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MAZARS INSIGHT

Impairment of long-term non-financial assets - Key points of IAS 36 in 40 questions and answers

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Layout: Mazars, Communication - CAH 19 - 12/09

Contents

Introduction 6

Frequency of impairment testing

1. What indications of impairment should the entity consider? 7
2. How frequently must a cash-generating unit (CGU) be tested for impairment? 7
3. Can an entity re-use the calculation of the recoverable amount of a CGU estimated in a previous reporting period? 8
4. Is an entity required to conduct impairment testing for interim period closing? 8
5. Can an entity reverse an impairment loss recognised on goodwill in a previous interim period? 9

Impairment testing: implementation guidance

6. Does IAS 36 lead to test the value of equity for impairment? 10
7. At which level must the entity perform impairment testing for goodwill? 10
8. How much time does the entity have to allocate the goodwill generated in a business combination for the purposes of impairment testing? . . 11
9. Is the entity required to perform impairment testing in the event of a recent acquisition for which goodwill allocation has not been finalised? 12
10. Under what circumstances can the management change the allocation of goodwill to CGU for the purposes of impairment testing? 13
11. How will the amendment to IAS 36 published in April 2009 affect the allocation of goodwill to CGU or groups of CGU? 14
12. What should be done in the event of the disposal of all or part of a CGU? 14
13. How should goodwill be tested for impairment in the event of non-controlling interests? 15
14. How should the entity take into account corporate assets when performing impairment testing? 15
15. In what currency should cash flows be estimated under IAS 36? . . 16
16. Is the entity required to disclose sensitivity analyses? 16

Layout: Mazars, Communication - CAH 19 - 12/09

Contents

THE CONCEPT OF RECOVERABLE AMOUNT

17. Is an entity required to determine both the fair value less costs to sell and value in use when conducting impairment testing? . . . 18

18. Under what circumstances is fair value less costs to sell assumed to be the recoverable amount? 18

19. Does IAS 36 authorise the use of fair value less costs to sell as the recoverable amount when the management has no intention of disposing of the CGU? 19

PRACTICAL DIFFICULTIES IN CALCULATING FAIR VALUE LESS COSTS TO SELL

20. What are the disposal costs which are included in calculating fair value? 20

21. What are the methods of determining fair value less costs to sell? 20

22. When determining fair value less costs to sell, how should the entity apply the method of price multiples deriving from transactions completed on similar assets? 21

23. When determining fair value less costs to sell, how should the entity apply the method of price multiples deriving from market capitalisation of similar companies? 21

24. What are the conditions to use the discounted cash flows method to calculate fair value less costs to sell? 22

25. Under what circumstances may cash flow projections based on market assumptions differ from cash flows determined on the basis of the entity's assumptions? 22

PRACTICAL DIFFICULTIES IN CALCULATING VALUE IN USE

26. How long should the explicit forecast period be for future cash flows? 24

27. What future cash flow projections should be used for carrying out an impairment test? 24

28. Should working capital be included in the assets comprising the CGU? 25

29. Should liabilities be included in the carrying amount of a CGU? . . 25

30. How should the normalised cash flow be determined? 26

Layout: Mazars, Communication - CAH 19 - 12/09

Contents

31. How is terminal value calculated? 27
32. How does an entity determine the perpetuity growth rate used in the calculation of terminal value? 28
33. How should an entity take account of inflation in calculating value in use? 28
34. Is the discount rate a pre-tax or post-tax rate? 29
35. Can the Weighted Average Cost of Capital (WACC) be used as discount rate for the purposes of impairment testing? 29
36. How should an entity calculate the discount rate used in impairment testing? 30
37. How is the cost of equity calculated? 31
38. How is the cost of debt calculated? 33
39. How are discount factors determined? 34
40. What sources of information are available for calculating value in use? 34

Layout: Mazars, Communication - CAH 19 - 12/09

Introduction

The financial crisis and the fall of stock market prices are indications of potential impairment of long-term non-financial assets (intangibles, goodwill, tangibles, etc.). Against this background, many companies have experienced the difficulties of applying the impairment tests set out in IAS 36, *Impairment of assets*. These difficulties are increased by the lack of visibility on business plans in a very uncertain economic and financial environment.

IAS 36 has undergone no major changes since its publication in March 2004, apart from some amendments as part of the annual improvements process of existing standards. It is not, therefore, any current action by the IASB which now leads us to examine the principles set out in the standard, but rather the current economic crisis.

Though the 2008 financial year did not lead companies to recognise significant impairment losses on non-financial assets, the topic remains nevertheless sensitive and challenging. Indeed, the assumptions and estimates adopted by management may have a significant impact on the outcome of impairment testing.

The objective of this brochure is to list the main questions which arise and thus resolve a number of practical difficulties in the application of IAS 36.

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1. What indications of impairment should the entity consider?

IAS 36 states that, in assessing whether there is any indication that an asset may be impaired, an entity shall consider, as a minimum, the following indications:

a) External sources of information:

- significant or abnormal decline in an asset's market value;
- significant deterioration in the legal, economic or technological environment;
- increase in interest rates;
- carrying amount of the equity of the entity greater than its market capitalisation.

b) Internal sources of information:

- obsolescence or physical damage of an asset;
- decision to restructure or discontinue an operation which will limit the use of an asset;
- significant decrease in the performance of an asset.

This list of indications is not exhaustive. It is merely a minimal list of the indications the entity should consider. An entity may identify other indications.

The indications of impairment most commonly used by listed companies are the following: worsened performance, deterioration of the economic environment and decline in stock market value.

2. How frequently must a cash-generating unit (CGU) be tested for impairment?

A CGU to which goodwill has been allocated must be tested for impairment annually, and each time there is an indication that the unit may be impaired. The annual impairment test for a CGU to which goodwill has been allocated may be performed at any time during an annual period, provided the test is

Layout: Mazars, Communication - CAH 19 - 12/09

performed at the same time every year. Different CGU may be tested for impairment at different times. However, if some or all of the goodwill allocated to a CGU was acquired in a business combination during the current annual period, that unit must be tested for impairment before the end of this annual period.

If the assets constituting the CGU to which goodwill has been allocated are tested for impairment at the same time as the unit containing the goodwill, they must be tested for impairment before the unit containing the goodwill. Similarly, if the CGU constituting a group of CGU to which goodwill has been allocated are tested for impairment at the same time as the group of units containing the goodwill, the individual units must be tested for impairment before the group of units containing the goodwill.

3. Can an entity re-use the calculation of the recoverable amount of a CGU estimated in a previous reporting period?

The most recent detailed calculation made in a preceding period of the recoverable amount of a CGU may be re-used provided all of the following criteria are met:

- 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 substantially exceeded the carrying amount of the unit; and
- based on an analysis of events that have occurred and circumstances that have changed since the most recent recoverable amount calculation, the likelihood that a current recoverable amount determination would be less than the current carrying amount of the unit is remote.

4. Is an entity required to conduct impairment testing for interim period closing?

IAS 36 states that an entity is required to assess at the end of each reporting period whether there is any indication that an asset may be impaired. If such

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an indication exists, the entity must carry out impairment testing.

Paragraph B36 of appendix B of IAS 34, *Interim financial reporting*, requires that the entity apply the same impairment testing, recognition, and reversal criteria at an interim date as it would at the end of its financial year. This does not mean, however, that the entity must necessarily conduct a detailed impairment calculation at the end of each interim period. Rather, the entity must review, at the end of each interim period, for indications of significant impairment since the end of the most recent financial year to determine whether such a calculation is needed.

In period of economic crisis, the most common indications of impairment are likely to include:

- failure to meet objectives established in business forecasts, plans and budgets;
- a carrying amount of equity greater than market capitalization.

Finally, a market capitalization that was lower than the carrying value of equity as of December 31, N-1 and that has not significantly changed since this date, does not systematically require the entity to test goodwill for impairment at the end of an interim period N provided the two following conditions are met: (1) the level of market capitalization was taken into account during the impairment test carried out at the end of the financial year N-1 and (2) there are no additional indications of impairment at the end of the interim reporting period N.

5. Can an entity reverse an impairment loss recognised on goodwill in a previous interim period?

IFRIC 10 states that an entity cannot reverse an impairment loss recognised on goodwill in a previous interim period. The concept of interim period includes quarterly and half-year financial statements.

Thus, impairment losses recognised on goodwill as of March 31 or June 30, N are permanent and cannot be reversed as of December 31, N or after.

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6. Does IAS 36 lead to test the value of equity for impairment?

IAS 36 does not lead to test the value of equity for impairment. Impairment testing under IAS 36 applies to assets recorded in the entity's balance sheet.

However IAS 36 does indirectly test the value of the equity of an investee whose shares are accounted for according to the equity method. Indeed in this situation, the investor needs to make sure that the recoverable amount of its equity share in the investee is greater than the carrying value of the investment.

7. At which level must the entity perform impairment testing for goodwill?

The standard states that for the purposes of impairment testing, goodwill acquired in a business combination must, from the acquisition date, be allocated to each of the acquirer's CGU, or group of CGU, that is expected to benefit from the synergies of the combination.

Each CGU or group of CGU to which the goodwill is so allocated must:

- represent the lowest level within the entity at which the goodwill is monitored for internal management purposes; and
- not be larger than an operating segment determined in accordance with IFRS 8.

Goodwill allocation according to IAS 36 raises the following questions:

- who is in charge of analysing the internal reporting?
- which level of internal reporting is it referred to? At the group level or at the business unit (BU) level?

In order to identify the lowest level at which the goodwill is monitored within the internal information system, the auditor may use the following criteria:

- is the unit management's performance assessed based on capital employed (ROCE)? If yes, this may indicate that the goodwill is monitored at this BU level;

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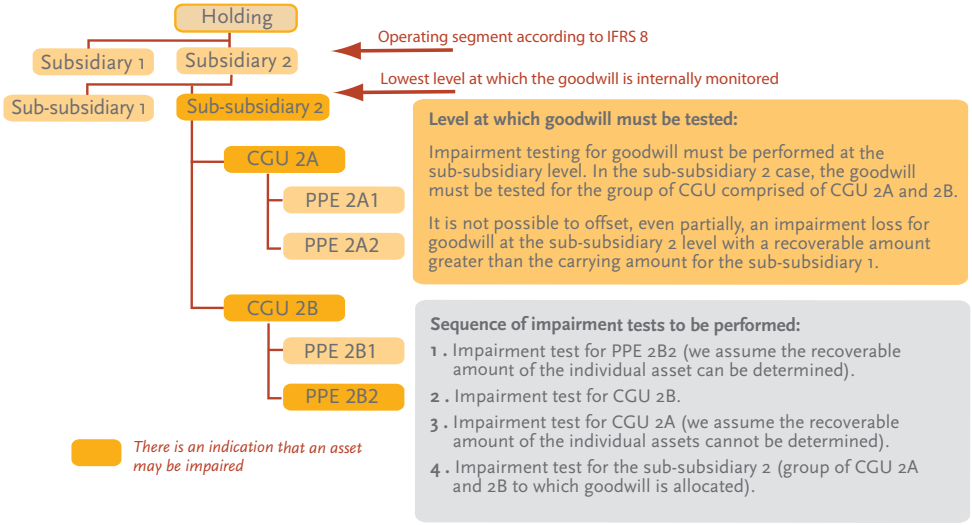
- is the unit management's performance assessed only based on P&L indicators? If yes, this may indicate that the goodwill is not monitored at this BU level for internal purposes;
- at a given organisational level, has the entity already included in the past a share of goodwill to calculate the disposal gain/loss of assets? If yes, this may indicate that the goodwill is monitored at this organisational level.



8. How much time does the entity have to allocate the goodwill generated in a business combination for the purposes of impairment testing?

IFRS 3 states that an entity has a period of 12 months after the acquisition date to finalise the allocation of the purchase price to the identifiable assets and liabilities that were acquired and thus to freeze the value of the goodwill.

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This goodwill must then be allocated to the different CGU. For the purposes of impairment testing, IAS 36 states that, if the initial allocation of goodwill acquired in a business combination cannot be completed before the end of the first annual period in which the business combination is effected, that initial allocation must be completed before the end of the following annual period.

Example of an acquisition as of April 1, N:

- the value of the goodwill must be frozen by March 31, N+1;
- allocation to the different CGU must be finalised by December 31, N+1.

This time-lag is explained by the fact that the entity may often not be able to perform the allocation before it calculates the final value of goodwill.

The standard states that, if any portion of the goodwill acquired in a business combination during the period has not been allocated to a CGU (or group of CGU) at the end of the reporting period, the value of the unallocated goodwill must be disclosed, along with the reasons for which this amount remains unallocated.

9. Is the entity required to perform impairment testing in the event of a recent acquisition for which goodwill allocation has not been finalised?

For the purposes of impairment testing, IAS 36.84 sets forth that if the initial allocation of goodwill acquired in a business combination cannot be completed before the end of the annual period in which the business combination is effected, that initial allocation must be completed before the end of the first annual period beginning after the acquisition date.

IAS 36.133 states that the amount of the unallocated goodwill must be disclosed together with the reasons why that amount remains unallocated.

IAS 36.96 establishes that if some or all of the goodwill allocated to a CGU was acquired in a business combination during the current annual period, that unit must be tested for impairment before the end of this annual period.

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From IAS 36.96, it is difficult to conclude whether, in the case of a recent acquisition, impairment testing is mandatory before the end of the annual period only in the event of definitive (not provisional) allocation of the goodwill to the different CGU:

- if not, the goodwill that was acquired must be tested before the end of the annual period;
- if yes, it seems to us that two cases must be distinguished:
  - the acquisition takes place before the mandatory annual impairment test of intangible assets with an indefinite useful life: the acquired goodwill is included in the mandatory annual impairment test;
  - the acquisition takes place after the mandatory annual impairment test of intangible assets with indefinite useful life: the entity must perform impairment testing only if there is an indication of significant impairment.

In case the allocation of goodwill has not been finalised, impairment testing takes place in two stages:

- the entity performs impairment testing at the CGU level excluding goodwill;
- then the entity performs impairment testing at the level of the smallest group of CGU to which the goodwill has been provisionally allocated.

10. Under what circumstances can the management change the allocation of goodwill to CGU for the purposes of impairment testing?

An entity can change the allocation of goodwill only if it reorganises its reporting structure in a way that affects the composition of one or more CGU to which the goodwill has been allocated.

IAS 36 states that the reallocation of goodwill must be performed on the basis of the relative carrying amount of the CGU or groups of CGU, unless the entity can demonstrate that another method better reflects the goodwill associated with the reorganised units.

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11. How will the amendment to IAS 36 published in April 2009 affect the allocation of goodwill to CGU or groups of CGU?

The IASB published an amendment to IAS 36 in April 2009. The amendment states that each CGU or group of CGU to which goodwill is allocated must not be larger than an operating segment before aggregation.

Under IFRS 8, operating segments with similar economic characteristics can be aggregated in order to reduce the number of segments disclosed in relation to the number of segments individually reviewed by the chief operating decision maker.

Because of the application of the amendment to IAS 36, companies which allocate goodwill to segments as disclosed in the note on segment information (i.e. after aggregation) could in the future be required to modify the amounts of impairment recorded on goodwill (annual periods beginning on or after January 1, 2010).

12. What should be done in the event of the disposal of all or part of a CGU?

In the event of disposal of all or part of a CGU to which goodwill has been allocated, the goodwill must be taken into account when determining the gain or loss on disposal.

If the disposal only relates to part of a CGU to which the goodwill has been allocated, the proportion of the goodwill to be derecognized is measured on the basis of the relative values of the operation disposed of and the portion of the CGU retained unless the entity can demonstrate that some other method is more appropriate.

Taking into account a part of the goodwill when determining the gain or loss on disposal of a CGU is a strong indication that goodwill is monitored internally at the organizational level of the CGU which has been disposed of. Consistency with the level of goodwill allocation should then be checked.

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13. How should goodwill be tested for impairment in the event of non-controlling interests?

In the case of a partial acquisition, IFRS 3 (revised) on business combinations can lead to the recognition of goodwill calculated on the acquirer's proportionate share in the acquiree (as opposed to the "full goodwill" method). The non-controlling interest's share in the goodwill is not recognised in the acquirer's consolidated financial statements.

However, IAS 36 states that, by convention, the goodwill must be tested for impairment based on the full goodwill including the non-controlling interest's share.

As a consequence, the goodwill attributable to non-controlling interest must be added to the carrying amount of goodwill ("gross-up"). This adjusted carrying amount is then compared to the recoverable amount.

Example: acquisition of 80% of a subsidiary ("partial goodwill" method):

- acquisition price: €110m;
- fair value of the identifiable net assets of the acquiree: €100m;
- goodwill recognised: €110m - 80 % * €100m = €30m;
- calculation of "full goodwill" (gross-up):

  €30m / 80 % = €37.5m, or

  €110m * 100 % / 80 % - €100m = €37.5m.

In the event impairment testing reveals an impairment loss, only the impairment loss corresponding to the recognised goodwill must be recorded.

14. How should the entity take into account corporate assets when performing impairment testing?

Corporate assets include group or divisional assets such as the building of a headquarters or a division of the entity, IT equipment or a research centre.

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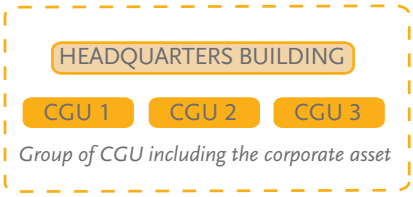
The distinctive characteristics of corporate assets are that they do not generate cash inflows independently of other assets or groups of assets and their carrying amount cannot be fully attributed to the CGU under review.

Because corporate assets do not generate separate cash inflows, the recoverable amount of an individual corporate asset cannot in general be determined. As a consequence, if there is an indication that a corporate asset may be impaired, the recoverable amount is determined for the CGU or group of CGU to which the corporate asset belongs, and is compared to the carrying amount of this CGU or group of CGU.



Implementation of impairment testing (we assume that there is an indication of impairment at the CGU and headquarters building level):

1 Impairment test on CGU 1, 2, and 3 (individually).

2 Impairment test on the group of CGU comprised of CGU 1, 2, and 3 and the corporate asset (headquarters building).

15. In what currency should cash flows be estimated under IAS 36?

Future cash flows are estimated in the currency in which they will be generated and then discounted using a discount rate appropriate for that currency. An entity translates the present value using the spot exchange rate at the date of the value in use calculation.

16. Is the entity required to disclose sensitivity analyses?

The entity must disclose information about sensitivity analyses if the following two conditions are met:

- the carrying amount of goodwill or intangible assets with indefinite useful life allocated to a CGU is significant;

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- a reasonably possible change in a key assumption on which management has based its estimate of the recoverable amount of the CGU could result in the carrying amount of the CGU exceeding its recoverable amount.

Sensitivity analyses should include the following disclosures:

- the amount by which the recoverable amount of the CGU exceeds its carrying amount;
- the value assigned to the key assumption;
- the amount by which the value assigned to the key assumption must change, after incorporating any consequential effects of the change on the other variables used to measure recoverable amount, in order for the recoverable amount of the CGU to be equal to its carrying amount.

The principal variables that are subject to sensivity analyses are:

- the discount rate;
- the perpetuity growth rate.

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17. Is an entity required to determine both the fair value less costs to sell and value in use when conducting impairment testing?

It is not always necessary to determine both an asset's fair value less costs to sell and its value in use.

If either of these amounts exceeds the asset's carrying amount, the asset is not impaired and it is not necessary to estimate the other amount. Thus it is possible to use the fair value less costs to sell as the recoverable amount even if the entity has no intention to dispose of the asset.

According to IAS 36.21, the value in use of an asset does not need to be determined if there is no reason to believe that its value in use materially exceeds its fair value less costs to sell. In this instance, the recoverable amount corresponds to the fair value less costs to sell.

18. Under what circumstances is fair value less costs to sell assumed to be the recoverable amount?

In practice, the circumstances under which fair value less costs to sell is assumed to be the recoverable amount are the following:

- recently acquired assets;
- assets held for sale and for which offers have been received;
- assets requiring future restructuring or major investments to which the entity is not yet committed. Indeed, the expected benefits of these investments and restructuring, net of the cash outflows related to their implementation, cannot generally be taken into consideration for determining value in use under IAS 36.

Layout: Mazars, Communication - CAH 19 - 12/09

19. Does IAS 36 authorise the use of fair value less costs to sell as the recoverable amount when the management has no intention of disposing of the CGU?

Yes. The recoverable amount is defined as the higher of an asset's fair value less costs to sell and its value in use. In the event that *Value in use < Net carrying amount < Fair value less costs to sell*, it is actually forbidden to use value in use as the recoverable amount and thus to recognise an impairment loss.

This approach may seem paradoxical when the entity has no intention to dispose of the CGU. The paradox may partly be explained by the fact that the calculation of value in use under IAS 36 is very restricted: impossibility to take into account capacity investments, explicit forecast period generally not exceeding 5 years, limited perpetuity growth rate, etc. It may thus, be that a CGU with strong growth outlook will have a value in use lower than its carrying amount, while the fair value less costs to sell, as determined based on market data, is greater than its carrying amount.

Layout: Mazars, Communication - CAH 19 - 12/09

20. What are the disposal costs which are included in calculating fair value?

Disposal costs notably include legal costs, stamp duty and similar transaction taxes, costs of removing the asset, and direct incremental costs to bring the asset into condition for its sale. Sales commissions and advisory fees directly linked to the transaction will also increase disposal costs.

However, disposal costs do not include termination benefits and costs associated with reducing or reorganising a business following the disposal of an asset.

21. What are the methods of determining fair value less costs to sell?

IAS 36 provides a hierarchy of methods of determining fair value:

- the best evidence of an asset's fair value less costs to sell is a price in a binding sale agreement in an arm's length transaction, adjusted for incremental costs that would be directly attributable to the disposal of the asset;
- if there is no binding sale agreement but an asset is traded in an active market, the fair value less costs to sell is the asset's market price less the costs of disposal. The appropriate market price is usually the current bid price;
- if there is no binding sale agreement or active market for an asset, fair value less costs to sell is based on the best information available to reflect the amount that an entity could obtain, at the end of the reporting period, from the disposal of the asset in an arm's length transaction between knowledgeable, willing parties, after deducting the costs of disposal.

What is meant, in practice, by "the best information available"?

- price multiples methods - recent transactions for similar assets:
  - multiples deriving from transactions completed on similar assets;
  - multiples deriving from market capitalisation of similar companies in the same business sector.

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- discounted cash flows method taking account of market data at the date of impairment testing.

22. When determining fair value less costs to sell, how should the entity apply the method of price multiples deriving from transactions completed on similar assets?

In applying the method of price multiples deriving from transactions completed on similar assets, the following principles should be applied:

- the reference transactions took place in the same business sector;
- the assets concerned are similar in terms of size and profitability;
- the reference transactions are recent. In the event the economic environment has significantly changed since the date of the reference transaction, fair value can no longer be based only on the transaction price, although this remains a reference for the evaluator. The need to refer to recent transactions may thus pose a problem when the number of transactions is limited;
- the reference transactions took place under normal competitive conditions between knowledgeable, willing and independent parties;
- account should be taken of any control premium or illiquidity discount;
- disposal costs are deducted to determine the fair value less costs to sell.

23. When determining fair value less costs to sell, how should the entity apply the method of price multiples deriving from market capitalisation of similar companies?

In applying the method of price multiples deriving from market capitalisation of similar companies, the following framework should be followed:

- listed companies are regarded as comparable if they are similar in terms of business sector, size, profitability and growth outlook (sales

revenue and margins). It can be difficult to select comparable companies due to the frequent absence of "pure players";

- the stocks of comparable companies must be listed in an active market;
- account should be taken of any control premium or illiquidity discount for the CGU subject to valuation;
- disposal costs are deducted to determine the fair value less costs to sell.

24. What are the conditions to use the discounted cash flows method to calculate fair value less costs to sell?

The application of this method requires strict respect of the following conditions:

- cash flow projections must be based on assumptions which market participants would use. The assumptions may not therefore be based on management opinions not supported by market assumptions;
- there must be verifiable evidence that these assumptions would be taken into account by the market, relying if necessary on external opinions (business sector studies, analysts' notes, expert reports).

25. Under what circumstances may cash flow projections based on market assumptions differ from cash flows determined on the basis of the entity's assumptions?

The market may anticipate a need to implement strategic plans so that the enterprise achieves business growth and/or profitability more in line with sector standards. If there are clear indications that they would be taken into account by market players, the effects of these strategic plans are taken into account in the determination of the fair value less costs to sell. However, the effects of these strategic plans cannot be taken into account in the calculation of value in use.

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Practical difficulties in calculating fair value less costs to sell

Market participants and the entity's management may assess differently assets use, growth and business profitability. Generally, market cash flows may not take into account a growth in sales revenue or a level of profitability greater than those prevailing in the sector, unless these levels are anticipated and shared by market participants.

The fact that the entity must calculate fair value less costs to sell on the basis of cash flows anticipated by the market raises problem in periods of economic crisis. Indeed, we may well question whether market participants have a better knowledge of future cash flows than entity's management.

Determining cash flows on the basis of market assumptions is difficult to apply in the case of unlisted companies.

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26. How long should the explicit forecast period be for future cash flows?

For a finite useful life asset, the forecast period corresponds to the duration of its remaining useful life (e.g. construction contract, concession contract, lease, etc.).
For an indefinite useful life asset, the options are as follows:

- short forecast period (3 years):
  - benefit: reliability of forecasts over the explicit forecast period;
  - drawback: greater weight given to the terminal value. It may represent between 80 % and 90 % of value in use.
- maximum forecast period (5 years):
  - benefit: reduction in the weight of the terminal value. It generally represents between 60 % and 80 % of value in use. We recommend that, as far as possible, the entity adopts a forecast period of 5 years to reduce the weight of the terminal value, which is difficult to estimate with precision;
  - drawback: estimation of forecasts.

For entities with a strong growth rate over the early years of the business plan, it may be helpful in practice to add two or three years to the end of the five-year forecast period in order to reduce the growth rate gradually. Indeed, IAS 36 states that the perpetuity growth rate used in calculating terminal value may not be greater than historical growth, sector growth or that of the economy without special justification. Reducing growth rates over two or three years avoids the "step" effect and reduces the impact of the terminal value.

27. What future cash flow projections should be used for carrying out an impairment test?

The entity must base cash flow projections on the most recent financial forecasts approved by management, neutralising any elements such as:

- external growth investments;
- capacity and performance investments; however, cash flows include

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renewal investments whose objective is to maintain assets in their current condition, net of disposals;

- the impact of a future restructuring to which an enterprise is not yet committed (neutralisation of future cash outflows, related cost savings and expected advantages).

The recoverable amount must be estimated based on the asset or group of assets' current condition at the end of the reporting period.

28. Should working capital be included in the assets comprising the CGU?

Cash flows generated by the use of the asset tested are largely independent of the cash flows generated by operating receivables and payables: the value of the asset is independent of the entity's management of the working capital.

However, the standard indicates that for practical purposes, the recoverable amount can be determined taking account of operating receivables and payables. In this instance, the carrying amount of the CGU is determined by including these receivables and payables (homogeneity).

In practice, entities often do take account of the working capital in determining a CGU's carrying valve.

29. Should liabilities be included in the carrying amount of a CGU?

The standard recommends that liabilities should not be taken into account when determining the carrying amount of the CGU except when the recoverable amount cannot be determined otherwise.

However, in practical terms, two approaches are possible:

- taking liabilities into account when determining the carrying amount of the CGU, and taking into account the corresponding cash outflows;

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- excluding liabilities when determining the carrying amount of the CGU, and excluding the corresponding cash outflows.

In most cases, entities do not take account of liabilities in the carrying amount of the CGU.

30. How should the normalised cash flow be determined?

Management forecasts are usually established for the next three to five years. Beyond this, only extrapolation is generally acceptable. In practice, it is possible for entities with a strong growth rate in the early years of the business plan to extrapolate cash flows over two or three years beyond the explicit forecast period adopted by management in order to smooth the decrease in growth rate.

In practice, two situations can arise when defining the normalised cash flow:

- management is able to determine the normalised cash flow at N+6: this cash flow will be used;
- management is unable to determine the normalised cash flow: financial theory recommends that management adopts, as a starting point, the last known cash flow and determines the normalised cash flow as follows:
  - levels of activity and margin of the last cash flow in the explicit forecast period. A critical look should be taken at the last cash flow in the explicit forecast period in order to adjust it for seasonal transactions which are spread over several years (maintenance expenditures incurred every three years for example);
  - recurrent normalised investments (investments = depreciation expenses). This is a practice largely accepted by market participants. Depreciation expenses should be aligned with renewal investments and not vice versa. This simplification should be adapted in the case of very capital-intensive activities where depreciation expenses are often lower than investments;

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➤ for simplicity's sake, changes in working capital are often not taken into account. However the variation of working capital should be consistent with the growth rate. The working capital variation rate may be estimated using the following formula (5-year explicit forecast period):

$$\Delta WC\% = \frac{\Delta WC5 \times (SR_{TV} - SR5)}{(SR5 - SR4)}$$

WC = Working capital
SR = Sales revenue
TV = Terminal value

Non-recurrent elements included in the projected cash flows should always be identified.

31. How is terminal value calculated?

Terminal value can be estimated through an EBITDA multiple. However, it is generally determined on the basis of the capitalisation to perpetuity of the normalised cash flow. In practice it is therefore calculated using the Gordon-Shapiro formula:

$$TV = \frac{CF}{(k-g)} \times \frac{1}{(1+k)^n}$$

CF = Normalised cash flow
n = Explicit forecast period
k = Discount rate
g = Perpetuity growth rate

The normalised cash flow is calculated as follows:

SR_p * (1 + g) * Normalised margin - Normalised replacement investments +/- Change in WC

where: SR_p = Sales revenue of the last cash flow of explicit forecast period
g = Perpetuity growth rate

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32. How does an entity determine the perpetuity growth rate used in the calculation of terminal value?

The perpetuity growth rate is the rate used to project a series of forecasts to perpetuity. Under IFRS, the terminal growth cannot be greater than historical growth, the growth of the business sector or that of the economy without special justification.

The perpetuity growth rate is one of the most sensitive factors in the valuation; it is also one of the trickiest to assess, because there is no consensus.

The rates generally adopted are lower than or equal to average growth rates in the country in question.

In practice:

- the perpetuity growth rate adopted should be compared with other companies in the same business sector and with brokers' notes;
- the perpetuity growth rate varies from one business sector to another. Generally, in developed countries, we see:
  - a growth rate of 1.5 % for mature businesses;
  - a growth rate of 3 % for dynamic businesses.
- a high perpetuity growth rate may be justified by:
  - a dynamic business;
  - a developing country experiencing rapid growth.
- it is helpful to disclose a sensitivity table to evaluate the impact of a change in perpetuity growth rate.

33. How should an entity take account of inflation in calculating value in use?

The answer to this question depends on the construction of the business plan (BP):

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- if the BP is established using current cash flows (including inflation), the WACC and the perpetuity growth rate must include inflation;
- if the BP is established using constant cash flows, the WACC and the perpetuity growth rate must be adjusted for inflation.

It is important to note that financial theory assumes that the inflation rate is included in the risk-free rate.

34. Is the discount rate a pre-tax or post-tax rate?

Future cash flows estimates should not include inflows and outflows associated with income tax. Consequently, IAS 36 requires that the entity use a pre-tax discount rate.

When only the post-tax discount rate is available, it must be adjusted. Paragraph Z85 of IAS 36 *Basis for Conclusions* indicates that, if the calculation is carried out after tax, it is necessary to determine, by an iterative process, the inferred pre-tax rate.

In practice, the determination of a pre-tax rate can be difficult, and the *Basis for Conclusions* indicate that the rate may be a post-tax rate if this method gives the same results as with a pre-tax rate.

In most cases, entities use a post-tax rate applied to post-tax cash flows.

35. Can the Weighted Average Cost of Capital (WACC) be used as discount rate for the purposes of impairment testing?

The discount rate must be independent of the entity's actual financial leverage: it is a pre-tax rate reflecting the rate of return investors would require if they were to choose an investment that would generate cash flows of amounts, timing and risk profile equivalent to those that the entity expects to derive from the asset.

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The WACC provides a first basis which must be adjusted to reflect asset-specific risks and to neutralise the specific financial leverage (i.e. point that creates differences with market expectations). It is important to use a sectoral gearing (or target gearing). Thus the use of an entity's WACC without adjustment is a frequent error.

For entities evolving in a non-leveraged sector, such as banking and insurance companies, the discount rate corresponds to the normalised sectoral cost of equity.

36. How should an entity calculate the discount rate used in impairment testing?

The discount rate is the rate which an investor would require for an investment with the same cash flows and risk profile. The standard defines the discount rate as a rate that reflects current market assessments of the time value of money and the risks specific to the asset for which the future cash flow estimates have not been adjusted.

For the purposes of impairment testing, the discount rate may be estimated from the WACC applicable to the business sector. This requires a relevant sample of comparable companies in order to determine a sectoral rate with the following parameters:

- the average financial leverage for the business sector: D/(D+E), where E is the market value of equity and D the market value of the financial debt;
- cost of equity (Ke) which corresponds to the sum of a risk-free rate and a risk premium. This consists of the following parameters:
  - risk-free rate (Rf);
  - market risk premium (Rm-Rf);
  - sectoral volatility coefficient, ß. This is established by calculating the average unleveraged ß to which is applied the sectoral financial leverage;
  - any specific risk premium (Rs). The main specific risk premiums are (a) the size premium, (b) the illiquidity premium (c) the country risk premium and (d) the premium associated with an optimistic business plan.

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The cost of equity is calculated as follows: $Ke = Rf + \beta \times (Rm-Rf) + Rs$

- the cost of debt after taxes (Kd) which corresponds to the risk-free rate plus a spread consistent with the entity's size and specific risks.

The WACC is calculated as follows: $Ke \times (1-FI) + Kd \times (1-Tax) \times FI$
Where FI = Financial leverage = D/(D+E)

37. How is the cost of equity calculated?

There follows detailed guidance of how to determine the parameters used in calculating the cost of equity in accordance with the formula set out in Question 36.

Risk-free rate (Rf):

- The risk-free rate used corresponds to government bonds in the same area of activity as the CGU assessed over a period consistent with the forecast period used for cash flows.
- For a CGU in France, when testing an indefinite useful life asset, the reference rate is usually that of French government bonds with a maturity of 10 years.
- It is recommended to use an average rate over three months at the date of the test, rather than a spot rate, to reduce the impact of variations.
- When the CGU covers several geographical areas, it is usually possible to use the risk-free rate of the largest geographical area.

  Examples:
  - 80 % of sales revenue in the US, 10 % in Europe and 10 % in Asia;
  - French entity reporting in euros but with 60 % of sales revenue in the US.

  The US risk-free rate can be applied in both cases.

Market risk premium (Rm-Rf):

- The market risk premium is the average additional return expected when investing in stocks rather than in a risk-free investment; it is calculated by the difference between the spot risk-free rate and the rate of return expected on the equity market.

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- A prospective approach is generally used to determine the market risk premium. Based on a sample of financial analyses of entities, market risk premium reflects the average of premiums over the next 12 months period published by financial analysts.
- This parameter therefore depends on the method adopted and the geographical area covered by the CGU.
- The market risk can thus vary from one CGU to another, from one geographical area to another, from one business sector to another, etc.

Sectoral volatility coefficient ß:

- To determine the sectoral volatility coefficient ß, a sample of comparable listed entities is required. Theoretically, comparability is established in accordance with the following five criteria:
  - business sector;
  - market capitalisation;
  - sales revenue and growth outlook;
  - profitability (level of margin);
  - financial leverage.
- The average leveraged volatility coefficient ß for the business sector is then determined as follows:
  - first determine the leveraged ß of each entity in the sample;
  - then, for each entity, an unleveraged ß is derived using the following formula: *unleveraged ß = leveraged ß / [1 + (1-Tax) x (D/E)]*

    the coefficient D/E corresponds to the specific gearing of each entity; the tax rates are normalised rates;
  - on the basis of the unleveraged ß for each entity in the sample, an average sectoral unleveraged ß is calculated;
  - from this, an average sectoral leveraged ß is reached using the following formula: *leveraged ß = unleveraged ß * [1 + (1-Tax) x (D/E)]*

    an average sectoral gearing over the last 3 years is applied to reduce the impact of short-term fluctuations.
- Interpretation of ß:
  - ß < 1: volatility of the entity's stocks is lower than the benchmark index;
  - ß > 1: volatility of the entity's stocks is greater than the benchmark index.

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Selecting the sample is often tricky because of the absence of "pure players" in most cases. It is therefore important to choose the sample carefully, identifying comparable entities in accordance with the five criteria set out above (ideally). Because of this difficulty, it is recommended to use a sample consisting of, on average, six or seven entities. This reduces the risk, while offering the option of establishing a composite sample. However, one should not forget to make this sample lasting over time.

38. How is the cost of debt calculated?

The pre-tax cost of debt corresponds to the risk-free rate plus a risk premium.

An alternative method may be to determine the cost of credit taking into account the theoretical rating of the risk.

In practice, the cost of debt must be regularly updated and is calculated on the basis of:

- the entity's credit rating;
- the cost of debt on a recent transaction.

Warning!
Lower refinancing rates established by central banks do not always result in a reduction in the cost of debt. The tightening of credit conditions due to the financial crisis increases funding spreads, thus increasing the cost of debt.

39. How are discount factors determined?

This assumes an explicit forecast period of five years. Unless there are marked seasonal fluctuations, it is also assumed that cash flows are generated linearly over the period. A mid-period discount factor is therefore applied.

Formula as of June 30, 200N:

$$Present\ value = \frac{CF_{H2\ 200N}}{(1+k)^{0.25}} + \frac{CF_{200N+1}}{(1+k)^{1}} + \frac{CF_{200N+2}}{(1+k)^{2}} + \frac{CF_{200N+3}}{(1+k)^{3}} + \frac{CF_{200N+4}}{(1+k)^{4}} + \frac{CF_{n}}{(k-g)} \times \frac{1}{(1+k)^{4}}$$

Formula as of December 31, 200N:

$$Present\ value = \frac{CF_{200N+1}}{(1+k)^{0.5}} + \frac{CF_{200N+2}}{(1+k)^{1,5}} + \frac{CF_{200N+3}}{(1+k)^{2,5}} + \frac{CF_{200N+4}}{(1+k)^{3,5}} + \frac{CF_{200N+5}}{(1+k)^{4,5}} + \frac{CF_{n}}{(k-g)} \times \frac{1}{(1+k)^{4,5}}$$

CF_n = Normalised cash flow
t = Discount rate
g = Perpetuity growth rate

40. What sources of information are available for calculating value in use?

To put the assumptions of the business plan into perspective, the following sources are available:

- past / forecasts analysis (budget N-1 / actual N-1; budget N / actual N-1);
- market studies;
- analysts' notes.

Several sources can be used for market data:

- cost of equity:
  - risk-free rate: financial information agencies and/or central banks in the relevant countries;
  - coefficient of volatility ß: financial information agencies;
  - market risk premium: analysts' notes, special studies;
  - size and illiquidity discount: financial information agencies and/or specific calculation.

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- stock market data:
  - past comparable companies: financial information agencies, stock market websites, etc.;
  - future comparable companies: financial information agencies, analysts' notes;
  - financial leverage of comparable companies: balance sheets, financial information agencies.
- comparable transactions: financial information agencies, specialist press and the Internet.

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