



The South African Institute of Chartered Accountants

**GUIDE ON
MEASUREMENT OF ASSETS,
LIABILITIES AND CONTINGENT
LIABILITIES IN
ACCOUNTING FOR BUSINESS
COMBINATIONS AND IN
IMPAIRMENT TESTS**

Issued March 2007

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ISBN 0-86983-405-X

THE SOUTH AFRICAN INSTITUTE OF CHARTERED ACCOUNTANTS

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PREFACE

This guide has been issued by The South African Institute of Chartered Accountants (SAICA) to provide guidance to members and associates on the measurement of assets, liabilities and contingent liabilities when applying purchase accounting for business combinations in accordance with IFRS 3(AC 140) – *Business Combinations*, and for the measurement of intangible assets in accordance with IAS 38(AC 129) – *Intangible Assets*. The guide addresses the measurement of goodwill, and the impairment testing of assets, including goodwill, in accordance with IAS 36(AC 128) – *Impairment of Assets*, where such measurement is to be carried out on the basis of Statements of Generally Accepted Accounting Practice (GAAP) and International Financial Reporting Standards (IFRS).

Although accounting and auditing guides do not have the authority of Statements of Generally Accepted Accounting Practice (GAAP), in the event of significant deviation from the guidance given, and should the member's or associate's actions be questioned, the member or associate may be required to demonstrate that such deviation was justified.

The assistance of PricewaterhouseCoopers in preparing this guide is acknowledged with appreciation.

Every effort is made to ensure that the advice given in this guide is correct. Nevertheless that advice is given purely as guidance to members of SAICA to assist them with particular problems relating to the subject matter of the guide, and SAICA will have no responsibility to any person for any claim of any nature whatsoever that may arise out of or relate to the contents of this guide.

Introduction

- .01 This guide deals with the measurement of assets, liabilities and contingent liabilities when applying the purchase method of accounting in accordance with IFRS 3(AC 140) – *Business Combinations*, and the measurement of intangible assets in accordance with IAS 38(AC 129) – *Intangible Assets*. The guide addresses the measurement of goodwill, and the impairment testing of assets, including goodwill, in accordance with IAS 36(AC 128) – *Impairment of Assets*, where such measurement is to be carried out on the basis of Statements of Generally Accepted Accounting Practice (GAAP) and International Financial Reporting Standards (IFRS). This guide does not apply to non-current assets (or disposal groups) held for sale, as referred to in IFRS 5(AC 142) – *Non-current Assets Held for Sale and Discontinued Operations*, for which different rules apply.
- .02 The following guidance is subject to change should any of the standards issued by the Accounting Practices Board (APB) or International Accounting Standards Board (IASB) or interpretations issued by the APB or International Financial Reporting Interpretations Committee (IFRIC) change.

Basic principles

Reasons for measurement

- .03 The necessity for measurement in connection with business combinations arises from the application of the purchase method. This method involves allocating the cost of the business combination to the fair values of the assets acquired; liabilities assumed; and contingent liabilities assumed. In particular, it is necessary to identify any intangible assets and contingent liabilities not previously recognised by the acquiree, and to measure them if they meet the recognition criteria. After the recognition of deferred taxes in accordance with IAS 12(AC 102) – *Income Taxes*, any difference remaining between the cost of the combination and the acquirer's interest in the net total of such fair values represents either goodwill or income (negative goodwill¹). The goodwill/negative goodwill is a residual item, and is not measured separately. An excess of the cost of the combination over the fair value of the acquirer's interest in the net assets constitutes goodwill. An excess of the acquirer's interest in the fair value of net assets over the cost of the combination constitutes negative goodwill, which, after reassessment in accordance with IFRS 3(AC 140) paragraph 56(a), shall be recognised immediately in profit or loss according to IFRS 3(AC 140) paragraph 56(b). The cost of the business combination is defined as the purchase price paid for the acquisition and any costs directly attributable to the business combination. In determining the purchase price the fair values, at the date of the exchange of the assets given, liabilities incurred and equity instruments issued by the acquirer should be calculated.
- .04 Where at subsequent reporting dates there is an indication that an asset acquired may be impaired, those assets to which IAS 36(AC 128) applies shall be tested for impairment in accordance with IAS 36(AC 128). Goodwill, intangible assets with an indefinite useful life, or intangible assets not yet available for use shall be tested for impairment annually, according to IAS 36(AC 128) paragraph 10. Goodwill is no longer amortised.

Relevant value concepts

- .05 This guide distinguishes between fair value and recoverable amount. . In a purchase price allocation as required by IFRS 3, fair value is determined for individual assets, liabilities and contingent liabilities whereas subsequent impairment testing in terms of IAS 36 requires the determination of recoverable amount. Recoverable amount is the higher of (i) fair value less costs to sell and (ii) value in use as defined by IAS 36. Taxes on income paid by the entity are

¹ For the sake of simplicity, the excess of an acquirer's interest in the fair value of the acquiree's assets, liabilities and contingent liabilities over the cost of the combination is referred to as negative goodwill throughout the guide.

considered where this is called for by the value concept (fair value or value in use). Personal income taxes are ignored regardless of the value concept.

- .06 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 (IFRS 3(AC 140) Appendix A). The buyer is assumed not to be the acquirer in the particular instance being considered, but a hypothetical buyer. Accordingly, the hypothetical buyer's estimates are considered rather than the specific acquirer's intention, which means that factors that would otherwise be of relevance to the value may not be taken into account in the determination if they are specific to the acquirer in the particular instance. Fair value reflects the knowledge and expectations of the market participants. Consequently, the parameters for the determination of fair value are preferably to be identified by reference to a market, i.e. the assumptions used in determining fair value need to be consistent with publicly accessible data. These data assumptions may relate to market prices, capital market data, information obtained from market studies or analysts' reports, or other information that is publicly accessible.
- .07 Recoverable amount has no theoretical valuation background but is the higher of fair value less costs to sell and value in use (IAS 36(AC 128) paragraphs 6 and 18).
- 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.
 - Value in use is the present value of the future cash flows expected to be derived from the continued utilisation of an asset or cash-generating unit and from its ultimate disposal at the end of its useful life (IAS 36(AC 128) paragraph 31(a)). Value in use reflects the entity's estimates, including the effects of factors that may be specific to the entity and not applicable to entities in general (IAS 36(AC 128) paragraph 30(a) and IAS 40 (AC 135) paragraph 49 - *Investment Property*).

Determining the recoverable amount involves a comparison of the value of an asset or cash-generating unit to the entity resulting from its continued utilisation and ultimate disposal with the amount that could be realised in the market in the event of immediate disposal. Because economically, an entity could either continue to use an asset or cash generating unit until eventual disposal, or dispose of the asset or cash generating unit in the short term, the recoverable amount is the higher of the two.

The reference date principle

- .08 In accounting for a business combination, the fair values of the individual assets, liabilities and contingent liabilities are to be determined at the acquisition date (IFRS 3(AC 140) paragraph 36). This is the date on which the acquirer effectively obtains control of the acquiree, i.e. the power to govern its financial and operating policies (IFRS 3(AC 140) paragraph 19). The date on which the transaction is legally closed or finalised may be before or after this date, and is not relevant for valuation purposes (IFRS 3(AC 140) paragraph 39).
- .09 Recognition and value determination are governed by the knowledge that the hypothetical buyer could have obtained at the acquisition date by exercising reasonable care. If the acquisition date differs from the date on which the underlying agreement is made, the valuation parameters are to be checked to determine whether any adjustment is necessary to ensure that all parameters relate only to the acquisition date. For recognition and value determination, events occurring after the acquisition date may be considered only if they provide evidence of conditions that existed at the acquisition date. Post-acquisition date events that affect the value are not considered. This also applies if in a purchase price allocation the fair values can only be determined definitively within twelve months of the acquisition date (IFRS 3(AC 140) paragraph 62).

- .10 Annual impairment testing of goodwill, intangible assets with indefinite useful life, and intangible assets not yet available for use may be performed at any time during the financial year, provided it is performed at the same time every year (IAS 36(AC 128) paragraph 10). It is advisable for the impairment test to be carried out after the end of the entity's annual business planning cycle, as the necessary data are then up to date. If there is any indication that an asset may be impaired (whether the asset is subject to annual impairment tests or not), the impairment test is to be performed as of the reporting date for which the indication existed (IAS 36(AC 128) paragraph 9).

The individual value determination principle

- .11 Whereas in business valuations the principle of valuation of the economic business unit applies, the value of assets is generally determined under IFRS 3(AC 140) and IAS 36(AC 128) on an individual basis.
- .12 In a business combination, the acquirer measures the goodwill as the excess of the costs of the business combination over the acquirer's interest in the net fair value of the individual identifiable assets, liabilities and contingent liabilities, including deferred tax assets and deferred tax liabilities.
- .13 The individual value determination principle is departed from in subsequent determinations for, and only for, impairment testing purposes in as much as assets for which a recoverable amount cannot be determined separately² are grouped into cash-generating units. For a cash-generating unit, the value in use or fair value less costs to sell is determined for the unit in total.

Consistency of method

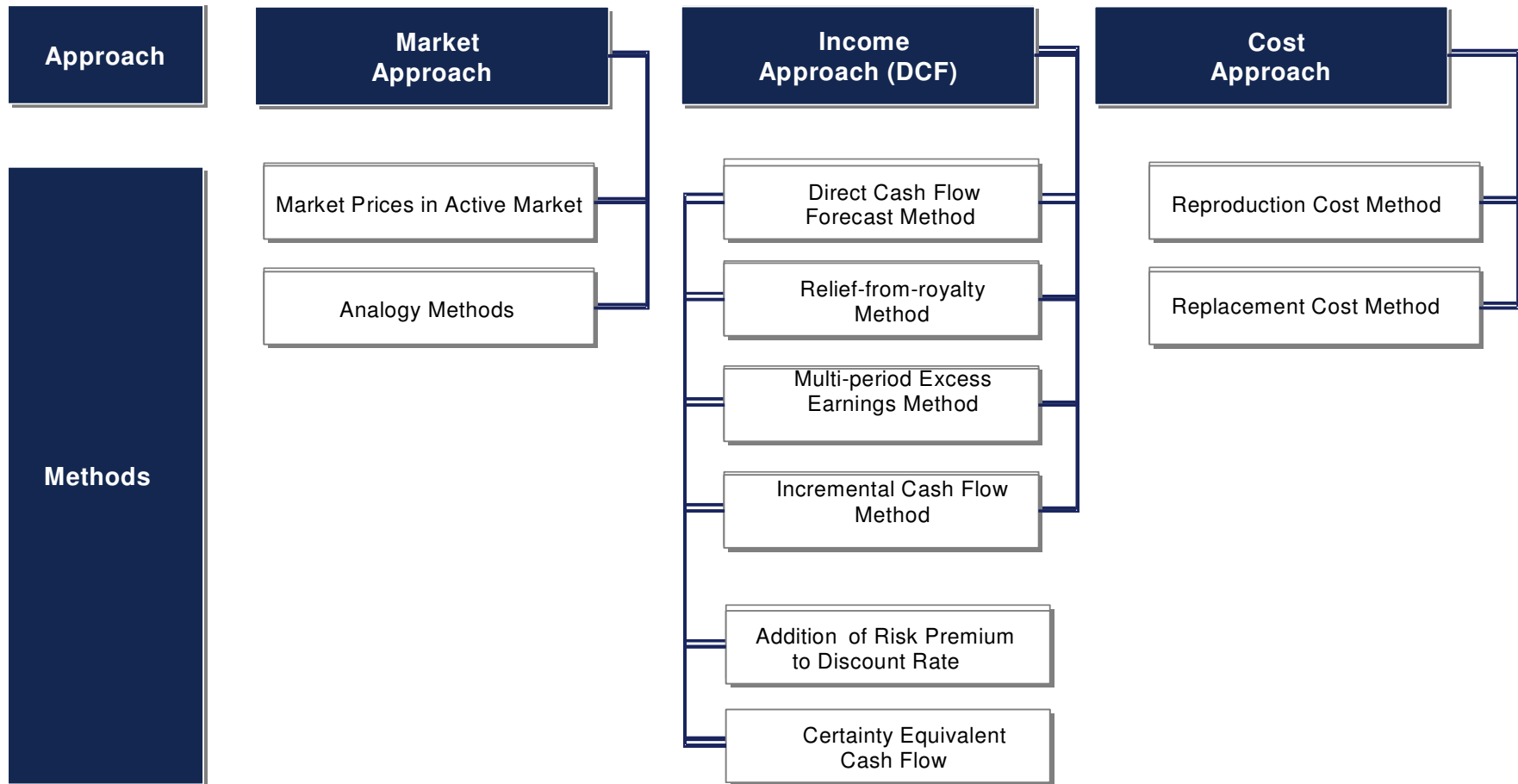
- .14 In determining the value of individual assets, liabilities and contingent liabilities, there are several different approaches that may be considered. The approach to be used is governed by the order of priority given in the relevant standards (market, income and cost approaches). Under each of these approaches, different methods can be distinguished. (See diagram below.)
- .15 In a purchase price allocation, the value of similar assets or liabilities is determined by using a uniform method. When the first subsequent impairment test is carried out, the same method shall normally be used as was used for the purchase price allocation, accounting standards permitting. Similarly, the method to be used in a later impairment test is normally the method that was used for the previous test. In impairment testing, use of the replacement cost approach is not permitted.
- .16 Exceptions to the consistency rule for the method adopted will arise where the use of a different method in an impairment test demonstrably produces more meaningful results or where the method previously used is no longer usable because the underlying data have changed. A further exception to the consistency rule may arise when accounting statements envisage different methods for purposes of purchase price allocation and for impairments because the valuation methods covered in the different statements are not the same.

Valuation approaches

Application of the approaches

- .17 There are three possible approaches to the valuation of individual assets and liabilities. These are the market approach, the income approach and the cost approach. Under each of these approaches there are several methods that can be used.

² This is the case if it cannot be assumed that the fair value less costs to sell is close to the value in use and it is impossible to assign cash inflows to the asset that are largely independent of those from other assets or groups of assets (IAS 36(AC 128) paragraph 67).



- .18 For a determination of fair values in a purchase price allocation IFRS 3(AC 140), suggests that the market approach takes priority (IFRS 3(AC 140) paragraph B16). If the market approach cannot be used, the income approach is adopted. The cost approach may be considered only if neither the market approach nor the income approach can be used.
- .19 In an impairment test, the recoverable amount is the higher of, fair value less costs to sell and value in use(IAS 36(AC 128) paragraph 18). The fair value less costs to sell is determined by using the market approach, where possible (IAS 36(AC 128) paragraph 25 and 26). Where the market approach cannot be used, the income approach may be adopted (IAS 36(AC 128) paragraph 27) in conjunction with (IAS 36(AC 128) paragraph BCZ11), but not the cost approach (IAS 36(AC 128) paragraph BCZ29). Value in use is always determined by using the income approach. This applies equally whether an individual asset or a cash-generating unit is being impairment tested.

Market approach

- .20 Under the market approach, the price for the subject asset or liability ascertainable in an active market is used.
- .21 If no active market exists, it must be considered whether comparable market transactions may be used to determine the value of individual assets and liabilities. This “analogy” method compares the observable price paid for a comparable item with the sought price for the subject item. Usually, multipliers or other ratios are employed. The analogy method may be used only if the comparable assets or liabilities are substantially identical to the subject asset or liability as regards the principal features of relevance to the value. Accordingly, the central task is the selection and examination of suitable transactions. The prices of the assets and liabilities from the transactions may need to be adjusted before being assigned to the subject asset or liability for the effect of specific market conditions or buyer-specific motivation to be eliminated. There is a rebuttable presumption that transactions from the previous twelve months are an appropriate basis for comparison. Shorter or longer periods are possible if the pace of price changes in the relevant market or other specific factors speak against this presumption.
- .22 In practice, the required adequate degree of comparability will seldom be found, so the reasons for the selection of the transactions for comparison and the multipliers or ratios derived from them will need to be explained in detail.

Income approach

Basic principles

- .23 The income approach is based on the premise that the value of the subject item is measured by its ability to generate future cash flows. The value of an asset is thus arrived at from the present value, at the valuation date, of the future cash flows derived by the entity during the asset’s expected useful life, and from its disposal, where applicable (discounted cash flow). The central tasks under the income approach are the projection of the future cash flows and the determination of the discount rate.
- .24 Under the income approach, the methods used are likely to include, where permitted by accounting statements, the:
- direct cash flow projection method;
 - relief-from-royalty method;
 - multi-period excess earnings method; and
 - incremental cash flow method.
- .25 It is usual for investors to be risk-averse. There are two ways in which the risk associated with the future cash flows can be taken into account. The expected cash flows can be discounted

using a risk-adjusted discount rate (the risk premium method), or the expected cash flows can be adjusted for risk and then discounted using a risk-free discount rate (the certainty equivalent cash flow method).

- .26 IAS 36(AC 128) contrasts the “traditional approach” and the “expected cash flow approach”. These may be interpreted, respectively, as the risk premium method and the certainty equivalent cash flow method. The traditional approach uses a single cash flow estimated directly, whereas the expected cash flow approach uses a number of cash flow scenarios to which probabilities are assigned, these are then used to arrive at the expected cash flow. Cash flow scenarios to which probabilities are assigned can also be used in arriving at a single cash flow when the risk premium method is adopted (IAS 36(AC 128) paragraph A8 to A15). Where the certainty equivalent cash flow method is used, the price for bearing the uncertainty inherent in the asset, which reflects the degree of the investor’s aversion to risk, is to be factored into the determination of the value (IAS 36(AC 128) paragraph A2) in conjunction with (IAS 36 (AC 128) paragraph A1(d)). The risk premium and the certainty equivalent cash flow both need to be tested for credibility. (IAS 36(AC 128) paragraph A8) presents a sample computation in which expected cash flows are discounted using a risk-free discount rate. This implies that certainty equivalent cash flows are discounted.
- .27 Under the risk premium method, the cash flows from the subject item are discounted to the valuation date using a risk-adjusted discount rate. To enable an appropriate discount rate to be determined, a required rate of return should be arrived at on the basis of capital market conditions, which rate of return reflects the risk profile of the subject item as adequately as possible. The concept recommended is that of the weighted average cost of capital (WACC), arrived at on the basis of a capital asset pricing model (CAPM). This required rate of return then serves as a reference rate with appropriate adjustment to be made to reflect the risk profile of each subject item. The entity’s internal target rates of return alone do not satisfy this requirement.
- .28 In principle, any discounted cash flow method may be used. Taxes paid by the entity are generally taken into account, but not personal income tax paid by its shareholders.
- .29 The base rate, market risk premium, and cost of debt are normally arrived at on the basis of conditions that exist in the currency area in which the cash flows are generated by using the asset. The present value of the cash flows is then translated using the spot exchange rate at the valuation date (IAS 36(AC 128) paragraph 54).
- .30 If cash flows are projected in a different currency, the equivalence principle requires the discount rate to be arrived at on the basis of conditions that exist in the capital market in whose currency the cash flows are projected. This applies to the base rate and cost of debt, but not necessarily to the market risk premium. The present value of the cash flows is translated using the spot exchange rate at the valuation date (IAS 36(AC 128) paragraph 54).
- .31 It must be assessed whether the asset’s risk structure differs significantly from that of the entity. If so, the discount rate is to be appropriately adjusted upwards or downwards to reflect this. For example, entrepreneurial risk is above average in research and development projects and below average in the case of real estate property.
- .32 The period covered by the cash flow projections is to be determined by reference to the useful life or remaining useful life of the subject item. If the subject item has a finite useful life, it is thus not appropriate to include a perpetuity in the computations. The discount rate is similarly to be determined for the period until the end of the useful life, by incorporating a risk-free rate with a similar maturity.

Special aspects of the determination of fair value

- .33 Where the WACC concept is employed, as is usual in practice, the asset-specific cost of capital is determined by reference to a peer group of entities operating in the same line of business as the acquiree. The capital structure is ascertained on the basis of this peer group. The same applies to the beta, where no beta for the subject item is available.
- .34 The entity's tax rates to be used in determining the discount rate are those that were taken into account in arriving at the cash flows.
- .35 The fair value of an asset is to be determined on an individual basis, as if the item were the subject of an asset deal. This principle still applies if the asset is in fact acquired in a share deal. In an asset deal, the buyer may derive a tax benefit from the amortisation it can charge, depending on the applicable tax legislation. This tax benefit should be included in the valuation, assuming that the theoretical buyer is expected to come from a jurisdiction allowing such amortisation tax benefit.
- .36 In using the income approach to determine an asset's fair value, the asset must be treated as a separate taxable item, taking into account the relevant tax environment, irrespective of the actual nature of the transaction. The notional tax base consists of the cash flows generated by the asset, minus the depreciation charges for the asset. The depreciation charges are calculated on the fair value, not on the actual tax base. However, to arrive at fair value, tax effects first need to be taken into account. To escape from this circle an iterative process may be adopted for the calculation. Alternatively, it is possible to calculate the tax amortisation benefit separately by applying a step-up factor, as is done in international practice. In that case, taxation is assumed to be based on cash flows by ignoring depreciation charges. The result is the present value based on (post-tax) cash flows. To this present value is then added the present value contributed by the tax amortisation benefit. The sum of these two is then the fair value of the asset. The South African tax environment generally results in the tax amortisation benefit only being applicable in exceptional circumstances. The circumstances of each transaction should be considered, in addition to the tax treatment of the individual asset that is the subject of the valuation.

Cost approach

- .37 The cost approach is used only to estimate fair value in a purchase price allocation. This approach may consider the cost of producing an exact duplicate of the asset (the reproduction cost method) or, alternatively, the cost of producing an asset having the same utility (the replacement cost method)³. Consideration is to be given to the necessity for any deductions to reflect technical, physical and/or economic obsolescence.
- .38 Diminution in value is to be recognised by reference to the expected useful life.
- .39 Where there is insufficient documentary evidence to support the determination of the useful life it may be appropriate, particularly in the case of fully amortised assets, to consider using minimum values (below which the asset is not written down for the purposes of the purchase price allocation) to reflect the potential benefit still derivable from the asset.
- .40 In using the cost approach to determine fair value, it must be considered in each instance whether a tax amortisation benefit arising from a notional individual purchase should be taken into account. If the principal components are obtainable from third parties at market prices, no tax amortisation benefit is recognised because it is already included in the market prices. If the asset can be produced only by the entity itself (self-developed software, for instance), and the

² For the sake of simplicity, only the term "replacement cost" is used hereafter.

related costs operate to reduce taxes, and this tax relief has been taken into account in the calculation of costs, then a tax amortisation benefit is recognised.

Determination of fair values for individual assets, liabilities and contingent liabilities in business combinations (purchase price allocation)

Identification as a starting point

- .41 At the acquisition date, all identifiable assets, liabilities, and contingent liabilities that satisfy the recognition criteria are to be included in the consolidated balance sheet at fair value (IFRS 3 (AC 140) paragraph 36). Before recognition and measurement at fair value is possible, all the assets acquired, liabilities and contingent liabilities assumed need to be identified. Normally, most of the work involved in the identification phase is concerned with the intangible assets not previously recognised by the acquiree.
- .42 The identification of intangible assets not previously recognised requires an understanding of the acquiree's business model, value drivers and business plans, and of its legal and regulatory environment. With this as a basis, the principal value drivers for future development are ascertained and the acquiree's business plans checked to determine whether, and to what extent they reflect these value drivers. The next step is to check whether the identified value drivers are represented by intangible assets capable of separate recognition. Examples of possible intangible assets are given in the illustrative examples accompanying (IFRS 3(AC 140)), which typically include brands, customer relationships, licenses, artistic property, etc.

Specific aspects for consideration in the determination of fair values of individual assets, liabilities and contingent liabilities in business combinations (purchase price allocation)

- .43 IFRS 3 (AC140) Appendix B paragraph 16 provides guidance regarding the measurement of the fair values of assets, liabilities and contingent liabilities in allocating the cost of business combinations. The guidance provided addresses most categories of assets and liabilities. The sections below provides additional guidance regarding the practical application of these principles for Intangible Assets, Property, Plant and Equipment, Liabilities and Contingent Liabilities. For guidance on asset categories not discussed in detail below please refer to IFRS 3 (AC140) Appendix B paragraph 16.

Specific aspects for consideration in the determination of fair values of individual assets, liabilities and contingent liabilities in business combinations (purchase price allocation)

Intangible assets

- .44 Intangible assets that satisfy the recognition criteria are to be recognised at their fair value at the acquisition date. Here it must first be ascertained whether the market approach can be applied. Accordingly, it must be determined if an active market exists for the intangible asset, and if observable transactions involving comparable assets can be used (IFRS 3(AC 140) paragraph B16(g) and IAS 38(AC 129) paragraph 39).
- .45 Mostly intangible assets are so specific that there is neither an active market for them nor sufficient transactions in comparable assets (IAS 38(AC 129) paragraph 78). Thus, in many cases, the market approach cannot be used. Then, the income approach or, if need be, the cost approach will have to be adopted.
- .46 Where the income approach is adopted, the method used is likely to be one of the following:
- the direct cash flow projection method;
 - the relief-from-royalty method;
 - the multi-period excess earnings method; or
 - the incremental cash flow method.

- .47 The decision on the use of a method is taken for each asset separately, having regard to the consistency-of-method requirement.
- .48 Under the direct cash flow projection method, the cash flows directly attributable to the asset are discounted using the risk-adjusted discount rate specific to the asset.
- .49 Under the relief-from-royalty method, the value of the intangible asset is the present value of the royalties saved by the entity. The royalties are determined as the amount that would have had to be paid if the subject intangible asset were owned by a third party.
- .50 The notional license payments (royalties) are determined on the basis of market royalty rates for comparable assets (at arm's length). The royalty rate may be applied to sales, for example. In this case, the planned sales attributable to the subject intangible asset are then multiplied by the royalty rate. The notional post-tax royalty payments that were determined are then discounted to the valuation date using the adjusted weighted cost of capital specific to the asset. To this present value the tax amortisation benefit is then added.
- .51 Examples of intangible assets for which the relief-from-royalty method is used are brands, patents and technologies. For this method to be used there must be comparable assets that are regularly licensed between knowledgeable, willing and independent parties.
- .52 Under the multi-period excess earnings method, the present value of the cash flows generated by, and only by, the intangible asset is determined. Normally, an intangible asset will generate cash flows only in combination with other tangible and/or intangible assets. In arriving at the relevant net cash inflows, the cash flows generated by the intangible asset in combination with other assets are therefore reduced by subtracting notional cash outflows for the "contributory" assets (the contributory asset charges). This procedure treats the contributory assets as being leased from a third party, to the extent necessary for the generation of the cash flows.
- .53 In arriving at the amounts of these notional charges for use of the contributory assets, the following must be taken into account, in each case determined by reference to the fair value of the subject contributory assets:
- the diminution in value (amortisation/depreciation, return of asset); and
 - a reasonable return on the capital invested (return on asset).
- Notional charges for use of the contributory assets may be taken into account only to the extent that such charges are not reflected in the business plans. The diminution in value, for example, may already be reflected in the plans in the form of amortisation/depreciation based on historical cost, in which case this must be replaced by amortisation/depreciation based on fair values.
- .54 Notional charges are also to be taken into account for the value of the assembled workforce, although it is not permissible to recognise this as a separate asset.
- .55 The determination of an appropriate rate of return on capital invested should be based on the cost of capital that was, or would be, used in arriving at the fair value of the contributory assets.
- .56 Taxes paid by the entity are to be deducted both from the net cash inflows before deduction of the notional charges for use of the contributory assets and from the notional charges themselves. The remaining net cash inflows are then discounted to the valuation date using the appropriate asset specific discount rate. To this present value the tax amortisation benefit is then added, if applicable.

- .57 Normally, the application of the multi-period excess earnings method is reserved for the intangible asset or group of similar intangible assets having the greatest effect on the cash flows, so that the assets for which usage charges are deducted are indeed only contributory. If the multi-period excess earnings methodology is used more than once, care must be taken to ensure that the same cash flows are not allocated more than once to different assets.
- .58 The incremental cash flow method compares the future expected cash flows from the entity, including the subject intangible asset, with the corresponding cash flows from a notional comparable entity without the asset. The comparable entity is treated as not using the subject asset at all.
- .59 The incremental cash flows may result from the generation of incremental cash inflows by the subject intangible asset or from cost savings.
- .60 The differences between the cash flows from the two entities, period by period, represent the incremental cash flows attributable to the subject intangible asset. The post-tax fair value of the asset is arrived at by discounting these incremental cash flows at the valuation date using the weighted cost of capital specific to the asset.
- .61 Use of the incremental cash flow requires the future cash flows from the notional comparable entity that does not use the subject asset to be capable of reliable estimation.

Property

- .62 A property valuation may be concerned with land without buildings or with built-on land, including the property's constituent parts such as buildings, land improvements, other fixtures, and appurtenances. It is recommended practice that a registered property valuer be used to determine the value of the property. Guidance is provided below on methodologies to be considered in the valuation of property.
- .63 The fair value of property is to be determined on the basis of usage, under market conditions, that is typical for the subject property. The principle of individual valuation requires property to be broken down into the land component and the buildings component. Parts of buildings that belong together, functionally or technically, are normally valued as a unit.
- .64 The valuation approaches described in this guide can also be used to determine the value of property. The various methods used in valuing property can be classified as belonging to one or other of these approaches.
- .65 The preferred method is to determine the value of property by reference to similar properties (market approach). Preferably, the value of the land and the value of the buildings situated on it should be arrived at on the basis of prices paid for properties which have changed hands in recent transactions. The reference prices need to be adjusted for differences in qualities between the reference properties and the subject property. An analogous procedure may be used to value the buildings situated on the land.
- .66 Buildings, however, are frequently not sufficiently comparable as regards appointments, layout, age and condition, etc. Built-on properties are therefore usually valued on the basis of the income that can be derived from them (income approach). The use of this method requires an active market for such properties in which the emphasis is on earning income.
- .67 Where the income approach is adopted to value a built-on property, the cash flows derivable from it under proper management are estimated and then discounted.
- .68 The cost approach can be used to value physical structures such as buildings, land improvements and other fixtures, separately from the land, on the basis of construction cost.

The value is determined on the basis of the usual construction costs plus the incidental costs of construction that would have to be paid to reconstruct the physical structures, considering the general economic conditions prevailing at the valuation date (normal construction cost). Deductions are to be made for diminution in value caused by structural defects, structural damage or other circumstances affecting the value, and for depreciation. Additions or deductions are also to be made, depending on market conditions, to reflect market factors that affect the value.

Plant and Equipment

- .69 The value of plant, and factory and office equipment, may be determined by using the market, income or cost approach. If the market approach cannot be used, because of the highly specialised nature of such assets, or because the assets are rarely sold (except as part of a continuing business), the value is to be determined using the income approach or the depreciated replacement cost method (IFRS 3(AC 140) paragraph B16(f)). Depreciated replacement cost is usually estimated by indexing historical purchase or production cost or by seeking information from suppliers to determine new replacement cost, and then deducting depreciation.
- .70 Irrespective of the approach adopted, it is necessary to check whether deductions for functional and/or economic obsolescence are appropriate. Similarly, where plant and equipment is still in use despite its theoretical useful life having come to an end, it must be considered whether it would be appropriate to recognise an increase in value to reflect the asset's potential for further use, or alternatively whether the assets residual value adequately reflects its value over its remaining economic life.

Liabilities and contingent liabilities

- .71 Liabilities and contingent liabilities that satisfy the recognition criteria of (IFRS 3(AC 140)) are to be recognised at fair value as of the acquisition date.
- .72 The fair value of a liability is the amount for which it could be redeemed, taking into account the current level of interest rates. In the case of a current liability, the interest effect can be ignored if the difference between nominal amount and fair value is not material.
- .73 The fair value of a contingent liability is measured at the amount that an unrelated third party would demand for assuming the contingent liability. Expectations as to future cash flows are to be taken into account by considering different scenarios and the likelihood of their realisation (IFRS 3(AC 140) paragraph B16(1)).

Calculation of residual goodwill

- .74 Goodwill or negative goodwill is a residual item, being the difference between the cost of a business combination (IFRS 3(AC 140) paragraph 24) and the aggregate fair values of the acquirer's interest in assets acquired, liabilities assumed and contingent liabilities assumed (IFRS 3(AC 140) paragraph 51), taking deferred tax assets and liabilities into account.

Cost of the business combination

- Fair value of the assets acquired

+ Fair value of the liabilities assumed

+ Fair value of the contingent liabilities assumed

+/- Deferred taxes

= Residual goodwill or negative goodwill

Impairment testing of specific assets and cash-generating units, including goodwill

The principles of impairment testing

Basic principles

- .75 An asset or cash-generating unit is impaired when its carrying amount exceeds its recoverable amount (IAS 36(AC 128) paragraph 8). An impairment loss is recognised for this excess.
- .76 An asset with a finite useful life is to be tested for impairment at the reporting date only where there is any indication that it may be impaired (IAS 36(AC 128) paragraph 9). An intangible asset with an indefinite useful life, an intangible asset not yet available for use, and goodwill shall be tested for impairment annually, irrespective of whether there is any indication of impairment (IAS 36(AC 128) paragraph 10).
- .77 Impairment testing shall be carried out either for the individual asset or for the cash-generating unit to which the asset belongs. Goodwill is always tested after allocation to cash-generating units or groups of cash-generating units.
- .78 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 other groups of assets (IAS 36(AC 128) paragraph 6). Cash-generating units are to be identified consistently from period to period for the same asset or types of assets (IAS 36(AC 128) paragraph 72).
- .79 Impairment testing depending on the specific circumstances, may be carried out on:
- individual assets;
 - cash-generating units without allocated goodwill;
 - cash-generating units with allocated goodwill; or
 - groups of cash-generating units.

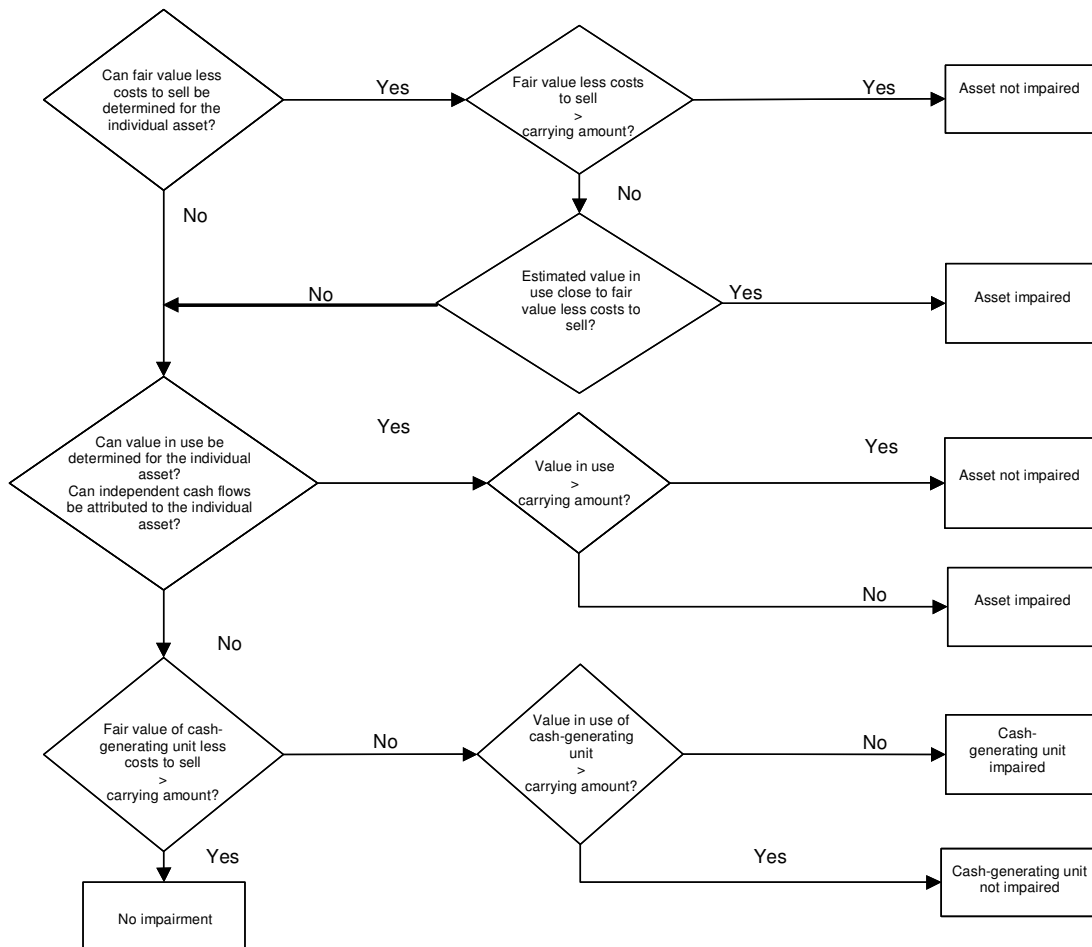
Impairment testing of assets and cash-generating units

- .80 (IAS 36(AC 128) paragraph 66) requires the recoverable amount to be estimated for the individual asset. Only if this is not possible should the recoverable amount be determined for the cash-generating unit to which the asset belongs.
- .81 The recoverable amount of an asset cannot be determined if the asset does not generate cash flows that are largely independent of those from other assets or cash-generating units. However, it may still be possible to determine the fair value less costs to sell because, in a determination of fair value, the largely independent cash flows referred to in IAS 36(AC 128) paragraph 22 need not actually exist; instead, potential buyers and sellers may attribute cash flows, if this can be done on a reliable basis. If a fair value was already determined for an individual asset on initial consolidation in terms of (IFRS 3(AC 140)), then the fair value less costs to sell is likely to be similarly determinable for the asset in subsequent impairment testing, except where an individual sale is not possible for legal or contractual reasons. This does not apply where the cost approach was adopted to determine the fair value on initial consolidation (IAS 36(AC 128) paragraph BCZ29). If the fair value less costs to sell exceeds the carrying amount, or if the asset's value in use can be estimated to be close to its fair value less costs to sell, then no impairment test is carried out on the cash-generating unit (IAS 36(AC 128) paragraph 21, 22 and 67). The latter situation could arise if the asset is held for sale and the cash flows from its further use, up to the date of sale, are negligible.
- .82 If the recoverable amount of an asset is less than its carrying amount, the difference is to be recognised in profit or loss as an impairment loss (IAS 36(AC 128) paragraph 59 and 61). If the asset is carried at revalued amount in terms of the allowed alternative in (IAS 16(AC 123) –

Property, Plant and Equipment), the impairment loss is to be dealt with in accordance with the rules for write-downs on revalued assets, i.e. it is to be recognised directly against any revaluation reserve to the extent that the impairment loss does not exceed the amount in the revaluation reserve (IAS 36(AC 128) paragraph 61). If the recoverable amount is negative, a liability is to be recognised only if it is required under another statement (IAS 36(AC 128) paragraph 62).

- .83 Where a cash-generating unit is to be tested for impairment, it must be ensured, in determining its carrying amount, that only those assets are considered that generate cash flows that are reflected in the recoverable amount, the equivalence principle (IAS 36(AC 128) paragraph 75). Every cash flow definition involves explicit or implicit assumptions regarding changes in balance-sheet items. This becomes explicitly clear when cash flows are determined by the indirect method, which uses all expenditures and revenues (irrespective of whether they result in cash inflows or outflows or not) and then adjusts for changes in balance-sheet items. The same applies implicitly when cash flows are determined by the direct method. The equivalence principle requires that, when the carrying amount is determined, those balance-sheet items, whose changes were recognised either explicitly under the indirect method or implicitly under the direct method, be taken into account.
- .84 The assignment of assets to cash-generating units may be done either directly or by allocation on a reasonable and consistent basis (IAS 36(AC 128) paragraph 76(a)).
- .85 Financial assets are to be included in the carrying amount of a cash-generating unit only if they are held in direct connection with the entity's operations, this would be the case with banks and financial services companies, for example.
- .86 Normally, the carrying amount of a recognised liability will not be assigned to a cash-generating unit (IAS 36(AC 128) paragraph 76(b)). The only exception to this is where the recoverable amount of a cash-generating unit cannot be determined without including the liability, e.g. because a potential buyer of the cash-generating unit would have to assume the liability as well (an obligation to recultivate, for example). Where a liability has been included in the carrying amount of a cash-generating unit, it must be assured that the cash outflows involved in settling the liability are taken into account when value in use is determined and that the liability assumed by the buyer is taken into account when fair value less costs to sell is determined (IAS 36(AC 128) paragraph 78).
- .87 Provisions for pensions should not generally be deducted from the carrying amount of a cash-generating unit because the amounts already set up as provisions represent external financing. However, pension provisions may be taken into account for practical reasons, provided that a corresponding deduction is made from the recoverable amount (IAS 36(AC 128) paragraph 79). The latter procedure requires that all components of the pension promises be eliminated from the cash flow projections and that the pension provisions are deducted from the present value of the expected cash flows.
- .88 If the projections for determining recoverable amount include the change in net working capital, which consists of non-interest-bearing operating assets and liabilities, then the net working capital must be taken into account in the carrying amount of the cash-generating unit (IAS 36(AC 128) paragraph 79).
- .89 Corporate assets such as office buildings or research and development centres are to be allocated to the identified cash-generating unit on a reasonable and consistent allocation basis. If this is not possible, the smallest group of cash-generating units that includes the identified cash-generating unit and for which such reasonable allocation can be carried out is determined (IAS 36(AC 128) paragraph 102).

- .90 If the carrying amount of a cash-generating unit exceeds its recoverable amount, the difference is to be recognised in the income statement as an impairment loss (IAS 36(AC 128) paragraph 104). Any individual assets for which impairment losses have already been recognised are included in the carrying amount of their cash-generating unit at their written-down amount. The amount of the impairment loss on the cash-generating unit is to be allocated to the individual assets in proportion to their respective carrying amounts and dealt with in accordance with (IAS 36(AC 128) paragraph 60). An asset cannot be written down to less than its recoverable amount, where this is determinable (IAS 36(AC 128) paragraph 105). This will apply particularly to assets that have already been written down individually.
- .91 The procedure for impairment testing of assets and cash-generating units can be summed up as follows:



Impairment testing of goodwill

- .92 Goodwill does not generate cash inflows independently of other assets or groups of assets, so for impairment testing purposes it needs to be allocated to cash-generating units or groups of cash-generating units (IAS 36(AC 128) paragraph 81). Goodwill is to be allocated as of the acquisition date, and the allocation is to be completed no later than the end of the first annual reporting period beginning after the acquisition date (IAS 36(AC 128) paragraph 84).
- .93 Goodwill is to be allocated to the cash-generating units that benefit from the expected synergies of the combination, irrespective of whether other assets of the acquiree are assigned to these

cash-generating units (IAS 36(AC 128) paragraph 80). To this end, the effects of the expected synergies of the particular cash-generating unit need to be quantified, and used as the basis for the allocation. Alternatively, the acquired goodwill may be allocated on the basis of some other criteria provided these appropriately reflect the effects of the synergies in each individual case. Such criteria might be the fair values of the cash-generating units or other quantities (e.g. the relevant portion of the income-based value, or earnings before interest and tax, or earnings before interest, tax, depreciation and amortisation).

- .94 If goodwill contributes to the cash inflows of a cash-generating unit but cannot be allocated to it on a reasonable basis (IAS 36(AC 128) paragraph 77), the cash-generating units are to be grouped in such a way that reasonable allocation is possible. The cash-generating units grouped in this way are those to which goodwill arising from this transaction has not already been allocated. These cash-generating units may, however, have had goodwill from other transactions allocated to them on the basis of direct attributability.
- .95 A cash-generating unit or group of cash-generating units to be used for impairment testing of goodwill shall represent the lowest level at which management that is responsible for deciding on business acquisitions monitors the goodwill for internal purposes (IAS 36(AC 128) paragraph 80(a)). What matters is not the way goodwill is disclosed in the reporting but the way management actually decides to allocate and measure goodwill. It suffices, for instance, for the goodwill to be included in the determination of the amount of capital to which management applies a required minimum return percentage.
- .96 Impairment testing must be done on a cash-generating unit or group of cash-generating units not larger than a segment (IAS 36(AC 128) paragraph 80(b)). The allocation of goodwill to a cash-generating unit or group of cash-generating units need not follow the allocation of goodwill in the primary segment reporting format if the return on goodwill is monitored on some other basis (i.e. on a regional basis, in a matrix organisation).
- .97 If the carrying amount of a cash-generating unit exceeds its recoverable amount, the difference is to be recognised in the income statement as an impairment loss (IAS 36(AC 128) paragraph 104). Any individual assets for which impairment losses have already been recognised in the same accounting period are to be included at their written-down amount in the carrying amount of the cash-generating unit to which goodwill has been allocated. A situation of this nature will exist where assets have been written down either individually or as part of a cash-generating unit to which no goodwill has been allocated. If such individual assets, or cash-generating units to which no goodwill has been allocated, are tested for impairment at the same time as cash-generating units to which goodwill has been allocated, then the individual assets or cash-generating units to which no goodwill has been allocated shall be tested first (IAS 36 (AC 128) paragraph 97).
- .98 The impairment loss is first applied to reduce the carrying amount of goodwill. When this has been reduced to zero, the remainder of the impairment loss is allocated to the other assets in proportion to their carrying amounts (IAS 36(AC 128) paragraph 104). An asset cannot be written down to less than its recoverable amount, where this is determinable (IAS 36 (AC 128) paragraph 105). If there is a minority interest in the cash-generating unit to which goodwill has been allocated (i.e. a non-wholly owned cash-generating unit), the carrying amount of the cash-generating unit must be notionally adjusted to include the goodwill attributable to the minority interest before the carrying amount is compared to the recoverable amount (IFRS 3(AC 140) paragraph 92).

Measuring value in use

Basic principles

- .99 For the measurement of value in use, the income approach applies irrespective of whether an individual asset or a cash-generating unit is tested for impairment. Generally, the value of a tax amortisation benefit is ignored when value in use is measured. Other special aspects of the measurement of value in use arising from the rules in (IAS 36(AC 128)) are described below.

Period to be covered by the cash flow projections

- .100 The period to be covered by the cash flow projections depends on the useful lives of the individual assets. If an asset consists of two or more components, the projection period depends on the component with the longest useful life, except where it is of only minor importance. The replacement of components with shorter useful lives is considered to be part of the day-to-day servicing of the asset (IAS 36(AC 128) paragraph 49).
- .101 The length of the cash flow projection period for a cash-generating unit consisting of assets, all of which are essential to the ongoing operation of the unit, is based on the asset with the longest useful life within the unit. If the cash-generating unit has a leading asset, then this asset determines the useful life of the cash-generating unit. This applies equally to cash-generating units to which assets with indefinite useful lives have been assigned. If the leading assets have indefinite useful lives, the cash flow projections shall cover an infinite period. Payments for the replacement of assets with shorter useful lives are considered to be part of the day-to-day servicing of the unit (IAS 36(AC 128) paragraph 49). Cash-generating units to which goodwill has been allocated normally have an indefinite useful life. This does not apply if the goodwill allocated to the cash-generating unit is of only minor importance compared to the unit's other assets, or if specific circumstances exist that limits the useful life of the cash generating until.

Basis for estimating cash flows

- .102 The value in use is estimated for an asset or cash-generating unit in its current condition (IAS 36(AC 128) paragraph 44). The projections for cash flows containing genuine effects of synergies are based on reasonable and justifiable assumptions by management, which must be supported by external evidence. Management assesses the reasonableness of the assumptions on which its current cash flow projections are based by comparing past cash flow projections with past actual cash flows. Cash flows are estimated on the basis of the most recent financial budgets approved by management. Adjustments will be necessary for the determination of value in use; cash flows arising from future restructurings to which the entity is not committed, or from future investment to improve or enhance performance, may not be included. These financial budgets are normally to be used as the basis for projections covering a period of five years, except where detailed budgeting for a longer period is possible. For projections of cash flows beyond this detailed budgeting period, the cash flows based on the detailed budgeting are extrapolated by using a reasonable growth rate (IAS 36(AC 128) paragraph 33).
- .103 In determining value in use, investments considered to be part of day-to-day servicing may be taken into account, but not investments to improve or enhance performance (IAS 36(AC 128) paragraph 44(b) and (IAS 36(AC 128) paragraph 41). The interdependence of sales and investment planning must always be considered, i.e. sales expected to result from future investments to improve or enhance performance must be eliminated. Estimated changes in future cash flows arising from investments to improve or enhance performance may not be taken into account until the cash outflows for these investments have been incurred (IAS 36 (AC 128) paragraph 48). When an investment to improve or enhance performance is in process of implementation at the reporting date, and substantial cash outflows have already been incurred although the measure has not quite been completed, then the estimated economic benefits from the investment and the cash outflows still to be incurred at the date of measurement may have to be taken into account.

- .104 Investments for safety or environmental reasons that do not directly increase the future economic benefits of any particular existing item of property, plant or equipment (IAS 16 (AC 123) paragraph 11) do not normally represent investments to improve or enhance performance. Major inspections similarly are not considered to be investments to improve or enhance performance, independently of the rule in IAS 16(AC 123) paragraph 14, but are part of day-to-day servicing (IAS 36(AC 128) paragraph 49).
- .105 Cash outflows for restructuring programmes and the economic benefits expected to arise from them may be taken into account only if the entity is committed to the restructuring (IAS 36 (AC 128) paragraph 44(a)).
- .106 Cash flows arising from financing activities or taxes on income are not taken into account in estimating value in use (IAS 36(AC 128) paragraph 50). Assets and liabilities relating to taxes on income, such as deferred tax assets and liabilities, recoverable taxes, tax liabilities or tax provisions, are not included in the value in use of a cash-generating unit, nor in the corresponding carrying amount. The same applies to interest-bearing assets and liabilities (IAS 36(AC 128) paragraph 50) in conjunction with IAS 36(AC 128) paragraph 75. Special rules apply to banks and financial services companies.
- .107 Besides cash flows arising from the use of the asset, cash flows arising from sale of the asset by the entity at the end of the asset's useful life are to be taken into account. These include cash inflows from the sale and cash outflows arising, for example, from disposal obligations. Estimates of cash inflows from sale of the asset at the end of its useful life are based on the amount expected to be realised in an arm's length transaction between two willing, knowledgeable parties. This will thus be the asset's fair value, but arrived at using the prices at the reporting date for comparable assets that have reached the end of their useful lives after being used under similar conditions, and after adjustment of these prices for future general and asset-specific price changes, provided that these have been taken into account in estimating the other cash inflows and the interest rate (IAS 36(AC 128) paragraph 52 and 53). Cash outflows arising from disposal obligations, for example, are not to be taken into account if they have already been recognised as a liability (IAS 36(AC 128) paragraph 43(b)). Any costs incurred in selling the asset are to be taken into account.

Estimating the discount rate

- .108 The discount rate is a pre-tax rate that reflects current market assessments of the time value of money and the risks specific to the asset (IAS 36(AC 128) paragraph 55). Also, the discount rate is to be arrived at independently of the entity's capital structure and the manner of financing the asset (IAS 36(AC 128) paragraph A19). Possible starting points for arriving at a market-based discount rate, following these rules, may be (IAS 36(AC 128) paragraph A17):
- the entity's weighted average cost of capital;
 - its incremental borrowing rate; and
 - other market borrowing rates.
- .109 However, returns observable in the capital market on risky equity investments usually include tax effects. The observable discount rate would therefore need to be adjusted for these tax effects. There is no capital market theory available for this necessary conversion and IAS 36(AC 128) is silent on the subject. But two simplified procedures suggest themselves. Firstly, a notional pre-tax discount rate can be arrived at by simply grossing up the post-tax rate. This is acceptable only where cash flows stay the same, i.e. where they constitute a simple annuity. Secondly, where cash flows change from one projection period to another, the procedure can be simplified by determining a value in use after taxes payable by the entity itself. Assuming that discounting pre-tax cash flows using a pre-tax discount rate produces the same result as discounting post-tax cash flows using a post-tax discount rate an iterative

calculation process can be used to convert the post-tax discount rate into an implicit pre-tax rate.

- .110 When borrowing rates are used as a starting point, understandable premiums must be added, which an investor, as a residuary shareholder, would demand compared with an external lender.

Estimating costs to sell in a fair value less cost to sell calculation

- .111 For the measurement of fair value less cost to sell in an impairment calculation it is relevant to assess which costs can be taken into account.
- .112 Costs to sell comprise all costs that would be incurred if the assets were sold and that are directly attributable to the asset. Finance costs and taxes on income are to be included in costs to sell (IAS 36(AC 128) paragraph 6), IAS 36(AC 128) paragraph 25 and IFRS 5(AC 142), Appendix A).

Credibility check and documentation

- .113 The results are to be checked for credibility on the basis of available data, giving special consideration to market conditions.
- .114 The business plans on which the determinations of values are based are to be analysed to determine whether the individual components of the plans were arrived at in a comprehensible and credible manner. The accuracy of the planning in the past is also to be taken into account.
- .115 The allocation of goodwill to cash-generating units shall be checked for comprehensibility and credibility.
- .116 The documentation must be such as to enable a competent third party to understand how the results were arrived at. It must record the facts that provide important evidence in support of the determinations of values, and should demonstrate that the determinations of values, and measuring, were carried out in accordance with the guidance provided in this document.
- .117 The documentation must include an appropriate description of the procedures followed in the determination of values. This must include particulars of the approaches and methods used. The documentation must also describe the procedures followed in projecting and discounting cash flows, the extent to which estimates were used, and material assumptions and simplifications.
- .118 The documentation should show that the sum of the fair values of the assets and liabilities appears credible, compared with the approximate value of the entity.

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