movement on the preference share liability account	C
Opening balance – 20X6	107 860
Premium accrued (see example 4)	2 140
Balance immediately before redemption	110 000
Redemption (debit preference shares and credit bank)	(110 000)
	0

Detailed calculations of the balance on the 'redeemable preference share' account over the years may be revised in example 4.

Company name**Statement of comprehensive income (extracts)****For the year ended 31 December 20X6**

	20X6 C	20X5 C	20X4 C	20X3 C	20X2 C	20X1 C
Profit before finance charges	xxx	xxx	xxx	xxx	xxx	xxx
Finance charges	12 140	11 924	11 729	11 554	11 397	11 256
Profit before tax	xxx	xxx	xxx	xxx	xxx	xxx
Tax expense	xxx	xxx	xxx	xxx	xxx	xxx
Profit for the year	xxx	xxx	xxx	xxx	xxx	xxx
<i>Other comprehensive income</i>	xxx	xxx	xxx	xxx	xxx	xxx
Total comprehensive income	xxx	xxx	xxx	xxx	xxx	xxx

Company name**Statement of changes in equity****For the year ended ...20X6**

	Ordinary share capital C	Share premium C	Capital redemption reserve fund C	Retained earnings C	Total C
Opening balance	300 000	50 000	0	xxx	xxx
Ordinary shares issued	60 000	20 000			80 000
Transfer to capital redemption reserve fund			20 000	(20 000)	0
Total comprehensive income				xxx	xxx
Closing balance	360 000	70 000	20 000	xxx	xxx

Please note that the preference shares and the redemption thereof do not appear in the statement of changes in equity since they appear in the statement of financial position as a liability instead.

Company name**Notes to the financial statements (extracts)****For the year ended 31 December 20X6****2. Accounting policies***2.5 Preference shares*

Redeemable preference shares, which are redeemable on a specific date or at the option of the shareholder are recognised as liabilities, as the substance thereof is 'borrowings'. The dividends on such preference shares are recognised in the statement of comprehensive income as finance charges using the effective interest rate method.

3. Ordinary share capital**20X6
Number****20X5
Number***Authorised:*

120 000 ordinary shares of C3 each

Issued:

Shares in issue at the beginning of the year

100 000

xxx

Issued during the year

20 000

xxx

Shares in issue at year-end

120 000

100 000

Please note: No shares were issued to any director or member of his immediate family, therefore no details thereof are required. The par value of the shares issued, the share premium and the consideration received (the total of the par value and the share premium) is disclosed in the

statement of changes in equity. Any preliminary expenses, commission and expenses caused by the issue that may have been charged against the share premium account (if par value) or stated capital account (if no par value) would also be disclosed in the statement of changes in equity.

4. Redeemable preference shares

Authorised:

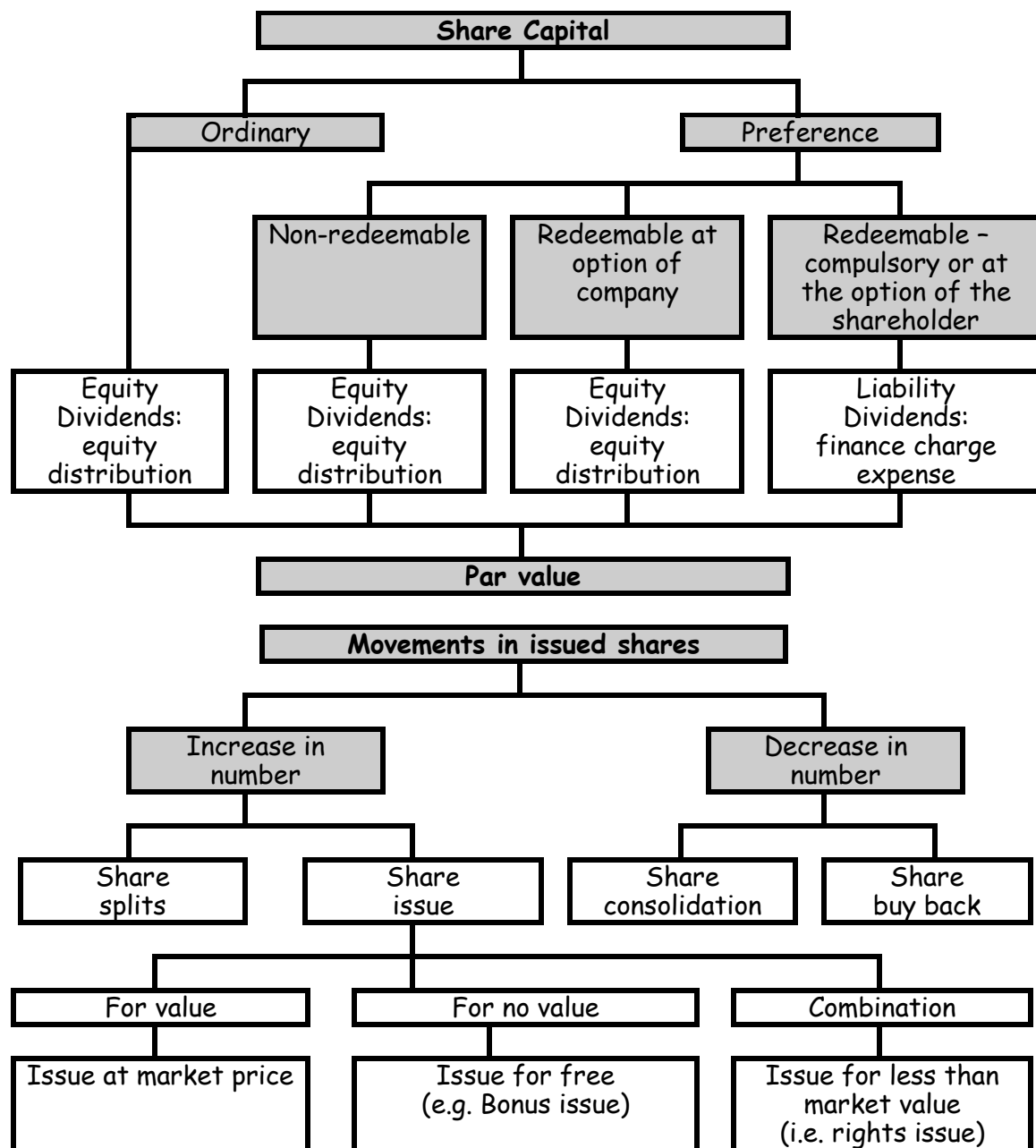
100 000 10% redeemable preference shares of C2 each

	20X6	20X5	20X4	20X3	20X2	20X1
	C	C	C	C	C	C
<i>Issued:</i>						
Issued 50 000 10% redeemable preference shares of C2 each	100 000	100 000	100 000	100 000	100 000	100 000
Premium accrued to date	10 000	7 860	5 936	4 207	2 653	1 256
Redeemed during the year	(110 000)					
Balance at year-end	0	107 860	105 936	104 207	102 653	101 256

The redeemable preference shares were compulsorily redeemable on 31 December 20X6 at a premium of C0.20 per share. The 10% preference dividends were cumulative. The effective interest rate is 11,25563551%.

Please note: No shares were issued to any director or member of his immediate family, therefore no details thereof are required.

4. Summary:



Chapter 23

Earnings per Share

Reference: IAS 33

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1. Introduction

‘Earnings per share’ is essentially a ratio used in the financial analysis of a set of financial statements and therefore falls under the chapter on financial analysis as well. This ratio is, however, so useful and popular that the standard, IAS 33, had to be developed to control the method of calculation thereof. This standard sets out how to calculate:

- the numerator: earnings; and
 - the denominator: the number of shares
- for each class of equity share, (where each class has a varying right to receive dividends).

IAS 33 states that earnings per share must be calculated for all *ordinary* shares.

In summary, there are two main types of earnings per share:

- basic earnings per share
- diluted earnings per share.

2. Definitions (IAS 33)

An **ordinary share** is an equity instrument that is subordinate to all other classes of equity instruments.

3. Types of shareholders

3.1 Ordinary shareholders

Ordinary shareholders buy a share in a company to earn dividends, (when this payment is considered prudent) and for capital growth. These dividends fluctuate annually depending on profits and available cash reserves etc. As the terms ‘ordinary’ and ‘preference’ implies, the ordinary shareholders have fewer rights than the preference shareholders. By way of illustration, assume that a company with both preference and ordinary shareholders is liquidated: the preference shareholders will have their capital returned first and only if there are sufficient funds left over, will the ordinary shareholders have their capital paid out.

3.2 Preference shareholders

Preference shareholders have more rights than ordinary shareholders – as mentioned above. Not only do they have preference on liquidation, but they also have a fixed amount paid out each year in dividends (as opposed to ordinary shareholders whose dividends are at the discretion of the entity and are largely dependant on profits and available cash reserves). The rate of dividends paid out is based on the share’s coupon rate (e.g. 10%). A shareholder owning 1 000 preference shares with a par value of C2 each and a coupon rate of 10% will expect dividends of C200 per year ($C2 \times 1\,000 \times 10\%$). The shareholder’s rights to dividends depend on whether his shares were:

- cumulative; or
- non-cumulative.
-

Cumulative shares indicate that if a dividend was not paid out in a particular year, (perhaps due to insufficient funds), these arrear dividends must be paid out in the future to the holders of these shares when funds become available. No dividend may be paid out to ordinary shareholders until the arrear preference dividends have been paid. Non-cumulative shares are those where, if a dividend is not paid out in a year, these unpaid dividends need never be paid.

There is a further variation with regard to preference shares; the shares may be:

- redeemable; or
- non-redeemable.

Redemption of a share involves the company returning the capital invested by the shareholder to this shareholder at some stage in the future. This repayment could be set at a premium (profit to the shareholder) or at a discount (loss to the shareholder) and could be compulsory or at the discretion of the company or the shareholder. Shares that are redeemable (especially if the redemption is either compulsory or at the discretion of the shareholder) and/ or cumulative, may be classified fully or partly as a liability instead of as equity, in which case, part or all of the related dividends will be recognised as ‘finance charges’ in the statement of comprehensive income instead of as ‘dividends’ in the statement of changes in equity (see the chapters on share capital and financial instruments for more on this).

There is another variation related to preference shares: the shares may be termed:

- participating; or
- non-participating.

Most preference shares are non-participating, meaning that the shareholders do not participate in the profits except to the extent of a fixed dividend. In rare circumstances, however, a preference shareholder may have a right to share (participate) in a certain percentage of the profits in addition to their fixed preference dividend and will thus be termed a ‘participating preference shareholder’. This situation will be dealt with later on in this chapter.

As suggested already, some preference shares are recognised as liabilities rather than as equity and their dividends are recognised as finance charges instead of as dividends. In these instances, even if the dividend has not yet been declared as at the end of the reporting period, the dividend will be recognised as a finance charge.

For the purposes of this chapter, we will restrict our examples (with the exception of example 3) to non-cumulative, non-redeemable preference shares (thus pure equity shares) whose dividends are considered to be pure dividends (and not interest).

4. Basic earnings per share (IAS 33.9 - .29)

4.1 Overview

Basic earnings per share is calculated by dividing earnings attributable to the ordinary shareholders by the weighted average number of ordinary shares in issue during the year:

$$\frac{\text{Earnings}}{\text{Number of shares}}$$

In the event that the entity reports a loss instead of a profit, the earnings per share will simply be reported as a loss per share instead.

4.2 Basic earnings (the numerator) (IAS 33.12 - .18)

4.2.1 The basic calculation

In order to calculate the earnings attributable to the ordinary shareholders, one should start with the ‘profit for the period’ per the statement of comprehensive income and deduct the profits attributable to the preference shareholders.

	C
Profit (or loss) for the period	xxx
Less fixed preference dividends (based on the coupon rate)	(xxx)
Less share of profits belonging to participating preference shareholders	(xxx)
Earnings attributable to ordinary shareholders	<u>xxx</u>

Preference dividends are, in fact, not always deducted. Deciding whether or not to deduct the preference dividends depends on whether the shares are cumulative or non-cumulative. The following guidelines should be helpful when dealing with pure equity preference shares:

- in respect of *non-cumulative* preference shares, deduct only the preference dividends that are *declared* in respect of that period; and
- in respect of *cumulative* preference shares, deduct the total *required* preference dividends for the period (in accordance with the preference share's coupon rate), whether or not these dividends have been declared.

It should be borne in mind that where the preference shares are classified as a liability, their dividends would be wholly or partly treated as finance costs, in which case these dividends would have already been deducted in the calculation of 'net profit for the period': these must obviously not be deducted again when calculating 'earnings attributable to the ordinary shareholders'.

4.2.2 When there are only ordinary shares

If there are only ordinary shareholders, it stands to reason that the entire profit or loss of the company belongs to the ordinary shareholders (owners).

Example 1: ordinary shares only

A company has 10 000 ordinary shares in issue throughout 20X1. The company earns a profit after tax of C100 000.

Required:

Calculate the basic earnings per ordinary share.

Solution to example 1: ordinary shares only

<i>Calculation of earnings attributable to ordinary shareholders:</i>	C
Profit (or loss) for the year (per the statement of comprehensive income)	100 000
Less fixed preference dividends	(0)
Less share of profits belonging to participating preference shareholders	(0)
Earnings attributable to ordinary shareholders	<u>100 000</u>

Calculation of the earnings per ordinary share:

$$\begin{aligned}
 &= \frac{\text{Earnings belonging to ordinary shareholders}}{\text{Number of ordinary shares}} \\
 &= \frac{100\,000}{10\,000} \\
 &= \text{C10 per ordinary share}
 \end{aligned}$$

4.2.3 When there are ordinary and preference shares

If there are both ordinary and preference shareholders, some of the profit for the year must be set aside for the preference shareholders' preference dividends.

Example 2: ordinary and non-participating preference shares

A company has 10 000 ordinary shares *and* 10 000 non-cumulative, non-redeemable 10% C2 preference shares in issue throughout 20X1.

The company earns a profit after tax of C100 000.

The company declared the full 20X1 dividends owing to the preference shareholders.

Required:

Calculate the basic earnings per ordinary share.

Solution to example 2: ordinary and non-participating preference shares

<i>Calculation of earnings attributable to ordinary shareholders:</i>	C
Profit (or loss) for the year	100 000
Less fixed preference dividends (10 000 x C2 x 10%) declared	(2 000)
Less share of profits belonging to participating preference shareholders	(0)
Earnings attributable to ordinary shareholders	<u>98 000</u>

Calculation of the earnings per ordinary share:

$$\begin{aligned}
 &= \frac{\text{Earnings belonging to ordinary shareholders}}{\text{Number of ordinary shares}} \\
 &= \frac{98\,000}{10\,000} \\
 &= \text{C9,80 per ordinary share}
 \end{aligned}$$

Example 3: preference shares and preference dividends – equity versus liability

A company has 10 000 ordinary shares and 10 000 10% C2 preference shares in issue throughout 20X2. The profit after tax was C100 000 in 20X2.

Required:

Calculate the basic earnings in 20X2, assuming that the preference shares are:

- A) non-cumulative and non-redeemable (i.e. equity) and the dividend is declared.
- B) non-cumulative and non-redeemable (i.e. equity) and the dividend is not declared.
- C) cumulative and redeemable (i.e. liability) and the dividend is declared.
- D) cumulative and redeemable (i.e. liability) and the dividend is not declared.

Solution to example 3A: preference shares (equity) and declared dividends

<i>Calculation of earnings attributable to ordinary shareholders:</i>	C
Profit (or loss) for the year	100 000
Less preference dividends: 10 000 x C2 x 10%	(2 000)
Earnings attributable to ordinary shareholders	<u>98 000</u>

Comment: Please note that dividends declared to equity shareholders are shown in the statement of changes in equity (as a distribution to equity participants). Therefore, where preference shares are treated as equity, the preference dividends will be deducted from retained earnings in the statement of changes in equity and must therefore be deducted from the profit or loss for the period (per the statement of comprehensive income) to determine how much profit belongs to the ordinary shareholders.

Solution to example 3B: preference shares (equity) and dividend not declared

<i>Calculation of earnings attributable to ordinary shareholders:</i>	C
Profit (or loss) for the year	100 000
Less preference dividends: not declared	(0)
Earnings attributable to ordinary shareholders	<u>100 000</u>

Comment: If there is no obligation to pay the dividend (i.e. the preference dividend is both non-cumulative and not declared) the dividend will not be recognised in the financial statements at all. No adjustment is made to the profit for the period: all the profit belongs to the ordinary shareholders.

Solution to example 3C: preference shares (liability) and declared dividends

<i>Calculation of earnings attributable to ordinary shareholders:</i>	C
Profit (or loss) for the year	100 000
Less preference dividends: see comment below	(0)
Earnings attributable to ordinary shareholders	<u>100 000</u>

Comment: Preference shares that are cumulative and redeemable are treated as liabilities. The dividends on these preference shares are therefore recognised as interest using the effective interest rate method. This dividend has therefore already been deducted in calculating the profit for the period of C100 000.

Solution to example 3D: preference shares (liability) and arrear dividends

<i>Calculation of earnings attributable to ordinary shareholders:</i>	C
Profit (or loss) for the year	100 000
Less preference dividends: see comment below	(0)
Earnings attributable to ordinary shareholders	<u>100 000</u>

Comment: Preference shares that are cumulative and redeemable are treated as liabilities. The dividends on these preference shares are therefore recognised as interest using the effective interest rate method, irrespective of whether or not the dividend has been formally declared. This dividend has therefore already been deducted in calculating the profit for the period of C100 000.

In the event that there are participating preference shares in issue during the year, there would effectively be two equity share types in issue. This means that the profits, after paying preference shareholders their fixed dividend, need to be shared between two different types of shareholders. The portion of the net profit for the year that belongs to a participating preference shareholder may be divided into two parts:

- a fixed component (based on the coupon rate – 10% in the previous examples); and
- a variable component (dependant on the proportion in which the preference shareholder shares in profits with the ordinary shareholder).

Example 4: ordinary and participating preference shares

A company has 10 000 ordinary shares and 10 000 *participating* non-cumulative, non-redeemable 10% C2 preference shares in issue throughout 20X1. The company earns a profit after tax of C100 000.

The company declared the full 20X1 dividends owing to the preference shareholders. The preference shares participate to the extent of $\frac{1}{4}$ of the dividends declared to ordinary shareholders. The total ordinary dividend declared for 20X1 was C4 000. Ignore tax.

Required:

Calculate the basic earnings per share to be disclosed as well as the total dividend belonging to the participating preference shareholders and the total variable dividends in 20X1.

Solution to example 4: ordinary and participating preference shares

<i>W1: Calculation of earnings attributable to ordinary shareholders:</i>	C
Profit (or loss) for the year	100 000
Less preference dividends (fixed) declared ($10\,000 \times C2 \times 10\%$)	(2 000)
Earnings to be shared	98 000
Less earnings attributable to participating preference shareholders (<i>see W2</i>)	(19 600)
Earnings attributable to ordinary shareholders	<u>78 400</u>

W2: Calculation of earnings attributable to participating preference shareholders:

C

Earnings attributable to ordinary and participating preference shares	98 000
- portion belonging to ordinary shareholders ($\frac{4}{5} \times 98\,000$: see W3)	78 400
- portion belonging to participating preference shareholders ($\frac{1}{5} \times 98\,000$: see W3)	19 600

W3: Calculation of the ratio in which to share earnings:

The ratio in which the earnings is to be shared ($\frac{4}{5}$ and $\frac{1}{5}$) between the two equity share types is calculated as follows:

Let X = the portion of the earnings belonging to the ordinary shareholders

Then $\frac{1}{4} X$ = the portion of the earnings belonging to the participating preference shareholders

And therefore:

$X + \frac{1}{4} X$ = total earnings to be shared

$X + \frac{1}{4} X = 98\,000$

$\frac{5}{4} X = 98\,000$

$X = 98\,000 \times \frac{4}{5}$

$X = 78\,400$ (share belonging to ordinary shareholders)

Therefore:

$\frac{1}{4} X = \frac{1}{4} \times 78\,400 = 19\,600$ (share belonging to participating preference shares)

please note that the C19 600 may also be calculated as $98\,000 \times \frac{1}{5}$ or

$98\,000 - 78\,400 = 19\,600$

W4: Calculation of the earnings per ordinary share:

$$\begin{aligned}
 & \frac{\text{Earnings belonging to ordinary shareholders}}{\text{Number of ordinary shares}} \\
 = & \frac{78\,400}{10\,000} \\
 = & \text{C7.84 per ordinary share}
 \end{aligned}$$

W5: Calculation of the earnings per participating preference share:

$$\begin{aligned}
 & \frac{\text{Earnings belonging to participating preference shareholders}}{\text{Number of participating preference shares}} \\
 = & \frac{2\,000 + 19\,600}{10\,000} \\
 = & \text{C2.16 per participating preference share}
 \end{aligned}$$

Please note that the *earnings* belonging to the participating preference shareholder are made up of both the fixed component (dividend based on the coupon rate: $10\,000 \times \text{C2} \times 10\%$) and the variable component (share of the 'after preference dividend profits': 19 600 (W2)).

Also note that, as with the total earnings to be shared, the participating preference shareholders participate in $\frac{1}{5}$ of the 'total variable' dividends declared:

W6: Calculation of total dividends belonging to preference shareholders:

C

Fixed dividend ($10\,000 \times \text{C2} \times 10\%$)	2 000
Variable dividend ($\text{C4}\,000 \times \frac{1}{4}$)	1 000
Total dividend belonging to the participating preference shareholder	3 000

W7: Calculation of total variable dividends:

	C
Variable dividend declared to ordinary shareholders (<i>given</i>)	4 000
Variable dividend to participating preference shareholders ($C4\,000 \times \frac{1}{4}$ or $C5\,000 \times \frac{1}{5}$)	1 000
Total variable dividends declared	<u>5 000</u>

4.3 Basic number of shares (the denominator) (IAS 33.19 - .29 and .64)

4.3.1 Overview

In the event that there was no movement of shares during the year, (i.e. the balance of shares at the beginning of the year equals the balance of shares at year-end, say 10 000), then the denominator in the earnings per share calculation is simply 10 000 shares.

If, however, there was movement in the number of shares during the year, then the number of shares to be used in the calculation will need to be adjusted or weighted. The movement could entail an increase (issue of shares) or a decrease in the number of shares.

There are three distinct types of issues that may have taken place during the year:

- issue for value (e.g. shares issued at their market price);
- issue for no value (e.g. shares given away); and
- combination issue (e.g. shares issued at less than their market value).

Decreases in the number of shares could come in the form of:

- share buy-backs (a for-value reduction); and
- share consolidations (a not-for-value reduction).

Each of these types of movements will now be dealt with separately.

4.3.2 Issue for value (IAS 33.19 - .23)

4.3.2.1 Issues at the beginning of the current year

When shares are issued for value, it means that there is no free (bonus) element in the share issue: the shares are sold at their full market value. Since such an issue raises extra capital for the entity, there is every chance that the increased capital has caused an increase in profits. Since the increase in the denominator (shares) is expected to lead to a similar increase in the numerator (earnings), the number of shares needs no adjustment.

Example 5: issue for value at the beginning of the year

A company has 10 000 ordinary shares in issue during the previous year. There was a share issue of 10 000 ordinary shares at market price on the *first* day of the current year. The earnings in the previous year were C20 000, and thus the earnings per share in the previous year were C2 per share (C20 000/ 10 000 shares).

Required:

Assuming absolutely no change in circumstances since the previous year, explain what the user would expect the profits and earnings per share to be in the current year.

Solution to example 5: issue for value at the beginning of the year

Since the capital base doubled, the user would expect the profits to double too. Assume that the profits in the current year did, in fact, double to C40 000. This would then mean that the earnings per share would remain comparable at C2 per ordinary share (C40 000/ 20 000 shares).

Number of shares	Actual	Current year (weighted)	Prior year (adjusted)
Opening balance	10 000	⁽¹⁾ 10 000	10 000
Issue for value	10 000	⁽²⁾ 10 000	0
	20 000	20 000	10 000

⁽¹⁾ Opening balance: 10 000 shares for 12 months (10 000 x 12/12) 10 000

⁽²⁾ New shares issued: 10 000 shares for 12 months (10 000 x 12/12) 10 000

Earnings per share:

$\frac{\text{Earnings}}{\text{Number of shares}} = \frac{\text{C40 000}}{20\,000} = \text{C2 per share}$	$\frac{\text{C20 000}}{10\,000} = \text{C2 per share}$
--	--

The earnings per share for the current year would then remain comparable at C2 per ordinary share.

4.3.2.2 Issues during or at the end of the current year

When a company issues shares on a day other than at the beginning of the year, it must be remembered that the earnings potential of the entity will only increase in the period after the proceeds from the share issue have been received. In order to ensure that the earnings per share in the current year is comparable to that of the previous year, the number of shares is weighted based on time. This weighting should ideally be performed based on the ‘number of days since the share issue’ as a proportion of the ‘total number of days in the period’ (i.e. usually 365) although months may also be used where this gives a reasonable estimation.

Example 6: issue for value at the end of the year

A company had 10 000 ordinary shares in issue during the previous year. There was a share issue of 10 000 ordinary shares at market price on the *last* day of the current year. The earnings in the previous year were C20 000, and thus the earnings per share in the previous year were C2 per share (C20 000/ 10 000 shares).

Required:

Assuming absolutely no change in circumstances since the previous year, explain what the user would expect the profits and the earnings per share to be in the current year.

Solution to example 6: issue for value at the end of the year

Although the capital base doubled in the current year, the user would not expect the current year’s profits to double since the extra capital was only received on the last day of the current year with the result that this would not yet have had an effect on the entity’s earning potential.

Assume, therefore, that the profits in the current year remained constant at C20 000 (i.e. equal to the prior year). Unless the number of shares (in the earnings per share calculation) is adjusted, the current year’s earnings per share would indicate that the efficiency of earnings *halved* to C1 per share during the year (C20 000/ 20 000 shares), despite the reality that the company still earned C2 for every one of the 10 000 shares in issue during the year.

Therefore, in order to ensure the comparability of the earnings per share calculation, the number of shares in the current year should be weighted as follows:

Number of shares	Actual	Current year (weighted)	Prior year (adjusted)
Opening balance	10 000	⁽¹⁾ 10 000	10 000
Issue for value	10 000	⁽²⁾ 0	0
	20 000	10 000	10 000

- ⁽¹⁾ Opening balance: 10 000 shares for 12 months ($10\,000 \times 12/12$) 10 000
⁽²⁾ New shares issued: 10 000 shares for 0 months ($10\,000 \times 0/12$) 0

Earnings per share:

Earnings		C20 000	C20 000
Number of shares	=	10 000	10 000
	=	C2 per share	C2 per share

The earnings per share for the current year would then remain comparable at C2 per ordinary share.

Example 7: issue for value during the year

A company had 10 000 ordinary shares in issue during the previous year. There was a share issue of 10 000 ordinary shares (at market price) 60 days before the end of the current year. Assume that the earnings in the previous year were C20 000, and thus the earnings per share in the previous year were C2 per share (C20 000/ 10 000 shares).

Required:

Assuming absolutely no change in circumstances since the previous year, explain what the user would expect the profits and the earnings per share to be in the current year.

Solution to example 7: issue for value during the year

Although the capital base has doubled, the user would not expect the *annual* profits to double since the extra capital was only received 60 days before the end of the year with the result that this extra injection of capital would only have had an effect on the profits earned during the last 60 days of the period. The shareholder could only reasonably expect the earnings in the last 60 days to double. He would thus hope that the earnings for the current year totals C23 288 (C20 000 + C20 000 x 60/365).

Assume that the profits in the current year did total the C23 288 that the shareholders hoped for. Unless an adjustment is made to the earnings per share calculation, the current year's earnings per share would indicate that the efficiency of earnings decreased during the year (C23 288/ 20 000 shares) to 116,44c per share, despite the reality that the company earned C2 for every one share in issue during the period, as was achieved in the previous year.

In order to ensure the comparability of the earnings per share calculation, the number of shares in the current year should be weighted as follows:

Number of shares	Actual	Current year (weighted)	Prior year (adjusted)
Opening balance	10 000	⁽¹⁾ 10 000	10 000
Issue for value	10 000	⁽²⁾ 1 644	0
	20 000	11 644	10 000

- ⁽¹⁾ Opening balance: 10 000 shares for 365 days ($10\,000 \times 365/365$) 10 000
⁽²⁾ New shares issued: 10 000 shares for 60 days ($10\,000 \times 60/365$) 1 644

Earnings per share:

Earnings		C23 288	C20 000
Number of shares	=	11 644	10 000
	=	C2 per share	C2 per share

The earnings per share for the current year would then remain comparable at C2 per ordinary share.

4.3.3 Issue for no value (IAS 33.26 - .28 and .64)

Issues for no value involve an entity effectively giving away shares. Examples of this include capitalisation issues (bonus issues or stock dividends) and share splits. Capitalisation issues frequently occur when a company has a shortage of cash with the result that shares are issued instead of paying cash dividends to the shareholders.

Since there has been no increase in capital resources (there is no cash injection), an increase in profits cannot be expected. If the earnings in the current year are the same as the earnings in the prior year and there is an increase in the number of shares in this current year, the earnings per share in the current year will, when compared with the earnings per share in the prior year, indicate deterioration in the efficiency of earnings relative to the available capital resources. Comparability would thus be jeopardised unless an adjustment is made.

The adjustment made for an 'issue for no value' is made to the *prior* year, (note: an 'issue for value' is adjusted for in the *current* year). This adjustment has the effect that it appears that the shares issued in the current year had already been in issue in the prior year.

Example 8: issue for no value

A company had 10 000 ordinary shares in issue during the previous year. There was a capitalisation issue of 10 000 ordinary shares *during the current year*. The earnings in the previous year were C20 000, and thus the earnings per share in the previous year were C2/ share (C20 000/ 10 000 shares).

Required:

Assuming absolutely no change in circumstances since the previous year, explain what the user would expect the profits and the earnings per share to be in the current year.

Solution to example 8: issue for no value

Although the capital base doubled in the current year, the resources available to the entity remained the same and thus the user could not reasonably expect an increase in profits. By way of explanation:

Assume that the profits in the current year did, in fact, remain constant at C20 000. Without an adjustment to the earnings per share calculation, the earnings per share in the current year would appear to halve, indicating to the user that the entity was in financial difficulty. The reality, of course, is that the profitability has neither improved nor deteriorated since the previous year and thus the earnings per share should reflect this stability.

The need for comparability between the earnings per share for the current year and the prior year requires that the number of shares be adjusted. This is done by making an adjustment to the prior year's number of shares in such a way that it seems as if the share issue took place in the prior year. This obviously means that the prior year's earnings per share has to be restated: the fact that the prior year's earnings per share figure has been changed (restated) must be made quite clear in the notes.

The earnings per share in the current year will be disclosed at C1 (C20 000/ 20 000 shares) and the earnings per share in all prior periods presented will be *restated*: the prior period will be disclosed at C1 (C20 000/ 20 000 shares).

Please note that the adjustment is not time-weighted and therefore issues for no value made during the year, (as opposed to at the beginning or end of the year), are all dealt with in the same way (by adjusting the prior year number of shares).

Example 9: issue for no value after an issue for value

A company had 10 000 ordinary shares in issue during 20X1. On 1 April 20X2, 12 000 shares were issued at market value of C5 per share. On 1 June 20X2, there was a share split whereby every 2 shares became 5 shares. The basic earnings were C150 000 in 20X1 and C261 250 in 20X2.

Required:

Calculate the basic earnings per share for the years ended 31 December 20X1 and 20X2.

Solution to example 9: issue for no value after an issue for value

Number of shares	Actual	Current year (weighted)	Prior year (adjusted)
Opening balance	10 000	⁽³⁾ 10 000	10 000
Issue for value	12 000	⁽⁴⁾ 9 000	0
	22 000	⁽⁵⁾ 19 000	⁽⁵⁾ 10 000
Issue for no value	⁽²⁾ 33 000	⁽⁶⁾ 28 500	⁽⁷⁾ 15 000
	⁽¹⁾ 55 000	⁽⁸⁾ 47 500	⁽⁸⁾ 25 000

P.S. Always start with the 'actual' column. The calculations thereafter are then:

⁽¹⁾	Total shares after share split: 22 000 / 2 shares x 5 shares	55 000
⁽²⁾	Shares issued in terms of share split: 55 000 – 22 000	33 000
⁽³⁾	Opening balance: 10 000 shares for 12 months (10 000 x 12/12)	10 000
⁽⁴⁾	New shares issued: 12 000 shares for 9 months (12 000 x 9/12)	9 000
⁽⁵⁾	The ratio between the current and prior year is currently 19 000: 10 000	1,9: 1
⁽⁶⁾	Current year share split adjustment: 19 000 / 22 000 x 33 000	28 500
⁽⁷⁾	Prior year share split adjustment: 10 000 / 22 000 x 33 000	15 000
⁽⁸⁾	Check ratio the same: 47 500: 25 000	1,9: 1

Earnings per share:

Earnings		C261 250	C150 000
Number of shares	=	47 500	25 000
	=	C5.5 per share	C6 per share

4.3.4 Combination issues

A combination issue is one that involves an issue at less than market value: in effect an issue for value (i.e. some of the shares are assumed to have been sold at full market value) and an issue for no value (some of the shares are assumed to have been given away). A rights issue occurs when shares are offered to existing shareholders at a specified reduced price, (less than the market price). There are two methods of calculating the number of shares: one involves the use of a table (where the principles are those used in the previous examples) and the other involves the use of formulae. Both will give you the same final answer.

Example 10: rights issue

A company had 10 000 shares in issue at the beginning of the current year, (20X2), and 3 months before the year-end, the company had a rights issue of 1 share for every 5 shares held. The exercise (issue) price was C4 when the fair value immediately before the rights issue was C5 (i.e. market value cum rights). All the shares offered in terms of this rights issue were taken up.

Required:

Calculate the weighted average number of shares in issue for the purposes of calculating earnings per share in the financial statements for the year ended 31 December 20X2.

Solution to example 10: rights issue - using the 'table approach'

- The number of shares issued in terms of the rights issue: $10\,000/5 \times 1 \text{ share} = 2\,000 \text{ shares}$
- The cash received from the rights issue: $2\,000 \text{ shares} \times C4 = C8\,000$
- The number of shares that are issued may be split into those shares that are effectively sold and those that are effectively given away:

	Number
Shares sold (issue for value): proceeds/ market price cum rights = $C8\,000/ C5$	1 600
Shares given away (issue for no value): total shares issued – shares sold = $2\,000 \text{ shares} - 1\,600 \text{ shares or } (2\,000 \times C5 - C8\,000) / C5$	400
	2 000

- The weighted and adjusted average number of shares may then be calculated:

Note 1: Please remember that issues *for value* during the year require *weighting* of the number of shares to take into account how long the extra capital was available to the entity.

Note 2: Please note that an issue *for no value* will not cause an increase in the profits and therefore, in order to ensure comparability, the prior year shares are adjusted as if the issue *for no value* had occurred in the prior year. Please also note that the adjustment made should not change the ratio between the number of shares in the current year and the prior year.

Number of shares (weighted & adjusted)	Actual	Current year (weighted)	Prior year (adjusted)
Balance: 1/1/20X2	10 000	10 000	10 000
Issue for value (<i>note 1</i>) ($1\,600 \times 3/12$)	1 600	400	0
	11 600	10 400	10 000
Issue for no value (<i>note 2</i>) (CY: $400/ 11\,600 \times 10\,400$); (PY: $400/ 11\,600 \times 10\,000$)	400	359	345
Balance: 31/12/20X2	12 000	10 759	10 345

Note 3: Remember that the adjustment made should not change the ratio between the number of shares in the current and prior year. To be sure that you have not changed this ratio, you can check the ratios as follows:

Ratio between the number of shares in the current year and prior year:

Before issue for no value:	$10\,400/ 10\,000$	1.04
The issue for no value:	$359/ 345$	1.04
After the issue for no value:	$10\,759/ 10\,345$	1.04

It can therefore be seen that at no stage did this ratio get altered.

Solution to example 10: rights issue - using the 'formula approach'

Theoretical ex-rights value per share:

$$\frac{\text{Fair value of all issued shares before the rights issue plus the resources received from the rights issue}}{\text{Number of shares in issue after the rights issue}}$$

$$= \frac{10\,000 \text{ shares} \times C5 + 2\,000 \text{ shares} \times C4}{10\,000 + 2\,000}$$

$$= \frac{C58\,000}{12\,000}$$

$$= C4.833 \text{ per share}$$

Adjustment factor:

$$\frac{\text{Fair value per share prior to the exercise of the right}}{\text{Theoretical ex-right value per share}}$$

$$= \frac{C5}{C4.833}$$

$$= 1.0345$$

Number of shares (rounded up):

=	Current year (10 000 shares x 1.0345 x 9/12 + 12 000 x 3/12)	10 759
=	Prior year (10 000 shares x 1.0345)	10 345

Notice that the current year calculation of the number of shares is weighted for the number of months *before* the issue and *after* the issue, whereas the prior year is not weighted at all.

Example 11: various issues over three years

Numbers Ltd has a profit of C100 000 for each of the years 20X3, 20X4 and 20X5. There are no preference shares. On 1 January 20X3, there were 1 000 C2 ordinary shares in issue, after which, the following issues took place:

- 30 June 20X4: 1 000 ordinary shares were sold for C3.50 (their market price);
- 30 September 20X4: there was a capitalisation issue of 1 share for every 2 shares in issue on this date, utilising the share premium account;
- 30 June 20X5: 2 000 ordinary shares were sold for C4.00 (their market price); and
- 31 August 20X5: there was a share split whereby every share in issue became 3 shares.

Required:

- Journalise the issues for the years ended 31 December 20X4 and 20X5.
- Calculate the basic earnings per share to be disclosed in the financial statements of Numbers Ltd for the year ended 31 December 20X5.
- Calculate the basic earnings per share as disclosed in the financial statements of Numbers Ltd for the year ended 31 December 20X4.

Solution to example 11A: journals

	Debit	Credit
30/6/20X4		
Bank	3 500	
Ordinary share capital (equity)		2 000
Share premium (equity)		1 500
<i>Issue of 1 000 C2 ordinary shares at C3.50 (market price)</i>		
30/9/20X4		
Share premium	2 000	
Ordinary share capital (equity)		2 000
<i>Capitalisation issue: 1 for 2 shares in issue: (1 000 + 1 000) / 2 x 1 x C2 (PV)</i>		
30/6/20X5		
Bank	8 000	
Ordinary share capital (equity)	2 000 x 2	4 000
Share premium (equity)	2 000 x 2	4 000
<i>Issue of 2 000 C2 ordinary shares at C4 (market price)</i>		
31/8/20X5		
There is no journal entry for a share split (the authorised and issued number of shares are simply increased accordingly)		

Solution to example 11B: calculations – 20X5 financial statements

W1: Numerator: earnings	20X5	20X4	20X3
	C	C	C
Profit for the year	100 000	100 000	100 000
Preference dividends (not applicable: no preference shares)	0	0	0
Basic earnings per share	100 000	100 000	100 000
			0
			100 000

W2: Denominator: number of shares	Actual	20X5	20X4	20X3
Balance: 1/1/20X3	1 000	N/A	1 000	1 000
Movement: none	0	0	0	0
Balance: 1/1/20X4	1 000	N/A	1 000	1 000
Issue for value: 30/6/20X4 (20X4: $1\,000 \times 6/12$); (20X3: $1\,000 \times 0/12$)	1 000	N/A	500	0
Issue for no value: 30/9/20X4 ($2\,000 / 2 \times 1$); (20X4: $1\,000 \times 1\,500 / 2\,000$); (20X3: $1\,000 \times 1\,000 / 2\,000$)	2 000 1 000	N/A N/A	1 500 750	1 000 500
Balance: 31/12/20X4	3 000	3 000	2 250	1 500
Issue for value: 30/6/20X5 (20X5: $2\,000 \times 6/12$); (20X4 & 20X3: $2\,000 \times 0/12$)	2 000	1 000	0	0
Issue for no value: 31/8/20X5 ($5\,000 \times 3 - 5\,000$); (20X5: $10\,000 \times 4\,000 / 5\,000$); (20X4: $10\,000 \times 2\,250 / 5\,000$); (20X3: $10\,000 \times 1\,500 / 5\,000$)	5 000 10 000	4 000 8 000	2 250 4 500	1 500 3 000
Balance: 31/12/20X5	15 000	12 000	6 750	4 500

W3: earnings per share for inclusion in 20X5 financial statements

	20X5	20X4	20X3
	C	C	C
Basic earnings per share:			
<u>Basic earnings</u>	<u>C100 000</u>	<u>C100 000</u>	<u>C100 000</u>
Weighted average number of shares	12 000	6 750	4 500
	<u>C8.33</u>	<u>C14.81</u>	<u>C22.22</u>

Solution to example 11C: calculations – 20X4 financial statements**W1: earnings per share for inclusion in 20X4 financial statements**

	20X4	20X3
Basic earnings per share:		
<u>Basic earnings</u>	<u>C100 000</u>	<u>C100 000</u>
Weighted average number of shares	2 250	1 500
	<u>C44.44</u>	<u>C66.67</u>

Notice: the denominators used (for the 20X4 and 20X3 years) in the 20X4 financial statements are the number of shares calculated as at 31 December 20X4. This is because the share movements in 20X5 had not yet occurred. The denominators used (for the 20X4 and 20X3 years) in the 20X5 financial statements are not the same, however, since these are adjusted for any issues for no value during the 20X5 (this adjustment is made to improve comparability of the earnings per share).

4.3.5 Share buy-backs

A share buy-back involves a decrease in the capital base of the entity through the entity repurchasing shares from its shareholders. A buy-back involves a reduction of the capital base (fewer issued shares exist after the buy-back) and a reduction in the money/ resources of the entity (the entity pays the shareholders for the shares).

Since the entity pays the shareholders for their shares, the share buy-back is a *for-value* reduction. The treatment of a *for-value reduction* is very similar to that of a *for-value issue* with the exception that the number of shares involved is subtracted rather than added.

Example 12: share buy-back

A company had 10 000 ordinary shares in issue during 20X2.

There was a share buy-back:

- of 5 000 ordinary shares (at market price)
- 60 days before the end of the current year (year-end: 31 December 20X3).

The basic earnings in 20X2 were C20 000 and C17 000 in 20X3

Required:

Calculate the earnings per share in 20X3 and 20X2.

Solution to example 12: share buy-back

W1: Denominator: number of shares	Actual	20X3	20X2
Opening balance: 1/1/20X2	10 000	10 000	10 000
Reduction for value: 1/11/20X3 (20X3: $5\,000 \times 60 / 365$); (20X2: $5\,000 \times 0/12$)	(5 000)	(822)	0
	<u>5 000</u>	<u>9 178</u>	<u>10 000</u>

W2: earnings per share for inclusion in 20X3 financial statements

Basic earnings per share:	20X3	20X2
<u>Basic earnings</u>	<u>C17 000</u>	<u>C20 000</u>
<u>Weighted average number of shares</u>	<u>9 178</u>	<u>10 000</u>
	<u>C1.85</u>	<u>C2.00</u>

4.3.6 Share consolidation (IAS 33.29)

A share consolidation is the combination of 2 or more shares into 1. An entity might do this if they believe that their share price is too low (by reducing the number of shares, the demand for the share should push the market price up).

As can be seen, this transaction requires none of the entity's resources and thus it is treated as a not-for-value reduction. The treatment of a *not-for-value reduction* is very similar to that of a *not-for-value issue* with the exception that the number of shares involved is subtracted rather than added.

Example 13: share consolidation

A company had 10 000 ordinary shares in issue during 20X2.

During 20X3, the company consolidated its shares:

- such that every 2 shares were consolidated into 1 share.
- 60 days before the end of the current year (year-end: 31 December 20X3).

The basic earnings in 20X2 were C20 000 and C17 000 in 20X3

Required:

Calculate the earnings per share in 20X3 and 20X2.

Solution to example 13: share consolidation

W1: Denominator: number of shares	Actual	20X3	20X2
Opening balance: 1/1/20X2	10 000	10 000	10 000
Reduction for no value: 1/11/20X3 (20X3: $5\,000 \times 10\,000 / 10\,000$); (20X2: $5\,000 \times 10\,000 / 10\,000$)	(5 000)	(5 000)	(5 000)
	<u>5 000</u>	<u>5 000</u>	<u>5 000</u>

W2: earnings per share for inclusion in 20X3 financial statements

Basic earnings per share:	20X3	20X2
<u>Basic earnings</u>	<u>C17 000</u>	<u>C20 000</u>
Weighted average number of shares	5 000	5 000
	<u>C3.40</u>	<u>C4.00*</u>

* The 20X2 financial statements would have reflected an earnings per share figure of C2 (C20 000 / 10 000).

5. Diluted earnings per share (IAS 33.30 - .63)**5.1 Overview**

Dilution means to make thinner or less concentrated. With respect to earnings per share, dilution would occur if the same earnings have to be shared amongst more shareholders than are currently in existence. Many entities at year-end have potential shares outstanding, which if converted into shares, would dilute the earnings per share. Diluted earnings per share shows the lowest earnings per share possible assuming that these potential ordinary shares are created. The diluted earnings per share shows users the maximum potential dilution of their earnings in the future (i.e. the worst case scenario) assuming the potential shares currently in existence are converted into ordinary shares in the future. It logically follows that diluted earnings per share can never be higher than basic earnings per share.

Example 14: simple diluted earnings per share

Basic earnings for 20X5: C500 000 (also the profit for the year; there were no components of other comprehensive income)

Ordinary number of shares in issue for 20X5: 1 200 000

300 000 options were in issue at 31 December 20X5 (granted to the directors for no value).

Required:

A) Calculate basic and diluted earnings per share for the year ended 31 December 20X5.

B) Disclose basic and diluted earnings per share for the year ended 31 December 20X5.

Solution to example 14A: simple diluted earnings per share - calculations**W1: Basic earnings per share:**

		20X5
Basic earnings		C500 000
Weighted average number of shares	=	1 200 000
Basic earnings per share	=	C0.4167

W2: Diluted earnings per share:

		20X5
Diluted earnings		C500 000
Weighted average number of shares outstanding + potential shares	=	(1 200 000 + 300 000)
Diluted earnings per share	=	C0.3333

Solution to example 14B: simple diluted earnings per share - disclosure

XYZ Limited		20X5	20X4
Statement of comprehensive income	Note	C	C
For the year ended 31 December 20X5			
Profit for the year		500 000	xxx
Other comprehensive income		0	xxx
Total comprehensive income		500 000	xxx
Basic earnings per share	15	0.4167	x
Diluted earnings per share	15	0.3333	x

XYZ Limited**Notes to the financial statements (extracts)****For the year ended 31 December 20X5****15. Earnings per Share***Basic earnings per share*

Basic earnings per share is based on earnings of C500 000 (20X4 C X) and a weighted average of 1 200 000 (20X4 X) ordinary shares in issue during the year.

Dilutive earnings per share

Dilutive earnings per share is based on dilutive earnings of C500 000 (20X4 C X) and a weighted average of 1 500 000 (20X4 X) ordinary shares during the year.

5.2 Potential Shares (IAS 33.36 - .63)

There are many types of potential shares (dilutive instruments); each has different effects on diluted earnings (the numerator) and/ or the weighted number of shares outstanding (the denominator).

Potential shares are instruments that could potentially alter the number of shares in issue in the future and thereby possibly dilute earnings per share.

Potential ordinary shares are weighted for the period they are outstanding, meaning that:

- potential ordinary shares that are cancelled or allowed to lapse during the period are included in diluted earnings per share only for the part of the period during which they are outstanding; and
- potential ordinary shares that are converted into ordinary shares during the period are included in diluted earnings per share only to the date of conversion.

Types of potential shares are discussed overleaf.

5.2.1 Options (IAS 33.45 - .48)

Options are granted to individuals allowing them to acquire a certain number of shares in the company at a specified price per share (the strike price or exercise price) in the future. This is usually lower than the average market price (fair value) of the share, which therefore encourages the option holder to buy the share. When the date has been reached that the holder is entitled to exercise the option, we say that the option has *vested*. If the owner of the option decides to exercise the option and buy the shares, he will own them unconditionally. Incidentally, if the market price is lower than the strike price (on the exercise date or during an exercise period), the option-holder would probably not purchase the shares and the option would lapse.

When the option is exercised it results in both a 'for value issue' (relating to the cash received) and a 'not for value issue' (relating to the bonus element, being the difference between what should have been received based on the market price and what was received).

The two portions (*for value* and *not for value*) can be calculated as follows:

- the total proceeds received when the options are exercised are divided by the market price per share and the resultant number of shares is seen as a *for value* issue. This *for value* issue requires no adjustment in diluted earnings per share; and
- the total number of share options less the number of 'for value' shares calculated, is the 'not for value' portion. This 'not for value' portion has no effect on the numerator (earnings) but the denominator must be increased accordingly.

The possible conversion of options into ordinary shares only affects the denominator (i.e. the number of shares will increase).

Example 15: options to acquire shares

	20X5
Profit before tax	800 000
Income tax expense	(390 000)
Profit for the year	410 000

There are 200 000 ordinary C2 shares in issue.

During 20X5 the company's shares had an average market value of C6.

The company's directors hold 100 000 options, at a strike price of C2 each. The options have vested during the year.

Required:

Calculate the earnings per share figures for 20X5 ascertainable from the information given.

Solution to example 15: options to acquire shares**Basic earnings per share**

		20X5
<u>Basic Earnings</u>	=	<u>C410 000</u>
Weighted number of shares outstanding		200 000
Basic earnings per share	=	C2.05

Diluted earnings per share:

<u>Total proceeds</u>	=	Effective number of shares that would be sold
Market price		
<u>100 000 x C2</u>	=	33 333 effectively sold (<i>for value</i>)
C6		
100 000 – 33 333	=	66 667 effectively given away (<i>not for value</i>)

Weighted number of shares:

Basic number of shares		200 000
Notionally exercised options (not for value portion):	<i>See calculation above or calculate as follows: bonus element: (market price – strike price): (C6 – C2) ÷ C6 market price x 100 000 options</i>	66 667
Diluted number of shares		<u><u>266 667</u></u>

Diluted earnings per share (20X5):

<u>Diluted earnings</u>	=	<u>C410 000</u>
Weighted number of ordinary shares		266 667
Diluted earnings per share	=	C1.5375

5.2.2 Convertible instruments (IAS 33.49 - .51)

Convertible instruments are instruments that may be converted into ordinary shares (known as potential ordinary shares) at some time in the future (either on a specific date or at any time). Examples of convertible instruments include:

- convertible debentures; and
- convertible preference shares.

The effect of a conversion will be:

- an increase in the expected earnings (the numerator): increased by the after tax interest or dividends saved by a conversion; and
- an increase in the number of shares (the denominator): increased by the extra shares that may be created by a conversion.

If the *holder* of the instrument is faced with more than one conversion option, the entity (being the *issuer* of the instrument) must use the most dilutive option in the diluted earnings per share calculation. For example, if the holder of a debenture has the option to convert the debenture into an ordinary share or to redeem it for cash, the entity must assume that the holder will choose the ordinary shares since this will increase the number of shares and therefore decrease dilutive earnings per share.

Example 16: convertible debentures

There are:

- 100 000 ordinary C2 shares in issue
- 200 000 C2 convertible debentures in issue (the conversion rate is: 1 ordinary share for each debenture).

Profit for the year ended 20X5 was C279 000, which included finance costs on the convertible debentures of C30 000 (before tax). Tax is levied at 30%

Required:

Calculate basic earnings and diluted earnings per share to be included in the statement of comprehensive income for the year ended 31 December 20X5. Comparatives are not required.

Solution to example 16: convertible debentures**W1: Basic earnings per share:**

Basic earnings	C279 000
Weighted number of ordinary shares in issue	100 000
<hr/>	
Basic earnings per share	= C2.79

W2: Diluted earnings per share:

Profit for the year	279 000
Preference dividend	0
Basic earnings	279 000
Adjustments	
Finance costs avoided	30 000
Tax saving due to finance costs lost (30 000 x 30%)	(9 000)
Diluted earnings	300 000

W3: Weighted number of ordinary shares:

Basic number of shares	100 000
Notionally converted ordinary shares	200 000
Diluted number of shares	300 000

W4: Diluted earnings per share:

Diluted earnings	C300 000
Weighted number of ordinary shares outstanding	300 000
<hr/>	
Diluted earnings per share	= C1.00

Example 17: convertible preference shares

There are:

- 200 000 ordinary C2 shares in issue
- 100 000 cumulative, convertible, C2. 20% preference shares in issue (recognised as a liability). The preference shares are convertible at the option of the preference shareholders into ordinary shares at a rate of 1 ordinary share for every convertible preference share on 31 December 20X5.

A preference dividend of C40 000 was declared for 20X5 (recognised as finance costs on the preference share liability).

An extract of the statement of comprehensive income follows:

	20X5
Profit from operations	800 000
Finance costs – preference shares	(45 000)
Profit before taxation	755 000
Income tax expense	(350 000)
Profit for the year	405 000

Required:

Calculate basic earnings and diluted earnings per share for presentation in the statement of comprehensive income for the year ended 31 December 20X5. Comparatives are not required.

Solution to example 17: convertible preference shares

W1: Basic earnings per share:

Basic earnings	C405 000
Weighted number of ordinary shares in issue	200 000
	=
Basic earnings per share	2.025

W2: Diluted earnings per share:

Profit for the year	405 000
Preference dividend ⁽¹⁾	0
Basic earnings	405 000
Adjustments	
Finance costs ⁽¹⁾	45 000
	5 000
Diluted earnings	455 000

(1) the preference dividend is recognised as interest (and thus has already been deducted in the calculation of profit for the year) because the preference shares are recognised as a liability (it should be noted that the amount of the finance costs are not necessarily the same as the actual dividend declared in any year). The tax is, of course, calculated on the actual dividend declared though.

W3: Weighted number of ordinary shares:

Basic number of shares	200 000
Notionally converted ordinary shares	100 000
Diluted number of shares	300 000

W4: Diluted earnings per share:

Diluted earnings	455 000
Diluted number of shares	300 000
	=
Diluted earnings per share	C1.5167

5.2.3 Contingent shares (IAS 33.52 -.57 and .24)

These are shares that are issuable for little or no value only upon the satisfaction of certain conditions specified in a contingent share agreement. Take note that a time delay is not considered to be a contingent condition, as it will always be met. Contingent shares are included in diluted earnings per share calculations only once the condition/s are satisfied.

Example 18: contingent shares

At 1 January 20X5, Airways Limited had 1 million C1 par value shares in issue, which had been in issue for many years. On 2 January 20X5, Airways Limited bought 100% of Radio Limited, which it paid for through an issue of a further 1 million ordinary shares. Another 500 000 ordinary shares are contingently issuable upon Radio Limited generating total profits of C100 million over 3 years.

Airways Limited's profit for 20X5 is C500 million (20X4 C400 million). Radio Limited earned C200 million in 20X5.

Required:

Calculate basic and diluted earnings per share in Airway Ltd's financial statements for 20X4 and 20X5.

Solution to example 18: contingent shares

		20X5	20X4
	Calculation:	C	C
Basic earnings per share	20X5: C500 million ÷ 2 million shares 20X4: C400 million ÷ 1 million shares	250.00	400.00
Diluted earnings per share	20X5: C500 million ÷ 2.5 million shares 20X4 C400 million ÷ 1 million shares	200.00	400.00

Note: The same rules do not apply to basic and diluted shares.

- *Basic shares are not adjusted for these contingent shares because the contingency period is not yet complete and it is not yet certain that the shares will be issued (a profit of 100 million must be made over a 3-year period). Although a large profit in excess of 100 million has already been made, this may reverse before the 3 years is up (e.g. if a large loss is made in 20X6 and 20X7, a net profit of 100 million may not necessarily be made over the 3 years).*
- *Diluted shares must include the contingent shares for as long as the condition is met, even if the condition is only conditionally met at year end, (as in this example). The prior year diluted earnings per share is not restated for the contingent shares since the contingent shares are only taken into account from the date that the contingent share agreement was signed).*

5.3 Multiple dilutive instruments (IAS 33.44)

Many companies have more than one type of dilutive instrument in issue. Some of these instruments will be more dilutive than others. If you recall, the objective of dilutive earnings per share is to show the most dilutive option or 'worst case scenario'. In order to achieve this all instruments must be ranked (most dilutive to least dilutive) and the correct combination that lowers dilutive earnings per share the most must be chosen. The instrument that has the lowest incremental earnings per share is the most dilutive and is ranked first. Options, which have no effect on earnings (numerator) but do have an effect on the number of shares (denominator), will thus have a zero incremental earnings per share and will always be the most dilutive instrument.

Example 19: multiple dilutive instruments

The following information relates to ABC Limited for the year ended 31 December 20X5:

- Basic earnings: C 1,000,000
- Basic number of shares: 995,500

The following potential shares are applicable on 31 December 20X5:

- Convertible debentures (convertible at the option of the debenture holders) into 20 000 ABC Ltd ordinary shares on 31 December 20X9. If the debentures are not converted into

ordinary shares they will be redeemed on 31 December 20X9. Finance costs of C10 000 (after tax) were expensed in arriving at the profit for 20X5;

- Convertible preference shares (convertible at the option of the shareholders) into 40 000 ABC Limited ordinary shares on 31 December 20X9. If the shares are not converted into ordinary shares they will be redeemed on 31 December 20X9. C50 000 finance cost (after tax) were expensed in arriving at the profit for 20X5; and
- Options to acquire 100 000 ordinary shares in ABC Ltd on or after 31 December 20X6 at a strike price of C7,50 per share. During 20X5 the average market price of the shares was C10 per share.

Required:

Disclose the earnings per share figures for inclusion in ABC Limited's statement of comprehensive income for the year ended 31 December 20X5. Comparatives and notes are not required.

Solution to example 19: multiple dilutive instruments

<i>Ranking in order of dilution</i>			Dilutive	Ranking:
Convertible debentures	<i>Increase in earnings</i>	<u>C10 000</u>	0.50	2
	<i>Increase in shares</i>	20 000		
Convertible preference shares	<i>Increase in earnings</i>	<u>C50 000</u>	1.25	3
	<i>Increase in shares</i>	40 000		
Options	<i>100 000 x (10 – 7,5) ÷ C10</i>	<u>C0</u>	0.00*	1
	<i>(bonus element only)</i>	25 000		
* this will always be zero				

<i>Testing whether dilutive or not</i>			C
<u>Basic earnings</u>			<u>C1 000 000</u>
Basic number of shares			995 500
<i>Adjust for:</i>			
1. notionally exercised options	<i>C1 000 000 + C0 options</i>	<u>C1 000 000</u>	0.9799
	<i>995 500 basic + 25 000 options</i>	1 020 500	Dilutive
2. notionally exercised options & convertible debentures	<i>C1 000 000 + C0 options + C10 000 finance cost</i>	<u>C1 010 000</u>	0.9707
	<i>995 500 + 25 000 options + 20 000 debentures</i>	1 040 500	Dilutive
3. notionally exercised options, convertible debentures & convertible preference shares	<i>C1 010 000 above + C50 000 finance cost</i>	<u>C1 060 000</u>	0.9810
	<i>1 040 500 above + 40 000</i>	1 080 500	Anti-dilutive

ABC Limited		20X5
Statement of comprehensive income (extracts)		C
For the year ended 31 December 20X5		
Basic earnings per share	<i>C1 000 000 ÷ 995 500</i>	1.0045
		0.9837
Diluted basic earnings per share	<i>C1 010 000 ÷ 1 040 500</i>	0.9707

6. Disclosure (IAS 33.70 - .73)

6.1 Overview

The earnings per share figures should be disclosed in the statement of comprehensive income and details of the calculation thereof should be disclosed by way of note.

If the entity presents two statements making up the statement of comprehensive income (i.e. an income statement and a statement of comprehensive income), then the earnings per share figure must be disclosed in the separate income statement (also known as the statement of profit or loss).

6.1.1 Statement of comprehensive income

A suggested layout of the statement of comprehensive income disclosure is as follows.

Company name Statement of comprehensive income For the year ended		
	20X2 C	20X1 C
Profit for the year	xxx	xxx
Other comprehensive income	xxx	xxx
Total comprehensive income	xxx	xxx
Basic earnings per ordinary share	25 xxx	xxx
• continuing operations	xxx	xxx
• discontinuing operations	xxx	xxx
Diluted basic earnings per ordinary share	25 xxx	xxx
• continuing operations	xxx	xxx
• discontinuing operations	xxx	xxx

6.1.2 Notes to the financial statements

The earnings per share figures disclosed in the statement of comprehensive income should be referenced to a note. The information in this note should include (for basic and diluted earnings per share, where applicable):

- the earnings amount used in each of the calculations
- a reconciliation of the earnings used in each of the calculations to the profit for the period as per the statement of comprehensive income
- the weighted average number of shares used in each of the calculations
- if there is a diluted earnings per share figure,
 - a reconciliation between the weighted average number of shares used in calculating:
 - basic earnings per share; and
 - diluted earnings per share.
 - Any dilutive instrument that was not included but could in the future still cause dilution (potentially dilutive instruments);
- Any significant share transactions after the end of the reporting period.

6.1.3 Sample disclosure involving earnings per share

Company name
Notes to the financial statements (extracts)
For the year ended ...

25 Earnings per Share

Basic earnings per share

The calculation of basic earnings per share is based on earnings of C XXX (20X4 C XXX) and a weighted average of xxx (20X4 xxx) ordinary shares outstanding during the year.

Diluted basic earnings per share

The calculation of diluted basic earnings per share is based on diluted earnings of C YYY (20X4 C YYY) and a weighted average of yyy (20X4 yyy) shares during the year.

	20X5		20X4	
<i>Reconciliation of earnings</i>	Gross C	Net C	Gross C	Net C
Profit/(Loss) for the period		xx		xx
• Preference dividend		(xx)		(xx)
Basic earnings		xx		xx
• Debenture interest		xx		xx
• Notional preference share dividend		xx		xx
• Finance costs avoided		xx		xx
				xx

Reconciliation of basic number of shares to diluted number of shares

	20X5 Number	20X4 Number
Basic number of shares	xx	xx
• Notionally exercised options	xx	xx
• Notionally converted debentures	xx	xx
• Notionally converted preference shares	xx	xx
Diluted number of shares	xx	xx

Potentially dilutive instruments

There are xxx convertible debentures in issue, which had the effect of being anti-dilutive and were thus not included in the diluted earnings per share calculation.

Significant changes to the number of shares after the end of the reporting period

xxx ordinary shares were issued at par value after (date of the report).

6.2 Further variations of earnings per share (IAS 33.73)

An entity may wish to calculate and disclose a *further* variation on earnings per share by using a different earnings figure (it should be noted that the calculation of the number of shares may never vary). If the entity does disclose a further variation of earnings per share and the earnings used is *not* a reported line item in the statement of comprehensive income, then a reconciliation should be provided reconciling:

- the earnings used in the calculation with
- a line item that is reported in the statement of comprehensive income.

Example 20: disclosure involving multiple dilutive instruments

The following information relates to ABC Ltd for the year ended 31 December 20X5:

- Profit for the year: C1 000 000
- Other comprehensive income: nil
- Basic earnings: C1 000 000
- Profit on sale of plant: C25 000 (tax thereon: C4 250)
- Basic number of shares: 995 500

The following potential shares are applicable on 31 December 20X5:

- Convertible debentures (convertible at the option of the debenture holders) into 20 000 ABC Ltd ordinary shares on 31 December 20X9. If the debentures are not converted into ordinary shares they will be redeemed on 31 December 20X9. Finance costs of C10 000 (after tax) were expensed in arriving at the profit for 20X5;
- Convertible preference shares (convertible at the option of the shareholders) into 40 000 ABC Limited ordinary shares on 31 December 20X9. If the shares are not converted into ordinary shares they will be redeemed on 31 December 20X9. C50 000 finance cost (after tax) were expensed in arriving at the profit for 20X5; and
- Options to acquire 100 000 ordinary shares in ABC Ltd on or after 31 December 20X6 at a strike price of C7.50 per share. During 20X5 the average market price of the shares was C10 per share.

Required:

Disclose the earnings per share figures for inclusion in ABC Ltd's statement of comprehensive income for the year ended 31 December 20X5.

Solution to example 20: disclosure including multiple dilutive instruments

Please see example 19 for the workings.

ABC Limited**Statement of comprehensive income (extracts)**

For the year ended 31 December 20X5

			20X5	20X4
		Note	C	C
Profit for the year			1 000 000	xxx
Other comprehensive income			0	xxx
Total comprehensive income			1 000 000	xxx
Basic earnings per ordinary share	C1 000 000 / 995 500	35	1.0045	xxx
Diluted basic earnings per ordinary share	C1 010 000 / 1 040 500	35	0.9707	xxx

ABC Limited**Notes to the financial statements (extracts)**

For the year ended 31 December 20X5

35. Earnings per share*Basic earnings per share*

The calculation of basic earnings per share is based on earnings of C1 000 000 (20X4 C.....) and a weighted average of 995 500 (20X4 xxx) ordinary shares in issue during the year.

Diluted basic earnings per share

The calculation of diluted basic earnings per share is based on diluted earnings of C1 010 000 (20X4 C.....) and a weighted average of 1 040 500 (20X4 yyy) shares during the year.

Reconciliation of earnings:

	20X5		20X4	
	Gross C	Net C	Gross C	Net C
<i>Basic earnings</i>		1 000 000		xx
Debenture interest		10 000		xx
Notional preference share dividend		-		xx
<i>Diluted basic earnings</i>		<u>1 010 000</u>		<u>xx</u>

ABC Limited**Notes to the financial statements (extracts)****For the year ended 31 December 20X5 continued ...****35. Earnings per share continued ...**

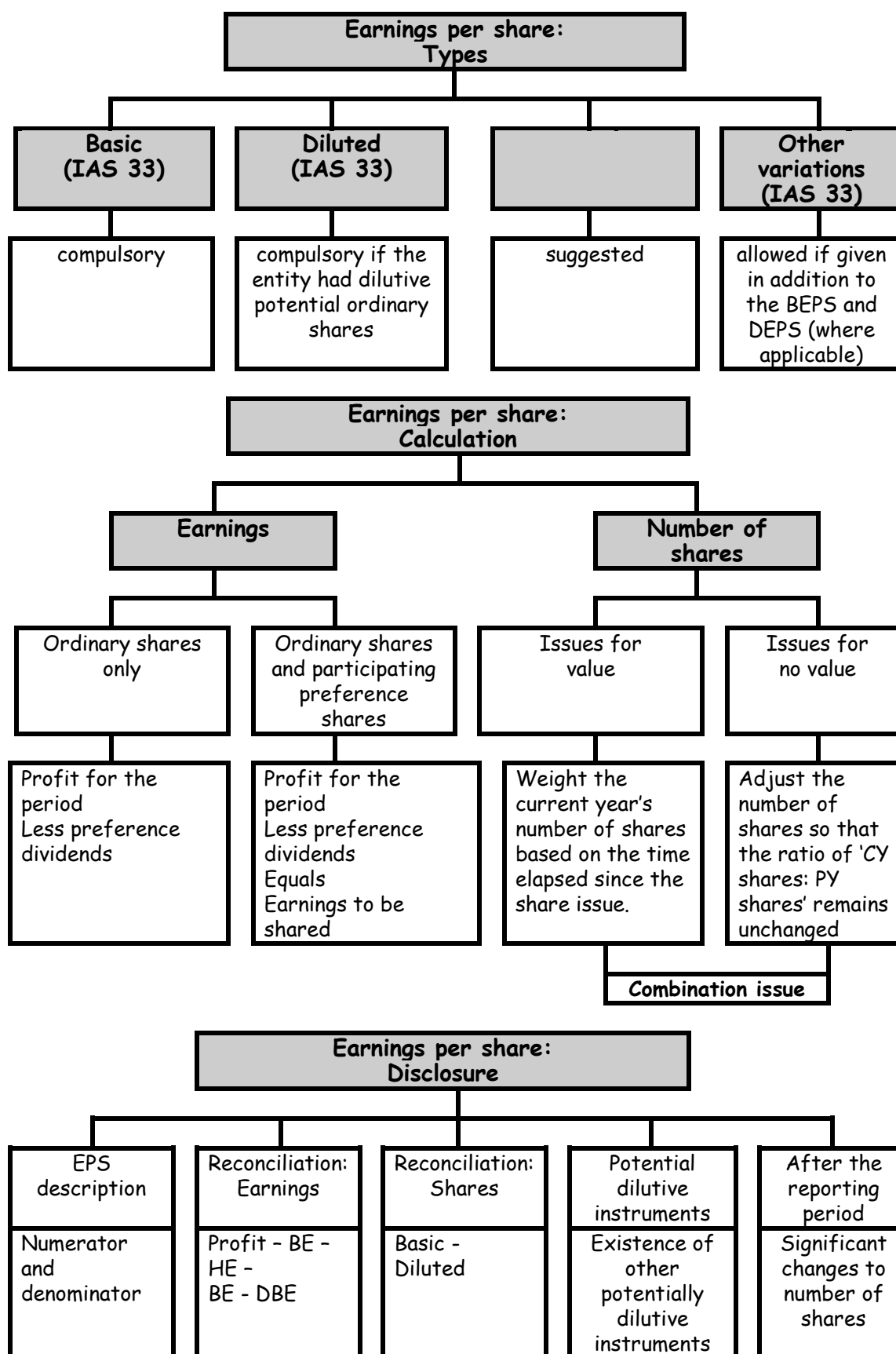
	20X5 Number	20X4 Number
<i>Reconciliation of basic number of shares to diluted number of shares</i>		
Basic number of shares	995 500	xx
• Notionally exercised options	25 000	xx
• Notionally converted debentures	20 000	xx
Diluted number of shares *	<u>1 040 500</u>	<u>xx</u>

**Note: remember not to include anti-dilutive instruments*

Potentially dilutive instruments

Preference shares exist that are convertible, at the shareholders request, into 40 000 ordinary shares. These convertible preference shares could potentially dilute earnings per share further. These have been excluded from the diluted earnings per share calculation since they are currently anti-dilutive.

7. Summary



Chapter 24

Statement of Cash Flows

Reference: IAS 7

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1. Introduction

The Statement of Cash Flows is one of the 5 financial statements that constitute a 'set of annual financial statements' according to IAS 1.

The purpose of the statement of cash flows is to add to the usefulness of the financial statements by classifying the cash inflows and cash outflows for the period into the three main areas of a business:

- Operating activities
- Investing activities
- Financing activities.

The statement of cash flows is essentially an analysis of the entity's bank account (and any other account so closely aligned to cash that it meets the definition of a 'cash equivalent').

2. Definitions

IAS 7 includes the following useful definitions:

- **Cash** comprises cash on hand and demand deposits.
- **Cash equivalents** are short term, highly liquid investments that are readily convertible to known amounts of cash and which are subject to an insignificant risk of changes in value.
- **Cash flows** are inflows and outflows of cash and cash equivalents.
- **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 contributed equity and borrowings of the entity.

3. Advantages and disadvantages of statements of cash flows (IAS7.4 - .5)

3.1 Advantages

- The statement of cash flows provides additional useful information, especially with regard to the assessment of liquidity.
- The subjectivity and judgment that is inherent in the other financial statements does not influence the information contained in a statement of cash flows. For instance the use of different accounting policies, estimating the rates of depreciation and deciding whether to revalue non-current assets or not makes the statement of comprehensive income and statement of financial position prone to subjectivity and judgment.
- The lack of subjectivity and judgment in a statement of cash flows allows for more reliable comparisons to be made.
- Statements of cash flows enable the careful monitoring of cash movements and cash budgetary requirements.
- Records of existing cash flow patterns will be available to help predict future cash flow patterns.
- Statements of cash flows help identify the main source of cash and the main users thereof.

3.2 Disadvantages

- Cash flows are volatile and may be influenced by external factors such as upswings and downswings in the economy and may therefore not always be able to be used to reliably predict future cash flows.

4. Disclosing cash flows (IAS 7.10 – 7.21)

4.1 Overview

The general format of the statement of cash flows, shown below, involves the analysis of the movement in and out of the entity's cash (bank) account into three areas of activity, namely:

- operating activities
- investing activities; and
- financing activities.

In some cases, the entity may have other accounts that closely resemble cash. These are referred to as 'cash equivalents'. An example of this is a 2 month fixed deposit. In these cases, the cash accounts and the cash equivalent accounts are added together and the statement of cash flows will then be an analysis of the movements in and out of the entity's cash and cash equivalent accounts.

Company name		
Statement of cash flows		
For the year ended 31 December 20X2		
	Note	20X2 C
Cash effects of operating activities		1 000
Cash effects of investing activities		(2000)
Cash effects of financing activities		5 000
Net cash (outflow)/ inflow		4 000
Opening balance of cash and cash equivalents (per statement of financial position)		1 500
Closing balance of cash and cash equivalents (per statement of financial position)		5 500

Cash flows that relate to *operating* activities are generally those that result from the main revenue-producing activities of an entity and are therefore generally the transactions that are used in the calculation of profit for the year. There are exceptions, however, such as a profit on sale of plant that would be included in profit for the year but essentially results from an investing activity (the original decision to invest in the plant).

Cash flows from *investing* activities are those that indicate how much net cash has been set aside for resources that will generate future cash flows. An example would be the cash outflow to purchase an additional plant and the cash inflow from the sale of an old plant.

Cash flows from *financing* activities are those that indicate to what extent third parties may make claims on the cash resources of the entity.

4.2 The two methods of presentation (IAS 7.18 and 7.19)

IAS 7 (the standard covering 'Statements of Cash Flows') allows for two different methods to be used in presenting the cash flows of an entity:

- the direct method; and
- the indirect method.

The direct method and indirect method differ only with respect to the presentation of the 'cash flow from operations'. This line item is found under the heading 'cash effects of operating activities'. Although IAS 7 allows both methods to be used, it encourages the use of the direct method, since this method involves extra disclosure of useful information (i.e. 'cash receipts from customers' and 'cash paid to suppliers and employees').

The difference between these two methods is best illustrated by looking at an extract of an example provided in IAS 7. The shaded areas of the following two statement of cash flows extracts (as provided in IAS 7) are the areas that differ depending on which method of presentation is employed.

4.2.1 Direct method

Company name

Statement of cash flows

For the year ended 31 December 20X2 (direct method) (extracts)

	Note	20X2
Cash effects of operating activities (extracts)		C
Cash receipts from customers		XXX
Cash paid to suppliers and employees		(XXX)
Cash generated from operations		XXX

4.2.2 Indirect method

Company name

Statement of cash flows

For the year ended 31 December 20X2 (indirect method) (extracts)

	Note	20X2
Cash effects of operating activities (extracts)		C
Profit before taxation		XXX
Adjustments for:		
Depreciation		XXX
Foreign exchange loss		XXX
Investment income		(XXX)
Interest expense		XXX
Operating profit before working capital changes		XXX
Working capital changes		(XXX)
Increase in trade and other receivables		(XXX)
Decrease in inventories		XXX
Decrease in trade payables		(XXX)
Cash generated from operations		XXX

5. Calculating cash flows

The easiest way to calculate the amounts included in the statement of cash flows, is to reconstruct the ledger accounts. For this to be done, you will generally need the current year statement of financial position (with its comparative figures), the current year's statement of comprehensive income, additional information and/ or the statement of changes in equity.

5.1 Converting profits to cash flows

Converting profits into cash flow items requires the reversal of:

- non-cash flow items; and
- movements in working capital (opening and closing balances on accounts such as debtors, prepaid expenses etc).

5.1.1 Non cash flow items

Non-cash flow items are included in the calculation of 'profit before tax' but will not appear in the statement of cash flows at all since they do not represent cash flows (e.g. depreciation, exchange gain or loss).

5.1.2 Movements in working capital

Movements in working capital are taken into account in calculating profits, which are non-cash flow items. For example, the opening and closing balances in the debtors account and the cash receipts from customers are used to calculate the amount of sales revenue recognised in the statement of comprehensive income. Only the cash receipts from customers should, however, be disclosed in the statement of cash flows. In order to convert the statement of comprehensive income figure (sales) to the statement of cash flows figure (cash receipts from customers) the opening and closing balance will need to be taken into account (removed).

5.2 Items requiring separate disclosure

If you are using the indirect method, you will need to convert the profit before tax into cash generated from operations. This entails not only reversing non-cash items and movements in working capital, but also items that may be included in profit before tax but which must be disclosed separately to cash generated from operations, such as items relating to investing or financing activities (e.g. dividend income and interest expenses).

Example 1: movements in working capital

Revenue (statement of comprehensive income) is C100 000. The opening and closing debtors' balances (statement of financial position) are C50 000 and C110 000 respectively.

Required:

Calculate the 'cash receipts from customers' to be disclosed in the 'direct method statement of cash flows'.

Solution to example 1: movements in working capital

In order to convert the sales figure, (which is part of the profit before tax), into a figure that would be shown in the statement of cash flows using the direct method: 'cash receipts from customers', one needs to understand the debtors account:

Debtors			
Opening balance	50 000	Bank (balancing)	40 000
Sales	100 000	Closing balance	110 000
	<u>150 000</u>		<u>150 000</u>
Balance b/f	110 000		

By reconstructing the debtors account, it can be clearly seen that the effect on cash is 40 000.

This could have been calculated using the following calculation instead:

	C
Sales (statement of comprehensive income: part of 'profit before taxation')	100 000
Less increase in debtors (110 000 – 50 000)	<u>(60 000)</u>
Cash receipts from customers (statement of cash flows: part of 'cash generated from operations')	<u>40 000</u>

Notice that the C60 000 increase in debtors is considered to be an outflow of cash. This can be understood if one considers that had all the sales been cash sales, then the cash increase would have been C100 000 instead of C40 000. The same principles apply to inventories and creditors, which are both used in the calculation of 'cost of sales' (statement of comprehensive income) and in the calculation of 'cash payments to suppliers' (statement of cash flows).

Example 2: calculating cash flows

Company name
Statement of financial position
As at 31 December 20X2

	20X2	20X1
	C	C
ASSETS	670 000	450 000
Property, plant and equipment (see note 2)	350 000	300 000
Trade debts	40 000	30 000
Prepaid expenses	8 000	10 000
Inventory	120 000	100 000
Bank	152 000	10 000
EQUITY AND LIABILITIES	670 000	450 000
Share capital (see note 3)	45 000	30 000
Share premium (see note 3)	35 000	30 000
Retained earnings	470 000	300 000
Loans (see note 4)	60 000	50 000
Dividend payable	30 000	2 000
Accrued expenses	5 000	6 000
Trade accounts payable	10 000	20 000
Current tax payable: normal income tax	15 000	12 000

Company name
Statement of comprehensive income
For the year ended 31 December 20X2 (extract)

	20X2
	C
Profit before tax (see note 1)	320 000
Taxation expense	110 000
Profit for the year (see note 5)	210 000
<i>Other comprehensive income</i>	0
Total comprehensive income	210 000

Additional information:

1. Profit before tax includes: sales of C800 000, cost of sales of C350 000, profit on sale of plant of C10 000, total depreciation of C50 000, an impairment loss on vehicles of C10 000 and other operating, distribution and administration costs of C60 000 and finance charges of C20 000.
2. One item of plant, with a carrying amount of C80 000 was sold during the year. All purchases and sales of property, plant and equipment were paid for in cash.
3. C10 000 ordinary shares with a par value of C1 each were issued as bonus shares out of the share premium. There was a further issue of C1 ordinary shares during 20X2 at a market price of C4 each.
4. A loan of C20 000 was repaid to Gocha Bank in 20X2. No other repayments were made.
5. Dividend of C40 000 were declared during the year.

Required:

Ignoring deferred tax, calculate as many cash flows as is possible from the information presented above.

Solution to example 2: calculating cash flows**W1: Debtors and sales ('cash receipts from customers')**

In order to convert the sales figure, (which is part of the profit before tax in the statement of comprehensive income), into a cash amount to be shown in the statement of cash flows using the direct method: 'cash receipts from customers', one must reconstruct the debtors' account:

Debtors (A)			
Opening balance ⁽¹⁾	30 000	Bank ⁽⁴⁾	790 000
Sales ⁽²⁾	800 000	Bad debts ⁽³⁾	0
		Closing balance ⁽¹⁾	40 000
	<u>830 000</u>		<u>830 000</u>
Balance b/f ⁽¹⁾	40 000		
Sales (I)			
		Debtors ⁽²⁾	800 000
Bank			
Debtors ⁽⁴⁾	790 000		

The steps followed (numbered above) are:

- (1) fill in the opening and closing balances per the statement of financial position
- (2) insert the sales figure into the debtors account (given in the additional information)
- (3) insert the bad debts figure into the debtors account: since no information was given, this was assumed to be zero
- (4) balance the debtors account to the amount received during the year.

W2: Creditors, inventory, cost of sale & other expenses (cash paid to suppliers and employees)

The line item 'cash paid to suppliers and employees' includes payments for wages and salaries (payments to employees) and payments for many other supplies (payments to suppliers: for example, inventory purchased, electricity, telephone and water used etc). The calculation thereof will therefore include numerous accounts, including inventory, trade accounts payable and cost of sales:

Inventory (A)			
Opening balance ⁽¹⁾	100 000	Cost of sales (given) ⁽²⁾	350 000
Creditors – purchases ⁽³⁾	370 000	Closing balance ⁽¹⁾	120 000
	<u>470 000</u>		<u>470 000</u>
Balance b/f ⁽¹⁾	120 000		
Trade accounts payable (L)			
Bank ⁽⁴⁾	380 000	Opening balance ⁽¹⁾	20 000
Closing balance ⁽¹⁾	10 000	Inventories – purchases ⁽³⁾	370 000
	<u>390 000</u>		<u>390 000</u>
		Balance b/f ⁽¹⁾	10 000
Cost of sales			
Inventory ⁽²⁾	350 000		
Bank			
		Trade accounts payable ⁽⁴⁾	380 000

The steps followed (numbered above) are:

- (1) fill in the opening and closing balances per the statement of financial position
- (2) insert the cost of sales figure into the inventory account
- (3) balance the inventory account to the value of inventory purchased: insert this entire amount into the trade accounts payable account. It makes no difference if some of the purchases were paid for in cash: by taking the movement in the opening and closing balance of the trade accounts payable account, we will balance the amount paid in cash.
- (4) balance the trade accounts payable account to the amount paid during the year.

Payments to other suppliers and employees may be calculated by reconstructing the other expenses and related accrual accounts in the balance sheet.

Expenses prepaid (A)			
Opening balance ⁽¹⁾	10 000	Expenses ⁽²⁾	10 000
Expenses ⁽⁴⁾	8 000	Closing balance c/f	8 000
	<u>18 000</u>		<u>18 000</u>
Balance b/f	8 000		

Expenses payable (L)			
Expenses ⁽³⁾	6 000	Opening balance ⁽¹⁾	6 000
Closing balance c/f	5 000	Expenses ⁽⁵⁾	5 000
Bank	<u>11 000</u>		<u>11 000</u>
		Balance b/f	5 000

Operating, distribution and administration expenses (E)			
Expenses prepaid opening	10 000	Expenses prepaid c/balance ⁽⁴⁾	8 000
Expenses payable closing balance ⁽⁵⁾	5 000	Expenses payable opening balance ⁽³⁾	6 000
Bank ⁽⁷⁾	<u>59 000</u>	Profit and loss ⁽⁶⁾	60 000
	<u>74 000</u>		<u>74 000</u>

Bank			
		O, D & A expenses ⁽⁷⁾	59 000

- (1) fill in the opening balances per the statement of financial position
 (2) reverse the opening balance of expenses prepaid to the expense account
 (3) reverse the opening balance of expenses payable to the expense account
 (4) insert closing balance of expense prepaid by crediting the expense account
 (5) insert closing balance of expense payable by debiting the expense account
 (6) insert total expenses taken to the statement of comprehensive income
 (7) balance back to the amount paid for in cash

The total amount paid to suppliers and employees will therefore be:	C
Cash paid to suppliers of inventory	380 000
Cash paid to employees and other suppliers	59 000
	<u>439 000</u>

W3: Interest prepaid and interest expense (interest paid)

Interest expense			
Bank ⁽³⁾	20 000		
	<u>20 000</u>		<u>20 000</u>
Total ⁽²⁾	20 000		

Bank			
		Interest expense ⁽³⁾	20 000

The steps followed (numbered above) are:

- (1) fill in the opening and closing balances of interest prepaid or interest payable per the statement of financial position. There were no such balances in this example, but the same principles as those used when calculating the amount paid to suppliers and employees are applied here (W2).
 (2) fill in the related expense per the statement of comprehensive income.
 (3) balance to the amount paid in cash (since there was no interest payable or prepaid at either the beginning or end of the year, the actual interest expense must have been paid).

W4: Property plant and equipment and depreciation (plant purchased or sold for cash)

Plant (carrying amount)			
Opening balance ⁽¹⁾	300 000	Depreciation (per SOCI) ⁽²⁾	50 000
		Impairments (per SOCI) ⁽²⁾	10 000
		Disposals (given) ⁽³⁾	80 000
Bank ⁽⁴⁾	190 000	Closing balance ⁽¹⁾	350 000
	490 000		490 000
Balance b/f ⁽¹⁾	350 000		
Depreciation expense			
PPE (per SOCI) ⁽²⁾	50 000		
Impairment expense			
PPE (per SOCI) ⁽²⁾	10 000		
Profit on sale of plant			
PPE (given) ⁽³⁾	80 000	Bank ⁽⁶⁾	90 000
Profit and loss ⁽⁵⁾	10 000		
	90 000		90 000
Bank			
PPE ⁽⁶⁾ – purchases of PPE	90 000	PPE ⁽⁴⁾ – purchases of PPE	190 000

The steps followed (numbered above) are:

- (1) fill in the opening and closing balances per the statement of financial position
- (2) fill in the related depreciation and impairment expenses per the statement of comprehensive income
- (3) fill in the carrying amount of the disposals
- (4) balance the PPE account back to the purchases (either the disposals figure or the purchases figure will need to be known and the remaining unknown figure will be the balancing figure: this question gave the disposals figure, but not the purchases figure)
- (5) insert profit on sale of plant
- (6) balance the profit (or loss) on disposal of plant back to the proceeds received on disposal

W5: Share capital and share premium (proceeds from share issue)

Share capital			
		Opening balance ⁽¹⁾	30 000
		Issue – share premium ⁽²⁾	10 000
Closing balance ⁽¹⁾	45 000	Issue – bank ⁽³⁾	5 000
	45 000		45 000
		Balance b/f ⁽¹⁾	45 000
Share premium			
Share capital	10 000	Opening balance ⁽¹⁾	30 000
Closing balance ⁽¹⁾	35 000	Issue – bank ⁽³⁾	15 000
	45 000		45 000
		Balance b/f ⁽¹⁾	35 000
Bank			
Share capital and share prem. ⁽³⁾	20 000		

The steps followed (numbered above) are:

- (1) fill in the opening and closing balances per the statement of financial position

- (2) insert the bonus issue and any other issue not for cash (10 000 x C1)
 (3) balance to the share movements made for cash (remember that the cash received will have to be split between the share capital and share premium account if shares were issued at more than their par value).

W6: Liabilities (liabilities raised and liabilities repaid)

Liabilities			
Repaying of loan – bank ⁽²⁾	20 000	Opening balance ⁽¹⁾	50 000
Closing balance ⁽¹⁾	60 000	Raising of a loan – bank ⁽²⁾	30 000
	80 000		80 000
		Balance b/f ⁽¹⁾	60 000

Bank			
Liabilities - raised. ⁽²⁾	30 000	Liabilities – repaid ⁽²⁾	20 000

The steps followed (numbered above) are:

- (1) fill in the opening and closing balances per the statement of financial position
 (2) either the repayment or the raising of any liability would need to be known (in this case, the repayments were given as C20 000 in which case the amount of the loans raised is the balancing figure).

W7: Current tax payable and taxation expense

Current tax payable (L)			
Bank ⁽⁴⁾	107 000	Opening balance ⁽¹⁾	12 000
Closing balance ⁽¹⁾	15 000	Taxation – current tax ⁽³⁾	110 000
	122 000		122 000
		Balance b/f ⁽¹⁾	15 000

Taxation expense			
Current tax payable – current tax ⁽³⁾	110 000	Deferred taxation ⁽³⁾	0
		Profit and loss ⁽²⁾	110 000
	110 000		110 000

Bank			
		Current tax payable ⁽⁴⁾	107 000

The steps followed (numbered above) are:

- (1) fill in the opening and closing balances per the statement of financial position
 (2) insert the tax expense per the statement of comprehensive income
 (3) balance the tax expense account in order to calculate the current tax charge in the statement of comprehensive income and insert this into the current tax payable account. In this example we were told to ignore deferred tax and therefore the entire tax expense is the tax owing to the tax authorities in respect of the current year.
 (4) balance the current tax payable account to the amount paid to the tax authorities.

W8: Dividend payable and dividend declared

Dividend Payable(L)			
Bank ⁽⁴⁾	12 000	Opening balance ⁽¹⁾	2 000
Closing balance ⁽³⁾	30 000	Dividend declared ⁽²⁾	40 000
	42 000		42 000
		Balance b/f ⁽³⁾	30 000

Dividend declared (equity distribution)	
Shareholders for dividend ⁽²⁾	40 000

Bank	
Shareholders for dividend ⁽⁴⁾	12 000

(1) fill in the opening balances

(2) insert the dividend/s declared for the year (crediting dividend payable)

(3) insert closing balance

(4) balance back to the amount paid for in cash

W9: Retained earnings account

Although not necessary, it is a useful check to reconstruct the retained earnings account (which is the last remaining account in the statement of financial position that has yet to be reconstructed) to ensure that all movements have been accounted for.

Retained earnings			
Dividend ⁽³⁾	40 000	Opening balance ⁽¹⁾	300 000
Transfers ⁽³⁾	0	Profit and loss account ⁽²⁾	210 000
Closing balance ⁽¹⁾	470 000		510 000
	510 000		510 000
		Balance b/f ⁽¹⁾	470 000

The steps followed (numbered above) are:

(1) fill in the opening and closing balances per the statement of financial position.

(2) the profit for the year will be transferred to the retained earnings account at year-end.

(3) dividend paid to shareholders and transfers to other reserve accounts would need to be adjusted for, although, in this example there were no transfers. The retained earnings account is in balance.

Example 3: disclosing cash flows – direct method

Assume the same information as that provided in example 2.

Required:

Disclose the statement of cash flows using the direct method.

Solution to example 3: disclosing cash flows – direct method**Company name****Statement of cash flows****For the year ended 31 December 20X2 (direct method)**

	<i>Calculation per example 1</i>	20X2 C
Cash flows from operating activities		
Cash receipts from customers	W1	790 000
Cash paid to suppliers and employees (see comment 1)	W2	(439 000)
Cash generated from operations		351 000
Interest paid	W3	(20 000)
Dividend paid	W8	(12 000)
Normal tax paid	W7	(107 000)
		212 000
Cash flows from investing activities		
Proceeds from sale of property, plant and equipment	W4	90 000
Purchase of property, plant and equipment	W4	(190 000)
		(100 000)
Cash flows from financing activities		
Repayment of long term loans	W6	(20 000)
Proceeds from long term borrowings	W6	30 000
Proceeds from issue of shares	W5	20 000
		30 000
Net cash (outflow)/ inflow		142 000
Opening balance of cash and cash equivalents (per SOFP)		10 000
Closing balance of cash and cash equivalents (per SOFP)		152 000

Comment 1: The working capital changes must be taken into account in converting the profit figure into a cash amount (e.g. conversion of 'sales' into 'cash received from sales' involves reconstructing the debtors balance and eliminating the opening and closing balance).

Example 4: disclosing cash flows – indirect method

Assume the same information as that provided in example 2.

Required:

Disclose the statement of cash flows using the indirect method.

Solution to example 4: disclosing cash flows – indirect method**Company name****Statement of cash flows****For the year ended 31 December 20X2 (indirect method)**

	<i>Calculation per example 1</i>	20X2 C
Cash flows from operating activities		212 000
Profit before taxation		320 000
Adjustments for:		
Depreciation		50 000
Impairment loss		10 000
Profit on sale of plant		(10 000)
Interest expense		20 000
Operating profit before working capital changes		390 000
Working capital changes		(39 000)
Increase in trade and other receivables and prepayments		(8 000)
Increase in inventories		(20 000)
Decrease in trade and other payables		(11 000)
Cash generated from operations		351 000
Interest paid	W3	(20 000)
Dividend paid	W8	(12 000)
Tax paid	W7	(107 000)
Cash flows from investing activities		(100 000)
Proceeds from sale of property, plant and equipment	W4	90 000
Purchase of property, plant and equipment	W4	(190 000)
Cash flows from financing activities		30 000
Loans repaid	W6	(20 000)
Proceeds from long term borrowings	W6	30 000
Proceeds from issue of shares	W5	20 000
Net cash (outflow)/ inflow		142 000
Opening balance of cash and cash equivalents (per SOFP)		10 000
Closing balance of cash and cash equivalents (per SOFP)		152 000

6. Netting off cash inflows and cash outflows (IAS 7.22)

Cash flows may only be disclosed on a net basis if:

- The cash receipt and cash payment is on behalf of another party and the cash flows reflect the activities of that other party rather than the activities of the reporting entity, for example: cash received and paid in respect of VAT.
- The cash receipt and cash payment are in respect of items that are turned over quickly, the amounts are large and the maturity periods are short, for example:
 - the frequent purchase and re-sale of large investments; and
 - raising and repaying short-term borrowings with maturity periods of 3 months or less.

Example 5: cash flows relating to VAT

The entity makes a cash sale of C114, including VAT at 14% (C14). Assume that this VAT is paid to the tax authorities immediately.

Required:

Calculate the cash flows to be disclosed.

Solution to example 5: cash flows relating to VAT

Although cash of 114 was received and cash of 14 was paid, only the net cash receipt of 100 needs to be disclosed in the statement of cash flows since the receipt and payment of C14 was on behalf of a third party, the tax authorities.

Example 6: cash flows relating to borrowings

A company raised and repaid two loans during the year:

- a loan of C100 000: repaid within three months of receipt
- a loan of C150 000: repaid within nine months of receipt

Required:

Disclose the above in the statement of cash flows.

7. Cash and cash equivalents (IAS 7.7 – 7.9)**7.1 What is a ‘cash equivalent’?**

A cash equivalent is an item that may be readily converted into a known amount of cash. The two important characteristics of a cash equivalent are that the item must be:

- *readily* convertible
 - this therefore requires that in the case of an investment there be a short maturity period (IAS 7 suggests a period of 3 months or less)
- into a *known amount* of cash
 - this therefore means that there must be an insignificant amount of risk that there will be a change in value.

An example of a cash equivalent is a three-month fixed deposit since it meets the criteria above:

- convertible back into cash within 3 months
- the amount of cash that will be received is known.

It is submitted that a volatile share investment would not be considered a cash equivalent since, although the shares may be readily converted into cash, the volatility of the market price of the share means that the amount of cash that it could be converted into is not known. It should be noted that bank borrowings normally form part of the financing activities, but a bank overdraft may, if it is repayable upon demand, be considered to be a cash equivalent.

Example 6: bank overdrafts

A company had only one transaction during 20X2, being a purchase of shares costing 150 000. At the beginning of the year the company had cash of 100 000 and at 31 December 20X2 the cash balance was 0. In order to finance the entire purchase, a bank overdraft was raised for the shortfall of 50 000 (150 000 – 100 000). Ignore finance charges.

Required:

Disclose the above in the statement of cash flows of the company for the year ended 31 December 20X2 assuming:

- A. The bank overdraft is not repayable upon demand; and
 B. The bank overdraft is repayable upon demand

Solution to example 6A: bank overdrafts

Where the bank overdraft is not repayable on demand, it will be recorded as a separate financing activity:

Company name		
Statement of cash flows		
For the year ended 31 December 20X2 (extracts)		
	Note	20X2 C
<i>Investing activities</i>		
Purchase of shares		(150 000)
<i>Financing activities</i>		
Bank overdraft raised		50 000
<i>Net cash outflow</i>		(100 000)
<i>Opening balance of cash and cash equivalents</i>		100 000
<i>Closing balance of cash and cash equivalents</i>		0

Solution to example 6B: bank overdrafts

Where the bank overdraft is repayable on demand, it will be treated as cash equivalent:

Company name		
Statement of cash flows		
For the year ended 31 December 20X2 (extracts)		
	Note	20X2 C
<i>Investing activities</i>		
Purchase of shares		(150 000)
<i>Net cash outflow</i>		(150 000)
<i>Opening balance of cash and cash equivalents (C: 100 000 + CE: 0)</i>		100 000
<i>Closing balance of cash and cash equivalents (C: 0 + CE: 50 000)</i>		(50 000)

C: cash (the bank balance)

CE: cash equivalent (the bank overdraft balance)

7.2 Disclosure specific to cash and cash equivalents (IAS 7.45 – 7.48)

The breakdown of the cash and cash equivalents balance may need a supporting note that reconciles, where applicable, the balance of cash and cash equivalents shown in the statement of financial position to the balance of cash and cash equivalents shown in the statement of cash flows.

Example 7: cash and cash equivalent disclosure

Use the same information as that given in part B of the previous example. The statement of financial position discloses the bank overdraft separately under current liabilities as follows:

Company name		
Statement of financial position		
As at ...		
	Month 2 C	Month 1 C
<i>Current assets</i>		
Cash in bank	0	100 000
<i>Current liabilities</i>		
Bank overdraft	50 000	0

Required:

Show the required note disclosure.

Solution to example 7: cash and cash equivalent disclosure**Company name****Notes to the Statement of cash flows****For the year ended (extracts)**

	Month 2 C	Month 1 C
23. Cash and cash equivalents		
Cash in bank	0	100 000
Bank overdraft	(50 000)	0
Cash and cash equivalents constitutes	(50 000)	100 000

Comment: Whereas a reconciliation is required for part B of the previous example (since the balance of cash and cash equivalents at the end of month 2 appears to be 50 000 and not 0), no reconciliation is required in part A, since the closing balance of the cash and cash equivalents is disclosed as 0, which is the same figure appearing in the statement of financial position as 'cash in bank'.

If the entity changed its policy regarding the classification of an item that then results in such item either 'being disclosed as' or 'no longer being disclosed as' a cash and cash equivalent for the first time, this should be reported in accordance with IAS 8: Accounting Policies, Changes in Accounting Estimates and Errors.

In the event that a significant part of the cash and cash equivalents balance may not be used by the reporting entity, this fact, together with management's comments explaining any restrictions and the amount affected by the restrictions, must be disclosed.

Example 8: restricted use of cash

A company owns a branch in a foreign country where temporary exchange controls prevent the use of the funds by the local reporting entity. At year-end, (31 December 20X2), this branch has cash of 50 000 (converted into the local reporting currency) and the local company has cash of 70 000. The total of 120 000 is disclosed in both the statement of financial position and the statement of cash flows.

Required:

Show the required note disclosure.

Solution to example 8: restricted use of cash

Since there are restrictions on the use of part of the consolidated cash (120 000), the following note will be required:

Company name**Notes to the Statement of cash flows****For the year ended 31 December 20X2 (extracts)**

	20X2 C
23. Cash and cash equivalents	
Unrestricted funds	70 000
Restricted funds	50 000
<i>The cash and cash equivalents is constituted by:</i>	<i>120 000</i>

The restrictions on the use of certain funds are as a result of government imposed exchange control regulations relevant to the foreign subsidiary.

8. Interest, dividend and taxation (IAS 7.31 – 7.36)

8.1 Interest and dividend (IAS 7.31 – 7.34)

Interest received and paid must be separately disclosed (as suggested by the rules for netting off of receipts and payments, see ‘presenting cash flows on a net basis’). The same applies to dividend received and paid. It is interesting to note, however, that there is no consensus over whether these items should be classified as operating, investing or financing activities.

Both interest and dividend *paid*:

- could be disclosed as part of the operating activities on the grounds that interest and dividend are unavoidable and integral to the operation of the business. Disclosure of the interest and dividend paid under ‘operating activities’ helps the user to determine the ability of the entity to pay the interest and dividend out of the cash flowing directly from operating activities; or
- could be disclosed as part of the financing activities (on the grounds that both interest and dividend could be argued to be the costs of financing the business).

Both interest and dividend *received*:

- could be disclosed as part of the operating activities (on the grounds that both interest and dividend received form part of the profit or loss and are simply a product of investing cash temporarily in surplus to the operations of the business); or
- could be disclosed as part of the investing activities (on the grounds that both interest and dividend could be argued to be the return on investments).

Despite the lack of consensus, it seems that the most common treatment is to disclose dividend and interest receipts and payments as part of the operating activities.

9. Foreign currency cash flows (IAS 7.25 – 7.28)

Cash flows arising from transactions in a foreign currency shall be recorded in an entity’s functional currency by applying to the foreign currency amount, the exchange rate between the functional currency and the foreign currency at the date of the cash flow.

An average exchange rate may be used in accordance with IAS 21 *The Effects of Changes in Foreign Exchange Rates*.

Unrealised gains and losses arising from changes in foreign currency exchange rates are not cash flows. However, the effect of exchange rate changes on cash and cash equivalents held or due in a foreign currency is reported in the statement of cash flows in order to reconcile cash and cash equivalents at the beginning and the end of the period, but this amount must be presented separately from the operating, investing and financing activities.

10. Disclosure (IAS 7)

10.1 Required disclosure (IAS 7)

The standard on cash flows (IAS 7) is focused on presentation and therefore, the chapter so far has already covered the main disclosure issues for statements of cash flows.

A summary of the disclosure requirements include:

- The statement of cash flows must be separated into three segments:
 - Operating activities
 - Investing activities
 - Financing activities

- The cash flows in the operating activities segment may be presented using either the:
 - Direct method (the preferred method); or
 - Indirect method
- The cash flows in the investing and financing activities segments must separately present (unless they fall into the exceptions: see below):
 - Gross cash receipts; and
 - Gross cash payments
- There are exceptions to the above (i.e. when gross cash receipts may be set-off against gross cash payments in each of the three segments). These are:
 - If the cash receipts and payments are on behalf of a customer and the cash flows reflect the activities of the customer rather than of the entity; or
 - If the cash receipts and payments relate to items which have a quick turnover, are large and have short maturities.
- Where the cash flow occurred in a foreign currency, it must be translated into the entity's functional currency using the exchange rate on the date of the cash flow.
- Interest received, interest paid, dividend received and dividend paid must be presented separately. There is no hard and fast rule about which segment to present these in:
 - Interest paid, interest received and dividend received: could be presented in the operating, financing or investing segments;
 - Dividend paid: could be presented in the operating or financing segments.
- Taxes paid on income must be separately disclosed: it is normally included in the operating segment but can be included in the investing or financing segments if there is a direct link to a transaction that affected these other segments.
- The components of cash and cash equivalents must be disclosed
- The total cash and cash equivalents must be reconciled to the equivalent items in the statement of financial position
- Investing and financing activities that did not involve cash must be disclosed somewhere in the notes (since these are obviously not going to feature in the statement of cash flows).

10.2 Encouraged disclosure (IAS 7.50)

The following disclosure is encouraged but not required:

- The amount of undrawn borrowing facilities together with any restrictions on the use thereof;
- The total of the cash flows relating to each of the operating, investing and financing activities of a joint venture that is reported using proportional consolidation;
- The separate disclosure of cash flows relating to maintaining operating capacity versus increasing the capacity;
- The amount of the cash flows arising from the operating, investing and financing activities for each of the separately reported industries and geographical segments.

10.3 Sample disclosure of a statement of cash flows

10.3.1 Disclosure using the direct method

Company name

Statement of cash flows

For the year ended

**CY
C**

Cash Generated from Operating Activities

Cash Receipts from Customers

Cash Payments to Suppliers and Employees (-)

Cash Generated from Operations

Interest paid (-)

Interest received (+)

Dividend paid (-)

Dividend received (+)

Normal tax paid (-)

<hr/>

Cash Generated from Investing Activities

Purchase of plant

- additions/ expansion

- replacement/ maintaining capacity

Proceeds from the sale of vehicles

Purchase of shares

<table border="1"> <tr> <td> </td> </tr> </table>	

Cash Generated from Financing Activities

Redemption of debentures

Proceeds from the issue of debentures

Proceeds from the issue of ordinary shares

Proceeds from loan raised

Repayment of loan

--

Net (decrease)/ increase in cash and cash equivalents

Opening balance: cash and cash equivalents

Closing balance: cash and cash equivalents

CY = current year

10.3.2 Disclosure using the direct method**Company name****Statement of cash flows****For the year ended****CY
C****Cash Generated from Operating Activities**

Profit before taxation

Adjustments for: (non-cash items & separately disclosable items)

- Interest expense (add back)
- Depreciation (add back)
- Profit on sale of vehicles (subtract)
- Investment income (deduct)

Operating profit before working capital changes

Working capital changes:

- (Increase)/ decrease in inventories
- (Increase)/ decrease in accounts receivable
- Increase/ (decrease) in trade payables

Cash generated from operations

Interest paid (-)

Interest received (+)

Dividend paid (-)

Dividend received (+)

Normal tax paid (-)

Cash Generated from Investing Activities

Purchase of plant

- additions/ expansion
- replacement/ maintaining capacity

Proceeds from the sale of vehicles

Purchase of shares

Cash Generated from Financing Activities

Redemption of debentures

Proceeds from the issue of debentures

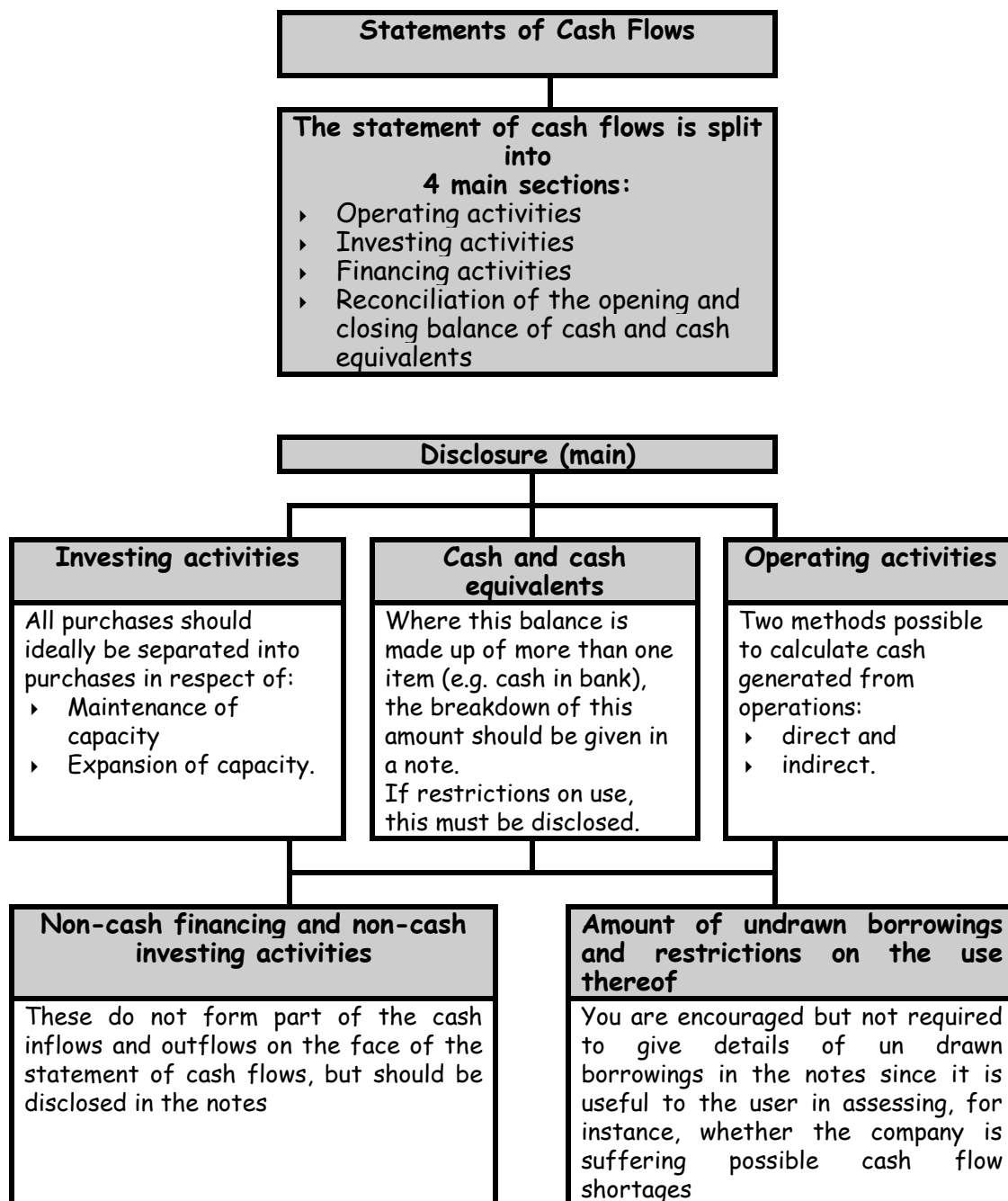
Proceeds from the issue of ordinary shares

Proceeds from loan raised

Repayment of loan

Net (decrease)/ increase in cash and cash equivalents**Opening balance: cash and cash equivalents****Closing balance: cash and cash equivalents***CY = current year*

11. Summary



Chapter 25

Financial Analysis and Interpretation

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1. Introduction

A set of financial statements is, despite the wealth of information contained therein, not able to give a true picture of the business on its own. The financial statements require a more in-depth analysis and an interpretation thereof. The type and extent of the analysis performed depends on the user, the user's specific needs and the information available to the user.

2. Users of Financial Statements

There are a variety of users including the following:

- Bank managers and officials and other providers of finance: who perform a thorough investigation into the level of risk involved with the entity and the entity's ability to repay the debt. This type of investigation would be performed when, for example, a bank is considering extending credit or providing a loan for the first time to an entity.
- Tax authorities: who analyse the entity's financial statements for tax purposes.
- Employees: who analyse the financial statements to estimate, for example, the level of job security.
- Directors and Managers: who scrutinise the financial statements since such scrutiny provides important information that is essential in the decision-making process, budgeting procedures for the future years as well as in the review for errors and fraud.
- Investors (current shareholders and potential investors): who evaluate the level of return earned on investments in the entity balanced against the level of risks involved and this, in turn, is compared with the risks and returns offered by other entities and investments.
- Merger and Acquisition Analysts: who analyse the worth of the entity and consider the risks versus the returns involved, and based on such information, decide whether a merger or acquisition with such a company would be beneficial to either party.
- Auditors: who scrutinise every material element of the financial statements since they are required to report on the fair presentation of the financial statements. An analysis (analytical review) of the financial statements is generally performed before proceeding with audit work, since such an analysis highlights areas of concern (possible errors, fraud, misallocations and misstatements). A similar analysis may also be performed near the end of the audit as a final check for forming conclusions on which audit opinion is based.

3. Inherent weaknesses in financial statements

Financial statements, despite the International Financial Reporting Standards' onerous disclosure requirements, still have inherent weaknesses. In order to perform a reasoned analysis and interpretation, it is imperative that the user is aware of the limitations of the financial information that he/she is analysing.

3.1 Historical figures

The values shown in the financials are often historical figures that are either understated or overstated because of the effects of inflation. In order to lessen this weakness, some companies perform regular revaluations of their assets and/or provide their users with 'inflation adjusted financial statements'. Events after year-end but *before the issue* of the financial statements are also quite often important to the user and will be disclosed in accordance with the statement on events after the reporting period, (IAS 10). However, events that occur *after the issue* of the financial statements (e.g. law suits, flood damage to inventory or other assets, changes in management or ownership) will obviously not be disclosed and yet may be of interest to the users.

3.2 Limited predictive value

The financial statements not only use historical figures but are, by definition, a record of past events. These past events may have little or no bearing on the future if, for instance, there is a change in market trends, technology (perhaps rendering part or all of the inventory or assets obsolete), and/ or management etcetera.

3.3 Limited qualitative information

Financial statements are, in the main, a record of quantitative information with only a smattering of qualitative information. Qualitative information that might not be found directly in the financial statements but which could nevertheless influence users include (inter alia) changes in management, technology and market trends. An assessment of the level of labour productivity and the competency of management would also be useful. Marketing decisions, an example of which is the decision on whether or not to adopt a different marketing approach in the future, could also affect the decisions of users. Management decisions, such as introducing a new product line, the dropping of a product in the future, or making raw materials internally rather than purchasing them externally are also important to the user and yet are not mentioned in the financial statements.

3.4 Risks are not reported

Bearing in mind that when deciding whether the returns offered by a particular investment are acceptable or not, the investor invariably considers the risk related to the investment (the higher the risk, the higher the required rate of return and vice versa). Although the financial statements do not directly refer to, or analyse the risks, the analysis of the information provided goes a long way to identifying risk areas.

3.5 Limited comparability

One company may not be easily comparable with another company if each of them uses a *different accounting policy* (e.g. one uses FIFO and the other WA to record inventory movements). Consideration of these differences should be made when interpreting the results of the analysis. It should be noted that a change in accounting policy should not affect the comparability of one year with another year within the same company since the comparative year's figures should be restated.

Abnormal items make it difficult to compare one company with another as well as making it difficult to compare one year with another year within the same company. These items should, where necessary, be excluded from the analysis.

Seasonal fluctuations make it difficult to compare, for example, the period from September to February (spring and summer) with the period from March to August (autumn and winter) when the company is a swimwear manufacturer.

4. Techniques used in the analysis of financial statements

4.1 Overview

There are many different techniques that may be used in the analysis of a set of financial statements. The most common techniques are the following:

- Cash flow statements;
- Common-sized financial statements; and
- Ratio analysis.

The 'interpretation' of an analysis entails scrutinising the 'trends'. This 'trend analysis' involves comparing company figures, ratios and percentages:

- To prior years: The more prior years that you have at your disposal for the purpose of comparison the better. This gives a better idea of any trends.

- To industry averages: This gives the user an idea as to how the company's performance compares with the performance of similar companies in the same industry. Care should be taken to compare companies of similar size. It is worth noting that, when a company deviates significantly from the industry average, this does not always bode ill, since if the company wishes to be the best in the industry, it will, by definition, not be 'average'!
- To accepted standards: Accepted standards should be considered as a guide only and once again, the leading company in an industry will seldom adhere to any so-called norms.
- To forecasts (past and future): The internal users may compare, for example, actual ratios to the budgeted ratios over a certain period when planning budgets for the future. The fluctuations between actual and budgeted ratios over the past period need to be investigated and taken into account during the budgeting process for the next period.

4.2 Statements of cash flows

This is probably one of the most important statements to analyse since without adequate cash flow, the company will run the risk of not being able to repay creditors and other short-term debts (such as overdrafts) and perhaps also the long-term debts as well. A cash flow problem that continues unchecked, will ultimately lead to liquidity problems and finally liquidation.

4.3 Common-sized financial statements

This technique is useful for many different reasons. Using this technique, the financial statements are redrafted showing movements in either currency or percentage terms. There are different approaches to common-size financial statements where each approach has its own usefulness, namely the:

- horizontal analysis, and
- vertical analysis.

The common-size analysis is best performed if changes are not seen in isolation, but rather as part of a bigger picture: comparisons should be made with other connected accounts, whether in the statement of comprehensive income or statement of financial position.

Consider, for instance, an increase in sales: very little information is gleaned simply from the fact that sales increased. What the user needs to know is how the company increased its sales and what effect this has had on the business (e.g. on its profits, liquidity and asset base). In order to answer these questions, we could look at some of the related accounts: cost of sales, bad debts and profits (in the statement of comprehensive income), debtors, the provision for doubtful debts and even possibly inventory (statement of financial position). Other accounts may be affected, depending on the circumstances. Although the provision for doubtful debts is not separately disclosed in the statement of financial position, it is a useful account to analyse (where possible) since it gives an indication of the opinion of management regarding the recoverability of debtors.

Each of the two approaches (horizontal and vertical) mentioned above, will now be discussed in more depth.

4.3.1 Horizontal analysis

Using this technique, the change from one year to the next within each line item in the financial statements is analysed on either a currency or percentage basis. Analysing the changes as a percentage is particularly useful when trying to identify, at a glance, any unusual fluctuations. Large percentage fluctuations could be followed up for corrective action by management (where necessary) or interpreted as best as is possible for the purpose of assessing risk where the user is, for instance, a potential investor of the company. If the user is the external auditor, it acts as a particularly useful tool in identifying accounts that appear to include errors, fraud or misallocation, thereby highlighting areas requiring further audit procedures. An example: a material increase in the machinery account together with a similarly material decrease in the repairs and maintenance account may indicate that expenditure on repairs and maintenance has been erroneously debited to machinery (a misallocation).

4.3.1.1 The horizontal analysis of the statement of financial position:

- highlights increases and decreases in the sources of finance (equity and liabilities), and
- highlights increases and decreases in the assets, thus indicating how this finance has been invested.

4.3.1.2 The horizontal analysis of the statement of comprehensive income:

- highlights increases and decreases in expenditure, (e.g. a significant increase may suggest errors, fraud, overspending or changes in the spending habits of the entity); and
- highlights increases and decreases in income, (e.g. a significant decrease in sales may indicate the need for additional marketing or change in sales mix).

4.3.2 Vertical analysis

Using this approach, each line item is analysed as a percentage of a base, where the base depends on the user and the purpose of the analysis. These percentages would then be compared with the prior year's percentages and any unusual fluctuation would be investigated (by auditors, managers or directors etc) or merely interpreted (by the shareholders, potential investors or other users external to the operations of the company).

The vertical analysis is useful in that it:

- removes the element of inflation; and
- enables the comparison of the efficiency of operations of large companies with small companies by reducing all figures to percentage terms.

4.3.2.1 The vertical analysis of the statement of financial position:

If the vertical analysis were to be performed on the statement of financial position, each line item of the 'assets' section could be analysed as a percentage of, for example, the 'equity and liabilities' section. This indicates how the available finance has been spent: for example, 30% of the total finance may have been invested in non-current assets in the current year whereas only 10% had been spent in this area in the prior year. This may indicate a shift in the company's priorities and a more positive sentiment on the future of the company.

4.3.2.2 The vertical analysis of the statement of comprehensive income:

If the vertical analysis were to be performed on the statement of comprehensive income, each line item could be analysed as a percentage of the sales figure. Any figure could be used as the base, however, depending on what objective the user is trying to achieve. If, for example, a manager is trying to analyse expenses with the intention of reducing them in future, he may calculate each expense as a percentage of the total expenses in order to highlight the larger expenses. These percentages should also be compared with the percentages calculated for the previous year and any unusual trend followed up.

4.4 Ratio analysis in general

This is a most useful technique in that it is the examination of the inter-relationship between various items with other items whether in the statement of comprehensive income or statement of financial position.

For instance, if one were to look at merely the actual/ nominal 'profit after tax' figures in a statement of comprehensive income, a distorted view of the situation may be obtained:

- Imagine that the profit after tax was C100 000 in the prior year and C150 000 in the current year. It would appear, before comparing the profit with any other item in either the statement of comprehensive income or the statement of financial position, that the company's profitability has improved by 50% $([150\,000 - 100\,000] / 100\,000)$.

- However, imagine that at the same time the total of the assets in the comparative year was C500 000 which increased to C1 000 000 in the current year. Although it initially seems that profits are increasing dramatically (50%), if the relationship between the profits earned and the investment in assets is considered, it becomes evident that this aspect of profitability (return on assets) has declined from 20% (100 000/ 500 000) to 15% (150 000/ 1 000 000).

Ratio analysis may be classified into three different areas:

- profitability;
- liquidity; and
- solvency.

4.4.1 Profitability

This is an analysis of the profits per the statement of comprehensive income as well as the analysis of the profitability in relation to the related capital investment/s and sources of finance per the statement of financial position. The profitability ratios can therefore, be divided into three separate areas:

- Pure analysis of the statement of comprehensive income: e.g. gross profit percentage and net profit percentage;
- Return on capital supplied by the different providers of capital: e.g. return on capital employed, return on equity, earnings per share, dividend payout ratio; and
- Return on assets purchased with the capital supplied: these ratios give an indication of the effectiveness of management in their utilisation of the funds available to the business e.g. return on assets and return on investments.

4.4.2 Liquidity

This is the ability of the company to repay its debts in the short-term (one year). Consequently, these ratios will focus on the current assets and the current liabilities. Current assets can, by definition, generally be converted into cash (liquidated) within 12 months of year-end and similarly, current liabilities are debts that must generally be settled within 12 months of year-end. These ratios give an indication of management's operational capabilities regarding the management of working capital.

The main liquidity ratios include:

- the current ratio;
- the acid-test ratio; and
- the working capital ratio.

The following ratios look at each of the individual components of the current assets and current liabilities (indicating how liquid *each item* is):

- debtors: collection period and turnover ratios;
- inventory: days on hand and turnover ratios;
- creditors: repayment period and turnover ratios; and
- business cycle ratio.

One of the line items under current assets and current liabilities that is not specifically covered by the liquidity ratios is 'cash and cash equivalents'. The reason for this is that it is covered in detail when analysing the statement of cash flows.

4.4.3 Solvency/ structure

This is the ability of the company to repay its debts in the long-term. The ratios, therefore, are not restricted to the current assets and current liabilities but deal rather with the total assets and total liabilities.

The solvency ratios give an estimate of the structural safety of the company, by calculating, in various ways, the ratio of internally sourced finance to externally sourced finance. Internally sourced finance is more expensive but yet a low risk source of finance (owners' ordinary or preference share capital) versus externally sourced finance, which is cheaper but yet a riskier source of finance (loans from the bank, debentures etcetera).

Examples of solvency/ structure ratios include:

- the solvency ratio: the extent to which total liabilities are covered by total assets;
- the equity ratio and debt ratio: the percentage of assets financed by either equity (internal financing) or debt (external financing) respectively;
- the debt-equity ratio and borrowing ratio: the ratios showing how the financing is structured/ shared between external and internal financing.

Ratio analysis is only of use if, as with all other techniques, a trend analysis is also performed: that is to say, the ratios are compared with the comparative year's ratios, or compared with industry averages or with ratios of another company. This trend analysis facilitates more meaningful interpretation of the ratios.

5. Common-sized financial statements in more detail

Common-sized financial statements are best explained by way of a worked example.

Example 1: vertical and horizontal analysis

Consider the following financial statements of Edwards Stores, a fashion retail outlet comprising a large chain of stores.

You must then analyse and interpret these financial statements of Edwards Stores with the intention of investment therein.

Edwards Stores

Statement of comprehensive income

For the year ended 31 December 20X2

	20X2 C	20X1 C
Gross revenue	5 000 000	3 000 000
Cost of sales	3 000 000	1 500 000
Gross profit	2 000 000	1 500 000
Add interest income	100 000	90 000
	2 100 000	1 590 000
Other expenses:	800 000	290 000
Computer software	50 000	20 000
Bad debts	295 000	50 000
Advertising	120 000	60 000
Salaries and wages	90 000	40 000
Insurance	200 000	100 000
Depreciation	45 000	20 000
Profit from operations	1 300 000	1 300 000
Less finance charges	100 000	10 000
Profit before tax	1 200 000	1 290 000
Taxation expense	440 000	645 000
Profit for the period	760 000	645 000
<i>Other comprehensive income</i>	0	0
Total comprehensive income	760 000	645 000

Example 1: vertical and horizontal analysis continued ...
Edwards Stores
Statement of financial position
As at 31 December 20X2

	20X2	20X1
	C	C
Assets		
Non-current assets	1 800 000	900 000
Investment at cost	1 100 000	1 300 000
Current assets:	3 008 000	1 345 000
- Inventory	1 500 000	375 000
- Accounts receivable	1 500 000	350 000
- Cash	8 000	620 000
	5 908 000	3 545 000
Equity and Liabilities		
Ordinary share capital	500 000	500 000
10% Preference share capital	350 000	300 000
Retained earnings	1 658 000	945 000
Shareholders' equity	2 508 000	1 745 000
Non-current loan	2 000 000	800 000
Debentures	600 000	600 000
Deferred tax	400 000	300 000
Current liabilities:		
- Accounts payable	400 000	100 000
	5 908 000	3 545 000

Edwards Stores
Statement of changes in equity
For the year ended 31 December 20X2

	Ordinary	Preference	Retained	Total
	share capital	share capital	earnings	
	C	C	C	C
Opening balances: 1/1/20X1	500 000	300 000	350 000	1 150 000
Total comprehensive income			645 000	645 000
Less dividends:				
- Preference dividends			(30 000)	(30 000)
- Ordinary dividends			(20 000)	(20 000)
Closing balances: 31/12/20X1	500 000	300 000	945 000	1 745 000
Total comprehensive income			760 000	760 000
Less dividends:				
- Preference dividends			(35 000)	(35 000)
- Ordinary dividends			(12 000)	(12 000)
Preference share issue		50 000		50 000
Closing balances: 31/12/20X2	500 000	350 000	1 658 000	2 508 000

Solution to example 1: using the horizontal analysis**Edwards Stores****Statement of comprehensive income****For the year ended 31 December 20X2**

	20X2	20X1	% increase/ (decrease)
	C	C	
Gross revenue	5 000 000	3 000 000	67%
Cost of sales	3 000 000	1 500 000	100%
Gross profit	2 000 000	1 500 000	33%
Add interest income	100 000	90 000	11%
	2 100 000	1 590 000	32%
Other expenses:	800 000	290 000	176%
Computer software	50 000	20 000	150%
Bad debts	295 000	50 000	490%
Advertising	120 000	60 000	100%
Salaries and wages	90 000	40 000	125%
Insurance	200 000	100 000	100%
Depreciation	45 000	20 000	125%
Profit from operations	1 300 000	1 300 000	0%
Less finance charges	100 000	10 000	900%
Profit before tax	1 200 000	1 290 000	-7%
Taxation expense	440 000	645 000	-32%
Profit for the period	760 000	645 000	18%
<i>Other comprehensive income</i>	0	0	0%
Total comprehensive income	760 000	645 000	18%

Edwards Stores**Statement of financial position****As at 31 December 20X2**

	20X2	20X1	% increase/ (decrease)
	C	C	
Assets			
Non-current assets	1 800 000	900 000	100%
Investment at cost	1 100 000	1 300 000	-15%
Current assets:	3 008 000	1 345 000	124%
- Inventory	1 500 000	375 000	300%
- Accounts receivable	1 500 000	350 000	329%
- Cash	8 000	620 000	-99%
	5 908 000	3 545 000	67%
Equity and Liabilities			
Ordinary share capital	500 000	500 000	0%
10% Preference share capital	350 000	300 000	17%
Retained earnings	1 658 000	945 000	75%
Shareholders' equity	2 508 000	1 745 000	44%
Non-current loan	2 000 000	800 000	150%
Debentures	600 000	600 000	0%
Deferred tax	400 000	300 000	33%
Current liabilities: Accounts payable	400 000	100 000	300%
	5 908 000	3 545 000	67%

Interpretation of the horizontal analysis:**The statement of financial position:**

The following is a brief discussion of the most obvious interpretations of the Edward's Stores horizontal analysis of the statement of financial position:

- Finance has been increased by 67%, very little of which has been raised through equity finance (17% increase in preference share capital), with a massive increase of 150% in the relatively risky source of loan finance. Additional financing was obtained indirectly through the 300% increase in accounts payable, possibly indicating a continuing liquidity problem. Whereas the increase in accounts payable may reinforce the opinion that the company is suffering cash flow problems, it may indicate that the company is making use of relatively cheap form of finance and paying the debts only when they fall due. The disposal of 15% of the investments may also have been made in a bid to raise cash.
- The analysis of the assets shows a 100% increase in non-current assets, which accounts for approximately 38% of the 67% (C2 363 000) increase in financing (900 000/ 2 363 000). This may indicate that the company is adopting a positive approach to the future and increasing its operational capabilities in order to meet an expected increase in demand.
- The tremendous increase in inventories (300%) may indicate either obsolete and slow-moving inventories or stockpiling in expectation of a sudden increase in sales. Keeping a higher level of inventory on hand involves higher storage costs and insurance costs and, statistically, there is a higher risk of theft. The risk of damage to inventory and obsolescence also increases. Another suggestion is that the increase is due to a better quality and thus more expensive product which in turn may be the cause of the 67% increase in sales (see horizontal statement of comprehensive income analysis).
- It can be seen that debtors increased by an alarming 329%. This may be as a result of deteriorating collection procedures or it may be that, in order to secure additional sales, the sales staff waived the usual credit checks and offered extended credit terms. This may be the reason for the dramatic increase of 490% in bad debts (see the horizontal statement of comprehensive income analysis).
An increase in accounts receivable that goes unchecked may cause liquidity problems, which may result in the company finding itself unable to pay its creditors on time. This possibly explains the dramatic 300% increase in accounts payable.
- The 99% decrease in cash seems to confirm the apparent cash shortage.

The statement of comprehensive income:

The following is a brief discussion of the most obvious interpretations of the horizontal statement of comprehensive income analysis:

- Sales increased by 67%, perhaps due to increased advertising (100% increase), but more probably as a result of the extended credit terms and limited credit checks (suggested by the 329% increase in accounts receivable and the 490% increase in bad debts).
- The cost of sales increased by 100% which exceeded the increase of 67% in sales: this may indicate that the inventory was of a better quality, and thus more expensive, with the higher quality contributing to the increased sales, (more expensive inventory may account for the 300% increase in inventories). Alternatively, in order to service additional sales, it may have been considered prudent to maintain a higher level of inventory than normal. It should be noted that higher levels of inventory frequently increase the cost of inventory and consequently, the cost of sales too:
 - bulk orders may be placed which, although usually reduces the price, may increase the costs instead if the inventory requirements become too large for the company's usual supplier/s, and it becomes necessary to use additional, more expensive suppliers.
 - if the company maintains a low level of inventory and as a result of the increasing demand, finds itself frequently placing 'rush orders', the cost of inventory will increase.
- Expenditure on insurance doubled, no doubt due to the increased levels of inventory and increase in value of the non-current assets.
- Depreciation increased by 125% due to the increase in non-current assets
- Interest expense increased by a dramatic 900% due to the large increase in loans.
- Salaries and wages increased by 125%, which may indicate that the store expected increased volumes of sales and hired more staff, or that the store extended its trading hours in order to secure more sales, in which case the increase may be the extra overtime pay.
- The 150% increase in computer software may be due to replacement of old software, or may be brand new software purchased as a result of the intention to process accounting records internally rather than to use a computer bureau. The increase in non-current assets may therefore be partly due to an increase in computers.

- Despite the 67% increase in sales, the gross profit increased by only 33% and, worse still, the profit before tax *decreased* by 7%. The profit after tax managed to increase by 18%, but this was as a result of a 32% decrease in tax. This indicates that the operational efficiency is deteriorating.

Solution to example 1: using the vertical analysis

Edwards Stores Statement of financial position As at 31 December 20X2	20X2 C	20X1 C	20X2 %	20X1 %
Assets				
Non-current assets	1 800 000	900 000	30%	25%
Investment at cost	1 100 000	1 300 000	19%	37%
Current assets	3 008 000	1 345 000	51%	38%
- Inventory	1 500 000	375 000	25,4%	10,6%
- Accounts receivable	1 500 000	350 000	25,4%	9,9%
- Cash	8 000	620 000	0,2%	17,5%
	5 908 000	3 545 000	100,0%	100,0%
Equity and Liabilities				
Ordinary share capital	500 000	500 000	8%	14%
10% Preference share capital	350 000	300 000	6%	8%
Retained earnings	1 658 000	945 000	28%	27%
Shareholders equity	2 508 000	1 745 000	42%	49%
Long-term loan	2 000 000	800 000	34%	23%
Debentures	600 000	600 000	10%	17%
Deferred taxation	400 000	300 000	7%	8%
Current liabilities	400 000	100 000	7%	3%
	5 908 000	3 545 000	100%	100%

Edwards Stores Statement of comprehensive income For the year ended 31 December	20X2 C	20X1 C	20X2 %	20X1 %
Gross revenue	5 000 000	3 000 000	100%	100%
Cost of sales	3 000 000	1 500 000	60%	50%
Gross profit	2 000 000	1 500 000	40%	50%
Add interest income	100 000	90 000		
Gross income	2 100 000	1 590 000	100%	100%
Other expenses:	800 000	290 000	38,1%	18,2%
Computer software	50 000	20 000	2,4%	1,3%
Bad debts	295 000	50 000	14,0%	3,1%
Advertising	120 000	60 000	5,7%	3,8%
Salaries and wages	90 000	40 000	4,3%	2,5%
Insurance	200 000	100 000	9,5%	6,3%
Depreciation	45 000	20 000	2,1%	1,3%
Profit before finance charges	1 300 000	1 300 000	61,9%	81,8%
Less finance charges	100 000	10 000	4,8%	0,6%
Profit before tax	1 200 000	1 290 000	57,1%	81,1%
Taxation expense	440 000	645 000	21,0%	40,6%
Profit for the period	760 000	645 000	36,2%	40,6%
<i>Other comprehensive income</i>	0	0	0	0
Total comprehensive income	760 000	645 000	36,2%	40,6%

Interpretation of the vertical analysis:**The statement of financial position:**

The elements in the statement of financial position are analysed as a percentage of total financing (equity and liabilities).

- From the analysis above, it can be seen that whereas in 20X1 only 25% of total financing was spent on non-current assets, 30% has been allocated this year. Normally, with an increase in non-current assets, a resultant increase in profits is expected, yet the profits have deteriorated since 20X1 (as evidenced by the horizontal analysis above).
- The percentage spent on investments decreased from 37% to 19%. It is difficult to say from such an analysis whether or not this was advantageous to the company. It will be necessary to calculate the return on investment and compare it with the return on non-current assets and return on equity (these calculations form part of the ratio analysis).
- The investment in inventory has increased from 10,6% to 25,4%. This increase may be due to the increase in demand evidenced by the 67% increase in sales (see the horizontal analysis of the statement of comprehensive income). Conversely, it may indicate that the inventory is slow-moving or obsolete.
- The increase in accounts receivable from 9,9% to 25,4% may indicate that the company's debtors collection policy is deteriorating or that extended credit terms were offered.
- The retention of 17,5% of financing in the form of cash reserves has dropped to 0,2%, which may indicate severe cash flow problems or may be an indication of a more risk seeking approach from management. This should not always be seen as a fault, since as the saying goes: the higher the risk, the higher the return.

The statement of comprehensive income:

The vertical analysis of the statement of comprehensive income above, includes a twofold analysis: it first analyses cost of sales and gross profit as a percentage of sales and since there is 'other income', the rest of the statement of comprehensive income has been analysed as a percentage of gross income instead. There is, however, no specific approach that has to be followed when performing such an analysis. The emphasis here is simply to perform an analysis that provides the user with information that is useful to him. For instance, the analysis could have been done with each line item of expenses shown as a percentage of total expenses, sales or, indeed gross income. The variations are endless.

The vertical analysis of a statement of comprehensive income assists in gauging the efficiency of company operations. For example, for every C1 of sales, C0.60 was spent on the cost of the inventory sold which is more than was spent last year (C0.50 per C1 of sales). This obviously means that the cost effectiveness of operations has deteriorated somewhat since last year. Each line item can be analysed in this way (i.e. as a percentage of sales). Since, however, other income has also been earned, each line item has been calculated as a percentage of the total gross income instead of sales.

The more dramatic movements are commented upon overleaf:

- The increase in the cost of sales as a percentage of sales may indicate a poor buying policy (e.g. increased rush orders), a more expensive supplier, a better quality product or may simply reflect the effects of inflation.
- There has been a very serious increase in bad debts with C0.14 out of every C1 of profit being lost to bad debts whereas, in the prior year, only C0.031 was lost in this way. This seems to correlate with the increase in debtors: debtors constituted 9,9% of total finance in 20X1 whereas 25,4% of total finance in 20X2.
- The cost of financing is taking a substantially bigger bite out of sales, with almost C0.05 out of every C1 of sales being spent on financing versus only C0.006 in 20X1.
- Similarly, the cost of insurance is now C0.095 out of every C1 of gross income versus only C0.063 in 20X1. This would seem due to the increased investment in inventories from 10,6% to 25,4 % and a similar increase in non-current assets from 25% to 30% (as revealed in the vertical analysis of the statement of financial position).
- There has been a significant decrease in tax, from almost C0.41 for every C1 of gross income to C0.21 thereof in 20X2. Assuming that there are no permanent differences or other reconciling items, this would mean that there was a change in tax rate. This resulted in the profit *after* tax

decreasing by only C0.043 per C1 of gross income (from C0.405 to C0.362) whereas, the profit *before* tax actually decreased by C0.24 per C1 since 20X1.

Conclusion:

Despite the 100% increase in non-current assets, the profit before tax (a truer reflection of the profitability of the company than the profit after tax, whose decrease was diluted by the decrease in the tax rate), decreased by 7%. Whereas C0.81 per C1 was retained as profit (before tax) in 20X1, only C0.57 per C1 of profit was retained in 20X2.

As far as the liquidity is concerned, it appears that the company suffered a cash flow shortage (partly due to the increased investment in non-current assets) with the result that the company raised 67% in finance during the year.

The increase in accounts receivable and accounts payable seem to indicate that there is a continuing cash flow shortage with the collection of accounts receivable impacting adversely on the ability to repay the creditors. Although there was an increased investment in current assets (from 38% to 51% of total assets), the increase resulted from inventories and accounts receivable, with cash having *reduced* by 99%. This would seem to confirm a cash flow problem.

The finance structure of the company seems to rely too heavily on risky loan finance than equity.

All in all, the company appears to have deteriorated since 20X1 and thus investment therein should be avoided.

Comment: *The interpretation of the analysis may differ from one user to another and reasons offered for increases and decreases are suggestions only.*

Please also note that when analysing the statement of comprehensive income references are still made to the statement of financial position (and vice versa): the most important aspect of an analysis and interpretation is to see the bigger picture and therefore different line items, financial statements and techniques should be considered together rather than separately.

6. Ratio analysis in more detail

The following are the financial statements of Cashew-head Limited, a retailer of nuts. You are to refer to these financial statements for a demonstration of the calculation of ratios throughout this chapter.

Cashew-head Limited Statement of comprehensive income For the year ended 31 December 20X6

	20X6 C	20X5 C
Revenue from sales	8 750 000	5 250 000
Cost of sales	5 250 000	2 625 000
Gross profit	3 500 000	2 625 000
Total other expenses	1 400 000	507 500
Profit before finance charges	2 100 000	2 117 500
Finance charges (all relating to no-current liabilities)	175 000	17 500
Profit before tax	1 925 000	2 100 000
Taxation expense	577 500	630 000
Profit for the year	1 347 500	1 470 000
<i>Other comprehensive income</i>	0	0
Total comprehensive income	1 347 500	1 470 000
Market price per share	1,25	1,00

Cashew-head Limited
Statement of financial position
As at 31 December 20X6

	20X6	20X5
	C	C
ASSETS		
<i>Non-current assets</i>	3 150 000	1 575 000
<i>Investment at cost</i>	1 925 000	2 275 000
<i>Current assets</i>	5 264 000	2 353 750
Inventory	2 625 000	656 250
Accounts receivable	2 625 000	612 500
Cash	14 000	1 085 000
	10 339 000	6 203 750
EQUITY AND LIABILITIES		
<i>Issued share capital and reserves</i>	4 747 750	3 395 000
<i>Non-current liabilities</i>		
Non-current loan	3 500 000	1 400 000
Debentures	1 050 000	1 050 000
Deferred taxation	700 000	183 750
<i>Capital employed</i>	9 997 750	6 028 750
<i>Current liabilities</i>		
Accounts payable	341 250	175 000
	10 339 000	6 203 750

Cashew-head Limited
Statement of changes in equity
For the year ended 31 December 20X6

	Ordinary share capital C3.50 each C	Preference share capital C	Retained earnings C	Total C
Opening balances: 1 January 20X5	875 000	525 000	612 500	2 012 500
Total comprehensive income			1 470 000	1 470 000
Less dividends declared:				
- Preference dividends			(52 500)	(52 500)
- Ordinary dividends			(35 000)	(35 000)
Opening balances: 1 January 20X6	875 000	525 000	1 995 000	3 395 000
Total comprehensive income			1 347 500	1 347 500
Less dividends declared:				
- Preference dividends			(61 250)	(61 250)
- Ordinary dividends			(21 000)	(21 000)
Preference share issue		87 500		87 500
Closing balances: 31 December 20X6	875 000	612 500	3 260 250	4 747 750

6.1 Profitability Ratios

6.1.1 Gross Profit Percentage/margin

$$\frac{\text{Gross profit}}{\text{Net sales}} \times \frac{100}{1}$$

This ratio can fluctuate for a number of reasons:

- *Changes in mark-up*
This could involve either a direct change to the selling price or the offering of *trade/ cash* discount: the sales figure disclosed on the face of the statement of comprehensive income is net of trade and cash discounts.
- *Changes in sales mix*
Imagine a company that produces two products, say A and B: A produces C0.20 gross profit per C1 of sales, whereas B produces C0.50 gross profit per C1 of sales. If the company usually sold A and B in equal quantities, for every C2 of sales C0.70 would be the gross profit. If the company's sales mix then changed so that twice as many A's were sold as B's, (in other words, for every B that is sold, two A's are sold), for every C3 of sales C0.90 gross profit would be made (2 x C0.20 + 1 x C0.50). Where equal quantities are sold, the gross profit percentage is 35% (70/200 x 100), whereas the gross profit percentage drops to 30% (90/300 x 100) in the event that twice as many A's are sold as B's. The reason is that the sales mix has changed, with more sales of A's which offer a lower gross profit percentage.
- *Stock thefts*
Theft of inventory causes the closing stock to decrease and therefore the cost of sales to increase in a manner that is out of proportion to the sales.
- *Incorrect inventory counts*
Obviously, if either the opening or closing balance of inventory is incorrect, it will cause the cost of sales to increase/decrease in a manner that is out of proportion to the sales.
- *Incorrect/ inconsistent valuation of inventory*
Obviously, if either the opening or closing balance of inventory has been valued incorrectly or inconsistently, the cost of sales will be distorted.

Example 2: Cashew-head Limited: gross profit percentage margin

				20X6		20X5	
<u>Gross profit</u>				<u>3 500 000</u>		<u>2 625 000</u>	
Net sales	x	<u>100</u>		8 750 000	x	5 250 000	
		<u>1</u>	=	<u>1</u>		<u>1</u>	
				= 40%		= 50%	

6.1.2 Net Profit Percentage/margin

$$\frac{\text{Profit before finance charges and tax}}{\text{Net sales}} \times \frac{100}{1}$$

The net profit figure used should be *before* interest and tax so that the profit from the business operations is not influenced either by the financing methods adopted by the entity or the tax structure of the country in which it operates. Ideally, any non-operating income e.g. investment income should also be excluded, since the purpose of the ratio is to calculate that portion of every C1 of sales that is saved (i.e. not spent through the *operations* of the business).

Items that would affect the net profit percentage include:

- any change that affects the gross profit percentage (above) will obviously also affect the net profit percentage;

- changes to the operating expenditure (e.g. bad debts, cash discount, depreciation) and other income (if included) will affect the net profit percentage.

It is slightly more difficult to ascertain the true reasons behind a change in net profit percentage if the user is faced with a set of published financial statements. This is because International Reporting Standards and other legislative requirements necessitate only limited disclosure of the related items.

Although a reduction in operating expenses could naturally be expected to lead to increased profitability, excessive reduction thereof could, in fact, leave the company operating inefficiently and an inefficient operation will ultimately reduce profits anyway.

Example 3: Cashew-head Limited: net profit percentage margin					
			20X6		20X5
<u>Profit before tax & interest</u>	x	<u>100</u>	<u>2 100 000</u>	x	<u>2 117 500</u>
Net sales		1	8 750 000		5 250 000
		=			
			24%		40%

6.1.3 Return on capital employed

$$\frac{\text{Profit before finance charges and tax}}{\text{Average capital employed}} \times \frac{100}{1}$$

‘Capital employed’ constitutes share capital and long-term finance. This ratio therefore calculates the average return belonging to both the suppliers of capital and the long-term financiers. For the sake of simplicity, the ratio is normally calculated with the ‘numerator’ being ‘profits *before* tax’ rather than *after* tax. When reversing the interest expense, care must be taken *not* to reverse any interest paid to the short-term suppliers of finance (i.e. the profits calculated must be after payment of interest to the short-term financiers), since that interest does not belong to the providers of long-term capital.

Illustration: Imagine that a company has profits before tax of C50 and that these profits are calculated after deducting the interest expense of C50: C20 interest to short-term financiers and C30 interest to long-term financiers. The profit before interest and tax is calculated as follows:

	C
Profits before taxation and interest (balancing)	100
Less interest paid to short-term financiers	20
Less interest paid to long-term financiers	30
Profits before taxation	<u>50</u>

Bearing in mind that the aim of this ratio is to indicate the earnings before tax (as a percentage return) belonging to the providers of capital and *long-term* finance, it should be obvious that not all of the C100 ‘profit before interest and tax’ belongs to the aforementioned providers. Instead, C20 thereof belongs to the short-term financiers. Therefore, one must only reverse the interest that belongs to the long-term financiers (i.e. C50 + C30 = C80 belongs to the providers of capital and long-term finance).

Example 4: Cashew-head Limited: return on capital employed					
			20X6		
<u>Profit before finance charges and tax</u>	x	<u>100</u>	<u>2 100 000</u>	x	<u>100</u>
Average capital employed		1	(9 997 750 + 6 028 750) / 2		1
		=			
			26,21%		

6.1.4 Return on owners’ equity

$$\frac{\text{Profit after tax and preference dividends}}{\text{Average ordinary shareholders’ equity}} \times \frac{100}{1}$$

This is an important ratio to the owners of the shares since they require a certain return relative to the risks involved with the investment in the entity.

Since the object of this formula is to calculate the return owing to the ordinary shareholders, the earnings should be calculated by deducting preference dividends and tax since both the preference shareholders and the tax authorities have first rights to the profits: any profits remaining belong to the ordinary shareholders. Ordinary dividends should not be deducted since they belong to the ordinary shareholders.

Example 5: Cashew-head Limited: return on owners' equity

		20X6	
<u>Profit after tax and preference dividends</u>	<u>100</u>	1 347 500 – 61 250	x <u>100</u>
Average ordinary shareholder's equity	x 1	(4 747 750 – 612 500 + 3 395 000 – 525 000) / 2	x 1
	=		
			= 36,7%

6.1.5 Return on assets

$$\frac{\text{Profit before finance charges and tax}}{\text{Average total assets}} \times \frac{100}{1}$$

As with the return on capital employed, the effects of financing should be removed. This ratio indicates the effectiveness of management's use of the company assets entrusted to them.

Example 6: Cashew-head Limited: return on assets

		20X6	
<u>Profit before finance charges and tax</u>	<u>100</u>	2 100 000	x <u>100</u>
Average total assets	x 1	(10 339 000 + 6 203 750) / 2	x 1
	=		
			= 25,4%

6.1.6 Earnings per ordinary share

$$\frac{\text{Profit after tax less preference dividends}}{\text{Number of ordinary shares}} \times \frac{100}{1}$$

This ratio is very similar to the 'return on ordinary equity' although the 'earnings per share' is calculated as a *value* per share whereas in the former case, earnings are calculated as a *percentage* of the value of capital.

'Earnings per share' is usually calculated for ordinary shares only since preference shares generally do not share in *earnings* (unless participative), but rather in a fixed dividend only. 'Earnings per share' must be disclosed either on the face of the statement of comprehensive income or in the notes thereto. IAS 33 governs the calculation and disclosure of 'earnings per share'.

Example 7: Cashew-head Limited: earnings per ordinary share

		20X6	20X5
<u>Profit after tax less preference dividends</u>	=	(1 347 500 – 61 250)	(1 470 000 – 52 500)
Number of ordinary shares		(875 000 / 3,5)	(875 000 / 3,5)
	=	5,15	5,67

6.1.7 Dividends per share

$$\frac{\text{Ordinary (or preference) dividends}}{\text{Number of ordinary (or preference) shares}} \times \frac{100}{1}$$

In contrast to the 'earnings per share' ratio, which merely calculates how much has been *earned* per share, this ratio calculates how much has actually been *declared* to the shareholders.

‘Dividends per share’ can be calculated for any class of share. It should be disclosed either in the statement of changes in equity or in the notes thereto.

Example 8: Cashew-head Limited: dividends per ordinary share		
	20X6	20X5
$\frac{\text{Ordinary dividends}}{\text{Number of ordinary shares}} =$	$\frac{21\,000}{(875\,000 / 3,5)}$	$\frac{35\,000}{(875\,000 / 3,5)}$
$=$	0,08	0,14

6.1.8 Ordinary dividend payout ratio

$$\frac{\text{Dividends per share}}{\text{Earnings per share}}$$

Or

$$\frac{\text{Dividends}}{\text{Earnings}}$$

This ratio calculates the percentage of the earnings belonging to the ordinary shareholder that are actually distributed to the ordinary shareholder.

Example 9: Cashew-head Limited: ordinary dividend payout ratio		
	20X6	20X5
$\frac{\text{Ordinary dividends per share}}{\text{Earnings per ordinary share}} =$	$\frac{0,08}{5,15}$	$\frac{0,14}{5,67}$
$=$	0,016 : 1	0,025 : 1

6.1.9 Price earnings ratio

$$\frac{\text{Market price per share}}{\text{Earnings per share}}$$

This ratio reflects how much investors are willing to pay per C1 of reported profits. Theoretically, the greater the profits the more they would be willing to pay. There are, however, many other factors that play a part in determining the market price per share, e.g. the company's performance relative to other companies in the industry, inflation, the risks relating to the investment in the company and expected future growth.

Example 10: Cashew-head Limited: price earnings ratio		
	20X6	20X5
$\frac{\text{Market price per ordinary share}}{\text{Earnings per ordinary share}} =$	$\frac{1,25}{5,15}$	$\frac{1,00}{5,67}$
	= 0,24 : 1	= 0,18 : 1

6.1.10 Earnings yield

$$\frac{\text{Earnings per share}}{\text{Market price per share}} \times \frac{100}{1}$$

This calculates the earnings as a percentage of each C1 invested.

Example 11: Cashew-head Limited: earnings yield		
	20X6	20X5
$\frac{\text{Earnings per ordinary share}}{\text{Market price per ordinary share}} \times 100 =$	$\frac{5,15}{1,25} \times \frac{100}{1}$	$\frac{5,67}{1,00} \times \frac{100}{1}$
$=$	412%	567%

6.1.11 Dividend yield

$$\frac{\text{Dividends per share}}{\text{Market price per share}} \times \frac{100}{1}$$

This calculates the dividends as a percentage of each C1 invested. A high dividend yield may be as a result of either a relatively high payout or a share price that is very low (perhaps indicating market sentiment that the company has a limited future).

Example 12: Cashew-head Limited: dividend yield

	20X6	20X5
$\frac{\text{Dividend per ord share}}{\text{Market price per ord share}} \times 100 =$	$\frac{0,084 \times 100}{1,25}$	$\frac{0,14 \times 100}{1,00}$
$=$	6,7%	14%

6.2 Liquidity ratios

Liquidity ratios indicate the ability of the company to repay its debts in the short-term.

6.2.1 Current ratio

Current assets: current liabilities

The current ratio indicates the ability to repay the current liabilities out of the current assets. Theoretically, the normal ratio is considered to be 2:1.

Example 13: Cashew-head Limited: current ratio

	20X6	20X5
Current assets: Current liabilities =	5 264 000 : 341 250	2 353 750 : 175 000
$=$	15,4 : 1	13,45 : 1

6.2.2 Acid-test ratio

Current assets - inventory: current liabilities

The acid-test ratio is a modified current ratio that takes into account the fact that inventory may be a relatively difficult current asset to convert into cash. This ratio therefore reflects a more conservative view of the ability of the company to repay its current liabilities within a short period. Theoretically, the normal ratio is considered to be 1:1.

Example 14: Cashew-head Limited: acid-test ratio

	20X6	20X5
Current assets - inventory: Current liabilities =	5 264 000 – 2 625 000 : 341 250	2 353 750 – 656 250 : 175 000
$=$	7,73 : 1	9,7 : 1

6.2.3 Working capital ratio

Working capital: total assets

This ratio indicates the percentage of total assets that are relatively liquid. Working capital is calculated as 'current assets – current liabilities'.

Example 15: Cashew-head Limited: working capital ratio

	20X6	20X5
Working capital: Total assets =	5 264 000 – 341 250 : 10 339 000	2 353 750 – 175 000 : 6 203 750
$=$	0,48 : 1	0,35 : 1

6.2.4 Debtors' collection period

$$\frac{\text{Average debtors balance}}{\text{Credit sales per day}}$$

or

$$\frac{\text{Average debtors balance}}{\frac{\text{Net credit sales}}{365}}$$

or

$$\frac{\text{Average debtors balance}}{\text{Net credit sales}} \times 365$$

This ratio gives an idea of the average period of time it takes between the date of sale and the final receipt of cash. The period used may be given in days or months (in which case multiply by 12 instead of 365).

Example 16: Cashew-head Limited: debtors' collection period

					20X6	
<u>Average debtors balance</u>					$\frac{(2\,625\,000 + 612\,500)}{2}$	
Net credit sales	x	$\frac{365}{1}$	=		8 750 000	x $\frac{365}{1}$
			=		67,525 days*	

*This is on the assumption that all sales are on credit

6.2.5 Debtors' turnover

$$\frac{\text{Net credit sales}}{\text{Average debtors balance}}$$

This ratio indicates the entity's credit and collection efficiency.

There is, therefore, another way of calculating the debtors' turnover:

$$\frac{365}{\text{Debtors collection period}}$$

Example 17: Cashew-head Limited: debtors' turnover

					20X6	
<u>Net credit sales</u>					8 750 000	
Average debtors balance	=				$(2\,625\,000 + 612\,500) / 2$	
	=				5,41 times*	

*This is on the assumption that all sales are on credit

6.2.6 Days supply (or inventory) on hand

$$\frac{\text{Average inventory balance}}{\text{Cost of sales per day}}$$

or

$$\frac{\text{Average inventory balance}}{\text{Cost of sales} / 365}$$

or

$$\frac{\text{Average inventory balance}}{\text{Cost of sales}} \times 365$$

This ratio indicates how long the balance of stock on hand will last (i.e. the number of days supply in average inventory) and therefore highlights over/ under investments in inventory.

Example 18: Cashew-head Limited: days supply on hand

				20X6	
<u>Average inventory balance</u>	x	<u>365</u>	=	$\frac{(2\,625\,000 + 656\,250)}{2}$	x $\frac{365}{1}$
Cost of sales		1		5 250 000	
			=	114,063 days	

6.2.7 Inventory turnover

$$\frac{\text{Cost of sales}}{\text{Average inventory balance}}$$

This ratio indicates how fast inventory is turned over (sold) - i.e. how liquid inventory is. A low turnover may indicate over-stocking or obsolescence whereas a high turnover may indicate under-stocking. Comparing this to the 'days stock on hand' ratio brings us to another way of calculating the inventory turnover:

$$\frac{365}{\text{Days inventory on hand}}$$

Example 19: Cashew-head Limited: inventory turnover

				20X6	
<u>Cost of sales</u>	=			<u>5 250 000</u>	
Average inventory balance			=	$(2\,625\,000 + 656\,250) / 2$	
	=			3,2 times	

6.2.8 Creditors payment period

$$\frac{\text{Average creditors balance}}{\text{Credit purchases per day}}$$

or

$$\frac{\text{Average creditors balance}}{\frac{\text{Credit purchases}}{365}}$$

or

$$\frac{\text{Average creditors balance}}{\text{Credit purchases}} \times 365$$

This ratio indicates how long we take to pay our trade creditors: a long period could indicate cash flow problems or that we are making full use of relatively cheap finance (but beware the cost of the loss of cash discounts) or it may indicate that credit terms have been extended.

Example 20: Cashew-head Limited: creditors' payment period

				20X6	
<u>Average creditors balance</u>	x	<u>365</u>	=	$\frac{(341\,250 + 175\,000)}{2}$	x $\frac{365}{1}$
Credit purchases		1		$(5\,250\,000 + 2\,625\,000 - 656\,250)$	
			=	13,05 days	

6.2.9 Creditors turnover

$$\frac{\text{Credit purchases}}{\text{Average creditors balance}}$$

This ratio indicates how many times creditors are paid during the period.

Example 21: Cashew-head Limited: creditors' turnover

		20X6
Credit purchases	=	$(5\,250\,000 + 2\,625\,000 - 656\,250)$
Average creditors balance	=	$(341\,250 + 175\,000) / 2$
	=	30 times

6.2.10 Business cycle

Days supply of inventory + debtors collection period – creditors repayment period

This ratio indicates how long cash is tied up in the operating cycle and therefore helps budget for cash requirements needed to operate the business.

Example 22: Cashew-head Limited: business cycle

		20X6
Days supply of inventory		
+ debtors collection period	=	114,063 + 67,525 – 13,05
– creditors repayment period	=	168,538

6.3 Solvency/ structure ratios

The solvency or structure ratios indicate the ability to meet long-term obligations.

6.3.1 Equity ratio

Owners' equity: total assets (non-current and current)

This ratio indicates how much of the asset base is financed by owners thus also indicating the strength of the company. It is interesting to note that redeemable preference shares could be argued to be debt rather than equity.

Example 23: Cashew-head Limited: equity ratio

		20X6	20X5
Owner's equity: total assets	=	4 747 750 : 10 339 000	3 395 000 : 6 203 750
	=	0,46 : 1	0,55 : 1

6.3.2 Debt ratio

Total debt (non-current and current): total assets (non-current and current)

This ratio indicates how much of the asset base is financed by external parties. Once again, redeemable preference shares could be argued to be debt not equity.

Example 24: Cashew-head Limited: debt ratio

		20X6	20X5
Total debt: total assets	=	$(10\,339\,000 - 4\,747\,750) :$ 10 339 000	$(6\,203\,750 - 3\,395\,000) :$ 6 203 750
	=	0,54 : 1	0,45 : 1

6.3.3 Solvency ratio

Total assets (non-current and current): total debt (non-current and current)

This is the inverse of the debt ratio. It indicates how much of the liabilities are covered by assets - in essence, the capacity of the company to repay its debts in the long-term. Interestingly, this ratio does not take into account the timing of the repayments and therefore the company may appear to be solvent and at the same time be illiquid! (See liquidity ratios)

Example 25: Cashew-head Limited: solvency ratio		
Total assets: total debt	=	20X6
		10 339 000 :
		(10 339 000 – 4 747 750)
	=	1,85 : 1
		20X5
		6 203 750 :
		(6 203 750 – 3 395 000)
		2,21 : 1

6.3.4 Debt equity ratio

Total debt (non-current and current): shareholders' equity (ordinary, preference)

This ratio indicates the ratio in which the company is financed by internal shareholders' capital (equity) versus external third party capital (debt). Debt is considered to be cheaper but riskier than equity finance.

Example 26: Cashew-head Limited: debt equity ratio		
Total debt: shareholders' equity	=	20X6
		(10 339 000 – 4 747 750)
		: 4 747 750
	=	1,18 : 1
		20X5
		(6 203 750 – 3 395 000)
		: 3 395 000
		0,83 : 1

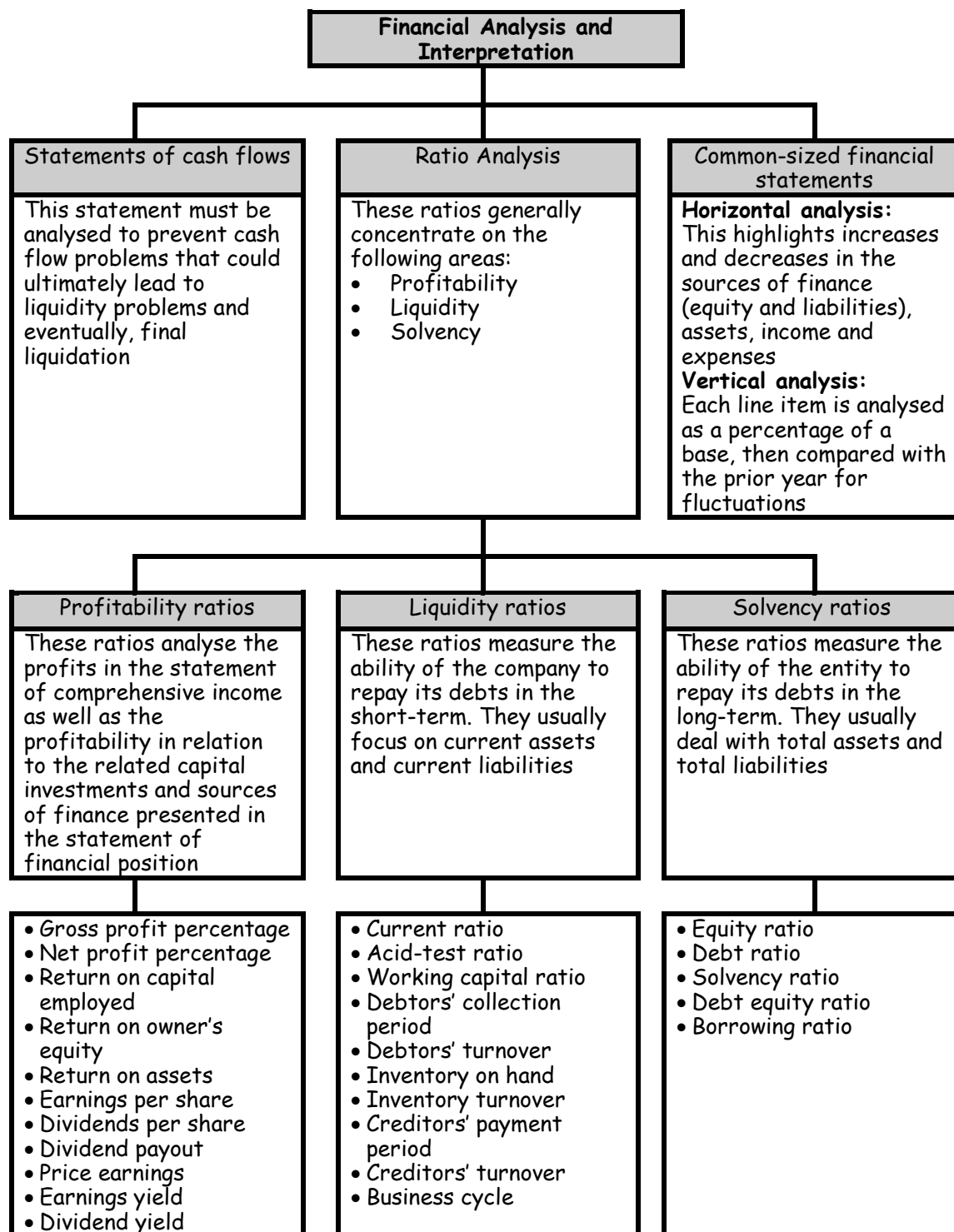
6.3.5 Borrowing ratio

Interest bearing debt: shareholders' equity

This ratio is similar to the debt equity ratio except that it only concentrates on the debt that costs the company money. In other words, non-current debt would exclude items such as deferred tax and current debt would exclude items such as accruals.

Example 27: Cashew-head Limited: borrowing ratio		
Interest bearing debt: shareholders' equity	=	20X6
		(3 500 000 + 1 050 000 + 341 250)
		: 4 747 750
	=	1,03 : 1
		20X5
		(1 400 000 + 1 050 000 + 175 000)
		: 3 395 000
		0,77 : 1

7. Summary



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