Project	**Financial Instruments (Replacement of IAS 39) – Hedge Accounting**
Topic	**Main Features of the Hedge Effectiveness Test**

Introduction

Background

1. The Board has discussed the model for the *assessment* of hedge effectiveness (ie the 'effectiveness test') at several previous meetings.

Purpose of the paper

2. This paper describes the main features underlying the assessment of effectiveness based on the previous Board discussions. The paper has the following structure:

    (a) Overview of the issue.

    (b) Main features of the effectiveness test.

    (c) Summary and question to the Board.

3. This paper addresses the aspects of the *assessment* of hedge effectiveness following the structure in the diagram below:
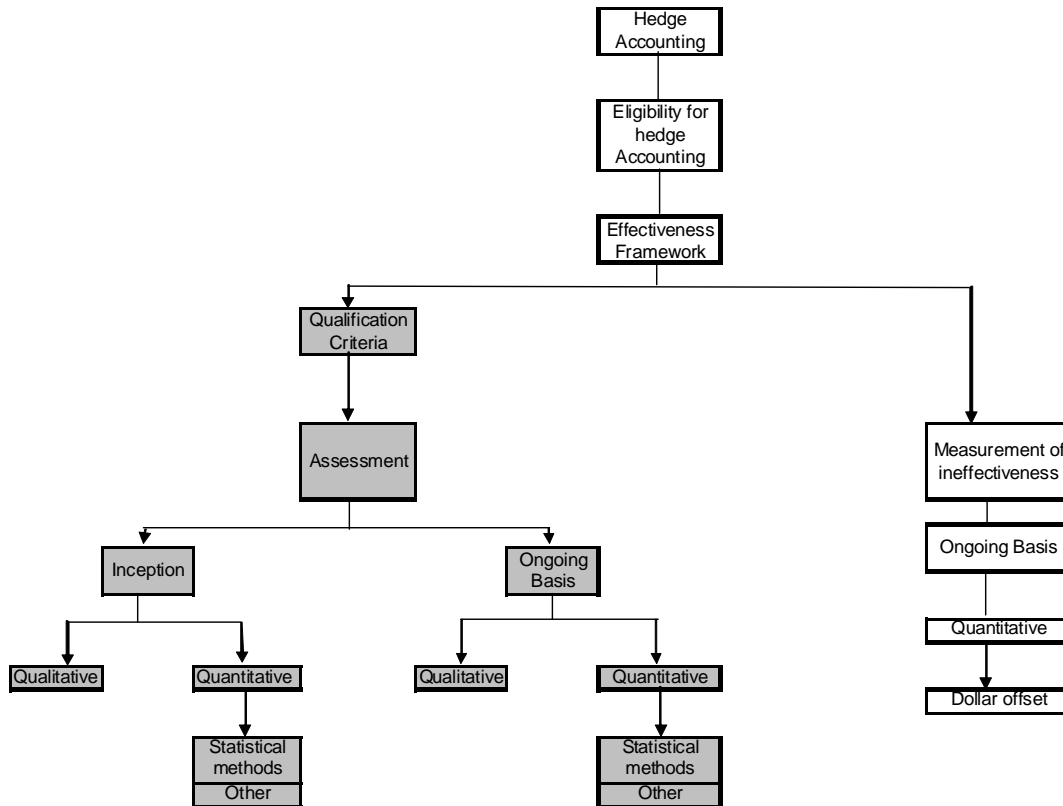
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                          │    Hedge     │
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The issue

4.   What are the key features of the assessment of hedge effectiveness under the
      new hedge accounting model?

Summary of the discussions held at the 3 August Board Meeting

5.   At the 3 August meeting the Board continued its discussion of the new
      effectiveness test. Many expressed a view in favour of an effectiveness test that
      would use a notion of 'neutrality' of the hedging relationship as a qualifying
      criterion. The Board asked the staff to explore this criterion as part of the
      development of the effectiveness test.

6.   It was argued that risk management aims to get the best hedging relationship that
      is available for the entity and this shall be the one that makes the hedge ratio
      'neutral'. Additionally, some argued that they may allow changes in the method

for assessing effectiveness to evaluate levels of ineffectiveness that were not expected at inception and potentially allow adjusting the hedge ratio if the optimal ratio changes during the hedging relationship as a result of those sources of ineffectiveness.

The main features of the effectiveness test

7.   The staff believes that the discussions described above encompass four issues:

(a)   The objective of the effectiveness assessment.

(b)   The notion of 'neutrality' of the hedge and issues arising from its practical application.

(c)   The frequency of the effectiveness assessment and the reassessment (if applicable) of the hedge ratio.

(d)   The role of the methods used for performing the effectiveness assessment.

8.   The diagram presented in paper 4 provides an overview of the role that the notion of 'neutrality' has within the current guidance in IAS 39 and in the context of the new effectiveness test. A narrative description is presented in paragraphs 9 to 36 below.

The objective of effectiveness assessment

9.   Based on the Board's previous discussions of the new hedge effectiveness test the staff believes that the *objective* of the effectiveness assessment is to ensure that the hedging relationship that will produce an unbiased result and minimise ineffectiveness.

10.   This acknowledges that many types of hedging activities inevitably involve some ineffectiveness that cannot be eliminated. However, this objective means for accounting purposes that in establishing the hedging relationship there should be no expectation that changes in the value of the hedging instrument will systematically either exceed or be less than the change in value of the

hedged item. Therefore, hedging relationships should not be established for accounting purposes in such a way that they include a deliberate mismatch in the weightings of the hedged item and of the hedging instrument.

The notion of 'neutrality' of the hedge

11. The following section provides an analysis of how this objective of the new hedge effectiveness assessment (reflecting the notion of 'neutral') relates to IAS 39. The purpose of the analysis is to identify to what would change, and why, by contrasting it to IAS 39.

12. The notion of a 'neutral hedge' is to some extent reflected in paragraph AG107A of IAS 39:

> If an entity hedges less than 100 per cent of the exposure on an item, such as 85 per cent, it shall designate the hedged item as being 85 per cent of the exposure and shall measure ineffectiveness based on the change in that designated 85 per cent exposure. However, when hedging the designated 85 per cent exposure, the entity _may_ use a hedge ratio of other than one to one if that improves the expected effectiveness of the hedge, as explained in paragraph AG100. [_emphasis added_]

13. That paragraph is confusing. It addresses two different aspects, one of which is prohibited to ensure actual ineffectiveness is recognised, and the other of which is permitted to improve expected effectiveness. Both aspects affect the *hedge ratio* (ie the ratio of the quantity of the hedging instrument that is designated against the quantity of the hedged item) used for hedge designation:

   (a) Headroom – which an entity is *prohibited* from including in determining a hedge ratio for hedge accounting purposes. This is to ensure that actual ineffectiveness is recognised and has nothing to do with improving expected effectiveness (ie effectiveness assessment); and

   (b) Correlation – which an entity is *permitted* to use in determining a hedge ratio to improve expected effectiveness (which has nothing to do with directly ensuring recognition of any actual ineffectiveness).

Headroom

14. **Headroom** relates to situations where an entity does not hedge the entire volume of an exposure but leaves a part of it unhedged.

15. For example, if the hedged item is a forecast transaction the transaction volume is often based on an estimate and an entity hedges only part of the expected transaction volume (eg 85% of a month' expected sales in a foreign currency). Entities might also want to only hedge part of the volume of an exposure (even if certain) that reflects a target level of risk reduction and retain some exposure (eg swap 50% of fixed rate funding into variable). Leaving headroom is sometimes described as 'underhedging'. This meaning relates to the risk management activity (**not** accounting).

16. IAS 39.AG107A *prohibits* an entity from including such headroom in a hedge accounting relationship by way of designating a hedge ratio of *other than* one to one.

17. If headroom could be included in the hedge accounting relationship an entity could (to some extent) avoid *recognising* hedge ineffectiveness in profit or loss for cash flow hedges because of how the 'lower of'[1] test works. This is because the change in fair value attributable to the headroom on the overall exposure would be included in the cumulative change in the hedged item that is compared against the change in fair value on the hedging instrument. This deliberate mismatch in the quantities of hedged item versus hedging instrument would provide a cushion that absorbs changes in the fair value of the hedging instrument that would otherwise be recognised as hedge ineffectiveness in profit or loss. The inclusion of headroom in a hedge accounting relationship is sometimes also referred to as 'underhedging'. However, note this meaning relates to hedge accounting (rather than the risk management activity).[2]

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[1] IAS 39.96(a).
[2] Note the difference to the notion of headroom in the risk management sense (see paragraph 15).

18. Hence, regarding the headroom aspect IAS 39.AG107A relates to the *recognition* of hedge ineffectiveness – not the effectiveness (assessment) test.[3]

Correlation

19. **Correlation** relates to the statistical relationship between the hedging instrument and the hedged item. This relationship may be used to determine the hedge ratio that is (expected to be) most effective.

20. For example, an entity with AUD as its functional currency hedges its foreign exchange risk exposure from a firm commitment to purchase a machine for 1m EUR using a forward contract. If the entity wants to hedge the entire volume then a forward contract to purchase EUR and deliver AUD with a nominal amount of 1m EUR would give the best effectiveness (ie a hedge ratio of one to one as the quantity for both the hedging instrument and the hedged item is 1m EUR).

21. Conversely, assume an entity hedges a purchase of 100t of a commodity of a certain grade in Location A and that the commodity usually trades at 90% of the price for exchange traded benchmark grade of the same commodity in Location B. If the entity wants to hedge the entire purchase volume with an exchange traded forward contract then a forward contract to purchase *90t* of the benchmark grade of the commodity in Location B would give the best effectiveness (ie a hedge ratio of 1.11 to one[4]).

22. IAS 39.AG107A *permits* an entity to use a hedge ratio of other than one to one if that improves the expected hedge effectiveness. This allows entities to designate a hedging relationship choosing a hedge ratio that improves expected

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[3] The prohibition to include headroom affects the hedge ratio and thus indirectly also affects the effectiveness test, which is based on the hedge ratio as designated. However, since including headroom would create hedge ineffectiveness (that for cash flow hedges just would not be recognised) the effectiveness test could not be compromised by including headroom in a hedging relationship. Instead, there is a trade-off in that the more headroom would be included the less likely the effectiveness test would be met.

[4] A quantity of 100t of commodity purchases is hedged with 90t of the benchmark commodity, ie 100/90. When determining the optimal hedge ratio using a statistical analysis (eg regression) the optimal ratio hedge ratio is given by the inverse of the slope of the regression line (or the slope – depending on whether the hedged item is used as the independent or dependent variable).

effectiveness and so maximises the likelihood of passing the effectiveness test. This relates to fair value hedges and cash flow hedges alike.

23. Hence, regarding the correlation aspect IAS 39.AG107A relates to the effectiveness (assessment) test – improving expected effectiveness – rather than the recognition of hedge ineffectiveness.[5]

'Neutral' hedges

24. Therefore, a 'neutral hedge' could be interpreted as one that is designated such that the hedge ratio is expected to maximise the hedge effectiveness (or minimise ineffectiveness), ie result in a _target_ effectiveness of 100%. At the same time, this would also ensure that the hedge ratio does not result in including headroom in the hedging relationship.

25. This notion of a 'neutral hedge' would be different from IAS 39.AG107A in that:

   (a) choosing the optimal hedge ratio would be required rather than permitted[6];

   (b) it would apply to all scenarios, ie cash flow and fair value hedges as well as situations where the quantity of the hedged item is higher than that of the hedging instrument and vice versa (whereas IAS 39.AG107A only mandates requirements for a headroom scenario).

26. This change reflects that the new effectiveness test does not involve a bright-line. In contrast, IAS 39 uses the 80%-125% range for the effectiveness test, which means that if an entity does not choose the optimal hedge ratio it

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[5] The adjusted hedge ratio allows maximising hedge effectiveness, which at the same time has the effect of minimising the hedge ineffectiveness. Hence, for a fair value hedge there is no trade-off between the objective of passing the effectiveness test and minimising the effect of hedge ineffectiveness on profit or loss. Even for a cash flow hedge there is no trade-off because if there is no headroom then choosing a hedge ratio other than the optimal one will either create an 'overhedge' or result in an 'underhedge' but with part of the hedging instrument's volume remaining undesignated. Hence, in both scenarios the 'lower of' test does not provide an opportunity to designate a sub-optimal hedge ratio that would achieve an overall (ie including the effect of any undesignated part of the hedging instrument) reduction of volatility in profit or loss.

[6] See IAS 39.AG100 and AG107A (both explicitly state that a hedge ratio of other than one to one '**may**' be used if that improves expected effectiveness.

increases the likelihood of failing that narrow range. In other words, the bright-line in IAS 39 creates a trade-off, which provides a barrier against choosing hedge ratios that are significantly different from the optimal ratio (ie biased).

27. The new effectiveness test uses an objective instead of a bright-line. Therefore, the objective needs to address the aspect of the hedge ratio that presently is not directly addressed but indirectly through the bright-line.

Practical implications of using the notion of a 'neutral hedge' for the effectiveness test

How to determine the hedge ratio

28. Moving towards a model relying on a 'neutral hedge' as a qualification criterion means that if entities want to qualify for hedge accounting, they will need to be able to justify the adequacy of the hedge ratio used for hedging relationships. This is essentially a function of the way the hedging relationship is designed that is ultimately reflected in the weightings of the hedged item and hedging instrument.

29. Statistical tools can be used to determine the 'optimal' hedge ratio. However, they involve increased complexity and are normally used when entities want to apply a 'tighter fit' to the hedge ratio in scenarios that are less straightforward. For example, this may be the case if the hedging relationship involves basis risk (this can also arise due to cost efficiency considerations, eg when the hedged item is similar to but not identical to the underlying item of the hedging instrument). The staff believes that irrespective of the method used to calculate the hedge ratio, it should achieve the objective described in paragraph 9.

30. For example: when hedging non-financial assets the determination of the size of the hedging instrument is often performed using averages of the long term hedge ratio that has proven to be the most effective in accordance with the entity's risk management (this is primarily a ratio-based analysis). This often reflects a statistical relationship that is stable and subject to regular adjustments based on the entities' risk management experience. However, if entities consider that a set of data wider than the long-term ratio provides a more robust proxy when determining the 'optimal' hedge ratio, statistical techniques might be considered.

31. If statistical techniques are used to determine the optimal hedge ratio the time series and methods should be consistent by type of hedge. This also relates to the robustness of the method used to determine such ratio.

32. This reflects the main activities performed by risk management and therefore data used for decision-making purpose should be the main source of evidence when demonstrating the appropriateness of the hedge ratio. Entities will have the option of applying statistical techniques as well as other methods. The method used needs to be sufficient to demonstrate that the objective of the effectiveness test is achieved, which means they will also depend on the complexity of the particular hedge.

33. The adequacy of the hedge ratio should be justified at the beginning of each reporting period. If there are changes in the hedging relationship that require from a risk management perspective a rebalancing of the hedge, the hedge ratio should be adjusted. All ineffectiveness is recognised in the income statement prior to the rebalancing.

34. As result of the above, hedging relationships for which the objective is not achieved will be excluded from the scope of hedge accounting. This can be described as a *screen-out*. This means, both dimensions of AG107A will be captured (headroom and correlation). For the correlation aspect, preparers will be left with the onus of demonstrating the adequacy and robustness of the data collated and methodology used for calculating the optimal hedge ratio (as described in paragraphs 28 to 32 above).

Additional considerations

35. As discussed in previous Board papers,[7] the aspect of *accidental offsetting* should also form part of the model. This will supplement the optimal hedge ratio *screen-out*, ie it is in addition to the objective. It aims to enforce the existence of an economic relationship between hedging instrument and hedged

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[7] Refer to papers 7, 7A and 7B presented to the Board at the meeting held during the week commencing on 19 July 2010.

item so that achieving the objective is not accidental[8]. It has the function of a *definition* as it determines what type of relationships between instruments and exposures fall under the accounting notion of a hedging relationship.

36. This can be illustrated by the example used earlier to explain how the hedge ratio is chosen for a commodity hedge based on the statistical relationship between the price of that commodity for different grades and locations (see paragraph 21). Assume the forward contract was not an exchange traded instrument but a bilateral, uncollateralised contract. If the counterparty to the forward contract had a sudden, severe deterioration in its credit standing then the offset between the change in the value of the future commodity purchase and the change in fair value of the hedging instrument would be accidental because the effect of the change in the credit standing of the counterparty is unrelated to and dominates the effect of changes in the commodity price. The optimal hedge ratio of 1.11 to one (ie hedging 100t of purchases with a forward contract volume of 90t) would still be driven by the commodity price changes though and hence remain valid with regard to the correlation aspect of AG107A.[9]

37. Another way of looking at the relationship between the two screen-outs is as follows:

    (a) a hedging relationship has to meet a definition that includes the notion that the offset is not merely accidental; <u>and</u>

    (b) a hedging relationship (that meets the definition) then must meet the objective in order to qualify for hedge accounting.

Ramifications for other areas of hedge accounting

38. Finally, the requirement for the hedge to be 'neutral' creates a knock-on effect on some areas of hedge accounting – particularly risk components and dynamic hedging:

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[8] The existence of a statistical relationship is not on its own a firm indicator that an economic relationship exists, hence the need for the accidental offset *screen-out*.
[9] It would actually be as good as impossible to include the sudden, severe development in the credit standing of the counterparty in a statistical analysis in a meaningful way.

(i) For hedging of risk components, if the component being hedged could not be treated separately (for example the crude oil component of the jet fuel price), the hedge ratio will be influenced by the noise of the residual components left in the hedged item (refining margin in this case).

(ii) For dynamic hedging, neutrality is a function of what is being hedged (for example volatility of the price of gold in a delta hedging strategy) and often cannot be expressed as single ratio but as a blended ratio that results from the combination of hedging instruments that might be derivatives and non-derivatives (for delta hedging a call option and a loan from short-selling the underlying asset).

Frequency of effectiveness assessment and reassessment of the hedge ratio

39. The Board tentatively agreed at the July 2010 meeting that the effectiveness testing model should use a *forward-looking* approach to hedge effectiveness.

40. Taking the *forward looking* approach as a starting point, the staff believes that the Board's position was as follows:

(a) Hedging relationships should be qualitatively or quantitatively assessed for effectiveness at the inception of the hedge and on an ongoing basis. Determining the type of assessment depends upon the relevant characteristics of the hedging relationship and the impact that the sources of ineffectiveness have on the expected effectiveness of the hedging relationship. If the relevant characteristics and the sources of ineffectiveness change then the type of assessment shall be adjusted accordingly.

(b) Changes in the relevant characteristics of the hedging relationship and sources of ineffectiveness might include, for example, changes in the credit risk of the hedging instrument and the hedged item, including the effect of changes in the credit standing of the counterparty to the hedged item and hedging instrument, changes in the timing or amount of the cash flows or achieving a trigger event (eg a barrier) in a contract

containing option features, changes in the type of extent of basis differences etc.

41. The frequency of the effectiveness assessment is an important consideration in the context of the objective of the new effectiveness test. This is because the need to keep the hedging relationship 'neutral' is related to the changes within the hedging relationship and the tracking of those performed by preparers. As a result, reassessment of the hedge ratio shall be performed on an ongoing basis at the beginning of the reporting period or upon a significant change in the assumptions underlying the effectiveness assessment (whichever comes first). Significant changes include a change in the credit standing of the counterparty to the hedged item and hedging instrument, significant change in the behaviour of the basis risk etc.

42. Because all ineffectiveness will be immediately recognised in the income statement (refer to paragraph 33) and there is the requirement to reassess the appropriateness of the hedge ratio at the beginning of each reporting or upon a significant change, the *retrospective test* to determine the point at which the hedging relationship ceased to be effective and therefore subject to discontinuation becomes irrelevant. (The discontinuation and dedesignation issue will be presented to the Board at a later stage)

Methods for performing the effectiveness assessment

43. During the last two Board discussions, Board members expressed their preference for a model that would not prescribe any method for the effectiveness assessment. Hence, the method that the entity adopts for assessing hedge effectiveness depends on its risk management.

44. Additionally, some Board members expressed their preference for a model that would allow entities to change the assessment if upon reassessment there are unexpected levels of ineffectiveness.

45. The staff believes that not prescribing any method for effectiveness assessment represents a full alignment with entities risk management. However, as mentioned in previous papers,[10] the stage of development and robustness of risk management amongst entities is diverse and therefore, there should be a presumption that irrespective of the method used it should capture the uncertainty factors involved in the hedging relationship so that they are assessed.

46. The staff also believes that allowing a change in the method shall be mandatory if that change in method reflects the basis of decision-making for risk management purposes. This aims to avoid scenarios where preparers change the method solely to continue hedge accounting even though it would no longer reflect risk management and hence decision-making.

Summary and question to the board

47. Based on the Board discussions the effectiveness test for the new hedge accounting model can be summarised as follows:

(a) The objective of the effectiveness assessment is to ensure that the hedging relationship that will produce an unbiased result and minimise ineffectiveness. Thus, for accounting purposes hedging relationships should not reflect a deliberate mismatch between the weightings of the hedged item and hedging instrument within the hedging relationship.

(b) In addition to that objective, hedging relationships are expected to achieve other than accidental offsetting of changes between the hedged item and hedging instrument attributable to the hedged risk.

(c) The assessment is *forward looking* and performed at inception and on an ongoing basis.

(d) The type of assessment (quantitative or qualitative) depends on the relevant characteristics of the hedging relationship and the potential

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[10] Refer to paper 7A and 7C presented at the meeting held during the week commencing on 19 July 2010.

sources of ineffectiveness. Entities' risk management is the main source of information to perform the effectiveness assessment.

(e) No particular methods for assessing hedge effectiveness are prescribed. However, the method used should be robust enough to capture the relevant characteristics of the hedging relationship including the sources of ineffectiveness.

(f) Changes in the method for assessing effectiveness are mandatory if there are unexpected sources of ineffectiveness or if upon a rebalancing in the hedging relationship the method used previously is no longer capable of capturing the sources of ineffectiveness and therefore is not capable of demonstrating whether the hedge produces an unbiased result and minimises ineffectiveness (refer to the objective in paragraph 9).

48. This effectiveness assessment model will be linked to risk management by:

(a) linking the hedge ratio to be used for hedge accounting to the neutral ratio designed by entities' risk management.

(b) allowing a qualitative assessment and not requiring a mandatory retrospective test will eliminate some of the burden created by the current model and will allow entities to use the information prepared for risk management purposes in the context of effectiveness testing; and

(c) not prescribing any method for assessing effectiveness, which allows entities to make their own judgements in relation to what the best method is provided that such method captures all the sources of ineffectiveness. The choice of method has to have the objective of achieving a neutral result the hedging relationship.

49. At the same time the model will contain some safeguards:

(a) Changes to the assessment method are limited by linking any change to the instances where there is a rebalancing in the hedging relationship.

Therefore, abusive changes in the method to achieve abusive ongoing qualification will not be permitted.

(b)   A double *screen-out* that:

   (i)   explicitly prohibits relationships that only achieve accidental offsetting to be qualified for hedge accounting, and

   (ii)   sets an objective of effectiveness testing that prevents including a deliberate mismatch in the weighting of the hedged item and hedging instrument within the hedging relationships and thereby also prevents misstatement of ineffectiveness in profit or loss.

Question 1 –Hedge effectiveness testing approach
Does the Board agree with the description of the effectiveness test as outlined in paragraph 47?
If not, how would you change the description, and why?