Project **Financial Instruments (Replacement of IAS 39)—Hedge accounting**

Topic **Hedged items—background and misunderstandings about risk components**

Introduction

1. This paper is one in the series that addresses the designation of a *risk component* as the hedged item. This paper discusses some common misunderstandings about risk components generally and perceived issues or consequences of expanding the eligibility of risk components as hedged items to non-financial items.

2. The staff recommendations and questions to the Board are included in agenda paper 3C.

Staff analysis

3. The debate about risk components has suffered from some common misunderstandings. The staff think that this largely results from one major obstacle—the large variety of markets and hence circumstances in which hedging takes place, which makes it impossible for any one person to understand all of them. That inevitably results in a lack of familiarity with many markets. Quite naturally, that also results in some unease because of the difficulty of understanding hedge accounting in the context of a market that is unfamiliar. That affects in particular the debate regarding non-contractually specified risk components of non-financial items.

4. While it is impossible to explore and gain an in-depth understanding of all different markets, some common misunderstandings can still be addressed.

The effect of risk components

5. There is a misconception of what effect risk components have (or should have). Some believe that designating a risk component as a hedged item should not be allowed if it could result in a movement of the value of that risk component in an opposite direction to the value of the entire item (ie its overall price).

6. For example, if the *hedged* risk component increased in value this would be offset by the loss on the hedging instrument while decreases in the value of the other *unhedged* risk components remain unrecognised. That means that while the hedging instrument and the entire item together have a loss (from the decrease in value of the unhedged risk components) hedge accounting still results in neutralising the loss on the hedging instrument (by only recognising the gain on the *hedged* risk component). This is illustrated in the table below.

	Change in fair value		
Hedged item			**Hedging instrument**
Hedged component	100	-100	Designated volume
Unhedged component	-20		
Total for each item	80	-100	
Total for both items	-20		

Amounts offset (fair value hedge) or for which the loss on the hedging instrument is deferred in accumulated other comprehensive income.

7. This is sometimes described as risk components resulting in ‘pricing an item away from the market’ (ie its fair value), which is considered a ‘mismatch’.

The issue is not specific to non-contractually specified risk components of non-financial items

8. Firstly, the staff note that this is *not* specific to non-contractually specified risk components of non-financial items *but* applies to risk components *in general*—including the most common ones such as components of financial items and foreign exchange (FX) risk components. Some examples:

   (a) A fixed interest rate bond: if the benchmark interest rate decreases but the bond's spread over the benchmark increases and only the benchmark interest rate is hedged using a benchmark interest rate swap the loss on the swap is offset by a fair value hedge adjustment for the benchmark interest rate component of the bond—even though the bond's (total) fair value is lower than the carrying amount after the fair value hedge adjustment because of the increase in the spread.

   (b) A firm commitment to sell a commodity in a foreign currency: if the foreign currency appreciates against the functional currency and the commodity price in the foreign currency increases and only the FX risk is hedged the loss on the FX derivative is offset by the FX gain on the firm commitment—even though the change in the full fair value of the firm commitment (ie including the commodity price change related loss that is unhedged) in the functional currency is lower than the loss on the FX derivative.

   (c) A power purchase agreement with a *contractual* pricing formula that includes links (indexation) to fuel oil and inflation: if the price for fuel oil decreases and inflation increases hedging only the fuel oil related variability in cash flows with a fuel oil futures contract would result in deferring losses on the derivative in accumulated other comprehensive income (AOCI)—even though the *entire* cash flow variability of the power purchase agreement would not offset the loss on the derivative (because the increase in inflation linked amounts would be netted against the decrease in the fuel oil linked amounts hence reducing (in

this scenario) the cash flow variability compared to a pure fuel oil exposure).

Designation of risk components as hedged items is not tantamount to 'hiding losses'

9. Secondly, the staff note that describing the designation of risk components as hedged items as tantamount to 'hiding losses' or avoiding their recognition by applying hedge accounting would be inappropriate. Hedge accounting on the basis of designating risk components contrasts this with the alternative accounting outcomes as explained in the following paragraphs.

10. If hedge accounting is not applied at all, only the gain or loss from the change in fair value of the financial instrument that hedges the risk is recognised in profit or loss whereas the gain or loss on the entire item that gives rise to the risk remains *fully unrecognised* (until realised in a later period) so that any offsetting effect is obscured. Also, in periods in which the values of the risk components move in the same direction (ie all give rise to a loss or all give rise to a gain) this creates a complete mismatch with the gain or loss on the hedging instrument.[1]

11. If designation on a *risk component basis is not available* that first creates an issue of qualifying for hedge accounting at all. This is because the economic relationship and the resulting offset cannot be evaluated on a components basis. Depending on the relative size of the hedged component to the other components, fulfilling the hedge effectiveness assessment would often be impossible. This is because the economic decision of hedging is done on a components basis—it is based on a relationship of underlyings that relate to the specific hedged component but not the entire item. This applies in particular, if the hedged component *is* separately identifiable and hence its value would *not* systematically move in the same way as that of the other components. In addition, it is important to keep in mind that the *hedged component is* ***not***

[1] Whether components will move in the same direction (ie 'in tandem') or opposite direction cannot be predicted and can change from period to period.

necessarily the main or largest component (eg if in the example of the power purchase agreement[2] only the inflation risk but not the fuel oil price risk is hedged). Hence, the accounting assessment is completely disconnected from the decision making for risk management purposes. This would be at odds with one of the main premises of the hedge accounting project.

12. Even if hedge accounting can be achieved between the hedging instrument and the item (that includes the hedged risk component) in its entirety, the accounting outcome is more akin to a fair value option for the entire item than reflecting the effect of the economic hedge. *However*, because hedge accounting would be disconnected from what is economically hedged, there are also ramifications for the hedge ratio that must be used for designating the hedging relationship. The hedge ratio that an entity actually uses (ie for risk management purposes) would be based on the economic relationship between the underlying of the hedged risk component and the hedging instrument. This is the sensible basis for hedging decisions. Because for accounting purposes the entity would be forced to compare changes in the value of the hedging instrument to those of the entire item the entity would have to create a deliberate mismatch for the economic hedging relationship in order to improve the offset for the accounting hedging relationship, ie to distort the economic hedge ratio for accounting purposes.

13. To illustrate: in the example of the of the power purchase agreement[3] an entity would have to try to designate the hedging relationship such that fair value changes on the fuel oil future contract would offset value changes regarding the inflation linked amounts—which distorts the economic hedge ratio.[4] The

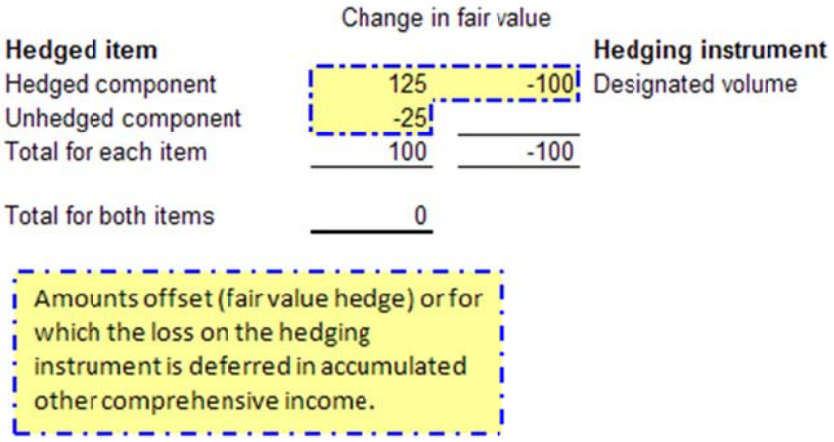
[2] See paragraph 8(c).
[3] See paragraph 8(c).
[4] As explained before, in many cases hedge accounting would not be achieved (see paragraph 11). For argument's sake it is assumed here that the hedging relationship would qualify for hedge accounting.

inappropriate 'statistical lottery' that results from the accounting requirements in such circumstances has already been explained in an earlier agenda paper.[5]

14. This also means that prohibiting designation of hedged items on a risk components basis would ultimately *not* necessarily result in 'simply' recognising the full change in the value of the entire item (but only the change for a part of an item or in some of the items or in addition the change on other similar items—depending on the quantity[6] of the item designated into the hedging relationship because of the effect of distorting the hedge ratio). Therefore, if those concerned about hedge accounting for risk components are driven by a desire that the changes in the value of unhedged components are transparent preventing hedge accounting of components actually would not achieve that objective. The information in the financial statements would *not* necessarily reflect the change in the value of the unhedged risk component as a gain or loss for which there is no offset (ie the 'mismatch' that some perceive in such situations—irrespective of whether it is labelled unhedged risk or hedge ineffectiveness) because it would be artificially offset by the gain or loss on the hedging instrument owing to the distorted hedge ratio. Hence, this would not result in more decision useful information. This is illustrated in the table below (adapting the earlier table—see paragraph 6).

[5] Agenda paper 9D of the May 2010 IASB meeting—some extracts are provided in Appendix A (paragraph A1).

[6] In other words, because the hedged item cannot be disaggregated by risk it must be disaggregated (or aggregated) by volume (notional amount) to create offset.



15. Designation of hedged items on a risk components basis can also facilitate better comparability. For example, Entity A has a fuel price adjustment clause in a logistics services contract[7] (eg road haulage) and hedges the variability of the fuel price linked amounts by swapping them into fixed payments. Without hedge accounting Entity A would recognise the fair value changes on the fuel price derivative in profit or loss while the offsetting effect of the variability of the logistics services payments would affect profit or loss only over time as those services are received. Entity B uses the same logistics services but uses a contract that does not involve a fuel price adjustment clause but instead the fuel costs are covered by a fixed amount payable each period that is part of the overall logistics charge under the contract.[8] Entity B would not have any fuel price related volatility in profit or loss. *Economically*, Entity A *after hedging* has the same exposure to fuel price changes as Entity B but because of the different structure of the contracts profit or loss would not be comparable between those entities *unless* hedge accounting for the fuel price link can be applied.

[7] Assume the contract also includes other price links such as inflation but those are not hedged.
[8] Assume the contract is otherwise the same as that of Entity A, ie it also includes other price links such as inflation but those are not hedged.

16. Also, if Entity A had to apply hedge accounting without the ability to designate as the hedged item the fuel price link (ie as a risk component) the results for Entity A and Entity B would be incomparable because Entity A would have to include unhedged other price links unrelated to the fuel price in determining the change in the value of the hedged item to compare it against that of the fuel price derivative (which would result in hedge ineffectiveness). Hence, the ability to designate risk components as hedged items is an important feature regarding the comparability of financial reporting information.

17. Hence, designating risk components as hedged items is *not* an issue of 'hiding losses' by applying hedge accounting while they would otherwise be recognised. Instead—like hedge accounting in general—designating risk components as hedged items also is about representing in the financial statements the effect of risk management and thereby resolving the accounting mismatch resulting from accounting for some financial instruments at fair value through profit or loss while ignoring the offsetting effect resulting from the hedged item.

Concern is not specific to risk components but would generally apply to all cash flow hedges

18. Thirdly, the staff note that *cash flow* hedge accounting results *in general* in 'pricing the hedged item away from market' (albeit indirectly by using AOCI).[9] For example, if an entity hedges the forecast purchase of a commodity against commodity price risk the gain or loss on the hedging instrument is deferred in AOCI. On delivery when the commodity is recognised as inventory it is measured at the hedged price instead of the fair value at the date of delivery. Also, if a floating interest rate debt instrument is hedged by swapping the interest payments into fixed payments this results indirectly in an accounting that is pricing the transaction away from market because the gain or loss on the

[9] It is important to keep in mind that IFRSs have impairment tests to address situations where an item becomes impaired, including hedged items (and similarly IFRSs require provisions for onerous contracts). That addresses issues of recoverability of amounts.

swap is deferred in AOCI. If the debt instrument were settled (eg sold or repaid) before maturity the gain or loss would be recycled from AOCI.[10] Hence, there would be a gain or loss because indirectly the transaction would have been 'priced away from market'. This is essentially the result of hedge accounting in this situation being designed to provide comparability with a fixed rate debt instrument at amortised cost, which would have the same effect (ie a gain or loss on sale or early repayment).

19. Hence, the general result of cash flow hedge accounting could be perceived as 'pricing away from market'—*irrespective of* whether the hedged item is financial or non-financial and whether it is a forecast transaction or cash flow variability resulting from a recognised asset or liability.

20. This accounting treatment reflects two main aspects of financial reporting:

    (a) that financial reporting uses different measurements (not just a mixed measurement model for financial instruments but also for non-financial items such as inventory, property, plant and equipment and non-financial liabilities);

    (b) the fact that financial reporting generally emphasises fair value risk (because it can be captured in measurements) whereas cash flow risk only affects financial statements on an 'as you go' basis over time.[11] This is a general asymmetry in how those two different types of risk are treated for financial reporting purposes.

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[10] The cash flow hedge reserve is immediately recycled because the future hedge interest payments on the instrument will no longer occur.

[11] For example, fair value through profit or loss accounting for a *fixed* rate debt instrument results in recognising in profit or loss and the balance sheet the effect of interest rate changes for the entire remaining life of that instrument. Conversely, for a *variable* rate debt instrument the changes in the interest rate are only recognised in profit or loss over time as they relate to each period (current accruals and periodic settlements in that period) when interest revenue or expense is recognised in profit or loss. Hence, this does *not* anticipate in profit or loss the effect on cash flows of interest rate changes for the entire remaining life of the instrument.

21. **Conclusion**: designating as hedged items risk components reflects the essence of the economic phenomenon of managing risk components—that risk management typically operates on a 'by risk' instead of a 'by item' basis (which is the unit of account for financial reporting purposes). Hence, the question regarding the use of risk components as hedged items is whether financial reporting should reflect what in commercial reality is the *norm* or whether it should instead require that all hedged items are 'deemed' to be hedged in their entirety (ie for all risks). *However*, because of the distortion of the hedge ratio, prohibiting designation of hedged items on a risk components basis would ultimately *not* necessarily result in 'simply' recognising the full change of the value of the entire item.[12]

22. The staff consider that if the entire item is *always* the relevant reference point then the logical consequence is that the entire item should be recognised and measured at fair value through profit or loss *irrespective of* whether it is hedged (and whether hedge accounting applies—hedge accounting would be obsolete then).

'Basis risk' versus unhedged risk

23. There is a view that the unhedged risk components are actually 'basis risk' that represents hedge ineffectiveness and that by allowing risk components to be designated as hedged items that hedge ineffectiveness would not be recognised.

24. The problem with references to the term 'basis risk' is that it is used in different ways. There is no single definition that is universally accepted but instead there are different descriptions, for example:

    (a) In a *narrow sense* 'basis' refers to the difference between the price in the futures market and the spot market. Basis *risk* then consequently

[12] See paragraph 14.

refers to the risk of changes in the difference between the futures price and the spot price.

(b) In the *narrowest sense*, 'basis' refers to the difference between a cash (ie spot) price and the futures price for the nearest delivery month. Basis *risk* then consequently refers to the risk that the spot price of an item and the futures price will not converge *on the maturity date* of the future contract.

(c) In a *wider sense*, basis risk is used in the context of hedging referring to the risk of a difference between the gain/loss on what is hedged and the opposite loss/gain on the hedging instrument (eg the difference resulting from the item being hedged and the underlying of a derivative used as a hedging instrument being different).

25. The first notion of basis risk (ie the narrow sense) is *not a suitable reference* for hedge accounting purposes. This notion has the logical consequence that basis risk cannot be hedged (ie avoided or offset) because the difference between the futures price and the forward price converges towards zero as the hedging instrument approaches its maturity date. Hence, the forward element included in each forward price (or rate)[13] would *always* create hedge ineffectiveness—even if the underlying of the hedging instrument and the hedged item perfectly match.[14] This is incompatible with the use of the forward rate method[15] for hedge accounting, ie measuring the hedged item using the forward price and the resulting effect on measuring and recognising hedge ineffectiveness. It is also inconsistent with the notion of 'costs of hedging' that has been developed in this project eg for the time value of options or forward points.

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[13] For the remainder of this paper references to forward 'price' also include a forward 'rate' (which is a forward price expressed as a percentage).
[14] Except by coincidence if the 'basis' was zero at inception (eg if the forward FX rate equals the spot FX rate when entering into the hedge) or when hedging using cash instruments instead of derivatives.
[15] IAS 39.AG108 and IG F.5.6 and the same accounting would also apply under the Exposure Draft *Hedge Accounting* (ED). See also agenda paper 12 of the main July 2011 IASB meeting.

26. The second and third notion of basis risk (ie the narrowest sense or the wider sense) are *inconclusive* because they are circular: they compare the change in the fair value of the hedging instrument to that of 'the item' in the spot market or more generally what is hedged, ie the hedged item. Hence, the mismatch depends on what is considered the hedged item, which *raises* the question of what is being hedged *instead of answering* the question of what is basis risk and in turn hedge ineffectiveness. So, ultimately, a discussion about 'basis risk' comes full circle—back to the question of how to determine the hedged item and hence the eligibility of risk components. In other words, the 'basis risk' discussion does not help addressing the issue.

27. Hence, for hedge accounting purposes answering the question of what is being hedged cannot be avoided. In particular, the hedged item cannot automatically be assumed to be the entire item (see section 'The effect of risk components').

28. So what are the implications? First, the risk management strategy and objective need to be considered in order to find out what the entity is hedging. Second, if applicable, the criteria for determining eligible risk components then have to be applied to determine what is eligible for designation as a hedged item. This brings us back to analysing the *market structure* to which the risks relate and in which the hedging activity takes place.

29. Hence, facts and circumstances need to be evaluated to determine eligible risk components. For *non-contractually specified* risk components this is essentially an analysis of how the pricing of the item relates to benchmarks—for example:

    (a) **Example 1**: Assume a fixed rate debt instrument is issued in a market in which a large variety of similar debt instruments are compared by their spread to a benchmark rate (eg LIBOR) and variable rate instruments are typically indexed to that benchmark rate. Interest rate swaps are frequently used to manage interest rate risk on the basis of that benchmark rate irrespective of the spread of debt instruments to that benchmark rate. The price of fixed rate debt instruments varies directly in response to changes in the benchmark rate as they happen.

In these circumstances an entity can conclude that the overall change in the fair value of the debt instrument includes a pricing element that comprises (only) the effect of changes in the benchmark rate, which hence is an eligible risk component.

(b) **Example 2**: Assume an entity is exposed to price risk from forecast purchases of jet fuel. For the reasons explained in the section ‘‘Overlap’ of risk components of a commodity exposure’, the entity can conclude that there is a crude oil and a gas oil risk component, both of which represent a benchmark pricing element and are eligible for designation as a risk component.

(c) **Example 3**: Assume a retailer sells plastic bowls through its network of supermarkets. The retail prices for plastic bowls and similar items are set for 6 months and kept constant before they are reviewed for the next 6-month period. Even though crude oil is a major input for manufacturing many plastic products the retailer could not conclude that the forecast sale of those plastic bowls involves a benchmark crude oil price as a risk component. In the circumstances of this example the price at which the plastic bowls are sold does not directly change in response to changes in crude oil prices as they happen. The fact that the crude oil price affects the production costs of the manufacturers of plastic bowls and *eventually* influences the retail price of plastic bowls does not give risk to a risk component that is separately identifiable and reliably measurable.

30. **Conclusion**: for hedge accounting purposes a ‘basis risk’ discussion is not meaningful and cannot avoid answering the question what is being hedged. In particular, the hedged item cannot automatically be assumed to be the entire item. Instead, the criteria for determining eligible risk components have to be applied, which requires analysing the *market structure* to which the risks relate and in which the hedging activity takes place.

Designating risk components means no hedge ineffectiveness arises

31. There is some confusion about the effect that risk components have on recognising hedge ineffectiveness. Some believe that if a risk component is designated as the hedged item this will result in no hedge ineffectiveness being recognised. The staff do not agree with this conclusion.

Recognition of hedge ineffectiveness also applies to risk components

32. Firstly, the staff note that when designating a risk component as a hedged item, the hedge accounting requirements apply to that risk component in the same way as they apply to other hedged items that are not risk components. Hence, hedge ineffectiveness must be measured and recognised.[16]

33. The effect of designating a risk component as the hedged item is that it becomes the reference basis for determining offset, ie the fair value change on the hedging instrument is compared to the change in value of the designated risk component (instead of the entire item). This makes the comparison more targeted because it excludes the effect of changes in the value of risks that are not hedged—consistent with the economic hedge (see section 'The effect of risk components').

34. However, even when a risk component is designated as the hedged item hedge ineffectiveness can still arise and must be recognised. For example:

    (a) A floating rate debt instrument is hedged against the variability of cash flows using an interest rate swap. The two instruments are indexed to the same benchmark interest rate but have different reset dates for the variable payments. Even though the hedged item is designated as the benchmark interest rate related variability in cash flow (ie as a risk component), the difference in reset dates causes hedge ineffectiveness. There is *no* market structure that would support identifying a 'reset

[16] See the explicit statement in the ED (paragraph B16).

date' risk component in the variable payments on the floating rate debt that would mirror the reset dates of the interest rate swap. In particular, the terms and conditions of the interest rate swap cannot be simply imputed by projecting terms and conditions of the interest rate swap onto the floating rate debt.

(b) A fixed rate debt instrument is hedged against fair value interest rate risk using an interest rate swap. The two instruments have different day count methods for the fixed rate payments. Even though the hedged item is designated as the benchmark interest rate related change in fair value (ie as a risk component), the difference in the day count methods causes hedge ineffectiveness. There is *no* market structure that would support identifying a 'day count' risk component in the payments on the debt that would mirror the day count method of the interest rate swap. In particular, the terms and conditions of the interest rate swap cannot be simply imputed by projecting terms and conditions of the interest rate swap onto the fixed rate debt.

(c) An entity purchase crude oil under a variable oil supply contract that is indexed to a light sweet crude oil benchmark. Because of the natural decline of the benchmark oil field the derivatives market for that benchmark has suffered a significant decline in liquidity. In response, the entity decides to use derivatives for a different benchmark for light sweet crude oil in a different geographical area because the derivatives market is much more liquid. The changes in the crude oil price for the more liquid benchmark and the less liquid benchmark are closely correlated but vary slightly. The variation between the two oil benchmark prices causes hedge ineffectiveness. There is *no* market structure that would support identifying the more liquid benchmark as a component in the variable payments under the oil supply contract. In particular, the terms and conditions of the derivatives indexed to the more liquid benchmark cannot be simply imputed by projecting terms and conditions of those derivatives onto the oil supply contract.

(d) An entity is exposed to price risk from forecast purchases of jet fuel. The entity's jet fuel purchases are in North America and Europe. The relevant crude oil benchmark for its North American jet fuel purchases is WTI whereas it is Brent for its European jet fuel purchases. Hence, the entity designates as the hedged item a WTI crude oil component for its jet fuel purchases in North America and a Brent crude oil component for its jet fuel purchases in Europe. Historically, WTI and Brent have been closely correlated and the entity's purchase volume in North America significantly exceeds that in Europe. Hence, the entity uses one type of hedge contract—indexed to WTI—for *all* its crude oil components. Changes in the price differential between WTI and Brent cause hedge ineffectiveness regarding the forecast purchases of jet fuel in Europe. There is *no* market structure that would support identifying WTI as a component of Brent. In particular, the terms and conditions of the WTI futures cannot be simply imputed by projecting terms and conditions of those derivatives onto the forecast jet fuel purchases in Europe.

35. Also, hedge ineffectiveness from credit risk affects hedging relationships irrespective of whether risk components are designated as hedged items.

Issue is not specific to non-financial items

36. Secondly, the staff note that the concern that if a risk component is designated as the hedged item no hedge ineffectiveness would be recognised is raised particularly in the context of risk components of non-financial items that are not contractually specified.

37. However, as the examples demonstrate,[17] the issue is not one of financial versus non-financial items. Determining the hedge ineffectiveness for a fixed rate debt instrument when designating the benchmark interest rate component as the

[17] See paragraph 34.

hedged item is no more or less suspicious than for commodity price risk—in both cases the appropriate designation of a risk component depends on an appropriate analysis of the *market structure*.

38. For 'partial term' hedges[18] of fixed rate debt instruments that is arguably much more challenging than for customary types of commodity hedging.

39. The staff consider that some concerns might be the result of expectations that reflect a lack of familiarity with commodity markets. There seems to be a belief that financial risks can be more effectively hedged than non-financial risks. However, that would be an *overgeneralisation*.

40. The derivative markets related to commodity risk have evolved and have resulted in customs that helped improve the effectiveness of hedging, for example:

    (a) Establishment of liquid commodity benchmarks that allow a market volume for derivatives that is far larger than the physical volume of the underlying commodity. This involves customs such as reporting requirements to exchanges for holders of larger future positions for contracts that involve physical settlement as well as the use of contract maturities for pricing purposes that allow positions to be closed while the market is still liquid (because liquidity can decline close to maturity for deliverable contracts). This has allowed the use of the same pricing reference by many more market participants than those actually trading in the physical underlying (ie the benchmark commodity itself). This reduces pricing differentials that result from a larger variety of competing benchmarks and hence sources of hedge ineffectiveness.

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[18] For hedges of interest rate risk the criteria for risk components allow a 'partial term' hedge, which means that for a debt instrument with a remaining maturity of 10 years an interest rate risk component can be designated as the fair value exposure of the interest rate payments until year 5 and the change in value of the principal payment due at maturity (ie in 10 years) to the extent affected by changes in the *5 year* yield curve (see IAS 39, IG F.2.17).

(b) Use of features such as settlement options under which instead of paying a variable benchmark price an entity can in lieu of the cash payment deliver the relevant derivative contract (such as a commodity future). Such arrangements eliminate the risk of price differentials, which is in the interest of both parties involved as they both can hedge their exposure more effectively.

41. Hence, the staff consider that some of the concern over (not) recognising hedge ineffectiveness in the context of commodity hedging results from expecting a high level of ineffectiveness but when a lower level is encountered it results in 'validating' the concern instead of reconsidering and, if applicable, recalibrating the expectation.

42. **Conclusion**: designating a risk component as a hedged item does *not* mean that no hedge ineffectiveness arises. Instead, consistent with the general hedge accounting requirements, hedge ineffectiveness can arise and must be measured and recognised. Hence, the issue is *not* whether hedge ineffectiveness is recognised *but* more generally whether designation of risk components as hedged items is accepted. In particular, this is not a financial versus non-financial item issue.

'Overlap' of risk components of a commodity exposure

43. There is confusion about how different risk components of commodity exposures relate to each other. Some believe for example that jet fuel cannot have different crude oil and gas oil components depending on the life of the hedge contract or that the co-existence of such alternative risk components undermines the criteria for determining risk components that are eligible for designation as hedged items. This results in a perception that entities can in effect 'make up' or impute risk components that mirror their hedging instruments to artificially create 'perfect' hedging relationships.

44. Some also believe that in order to identify a risk component of jet fuel using a building block approach it would be necessary to know various details about the

specific refinery from which the jet fuel is supplied such as which type of crude oil (including the source and grade) was used and the efficiency of the refinery.

Different benchmarks can sometimes be alternative eligible risk components

45. Firstly, in the jet fuel example the different risk components for crude oil and gas oil do *not* depend on the life of the different hedge contracts (ie crude oil, gas oil and jet fuel derivatives). Risk components must be identified on the basis of an analysis of the *hedged item* and *must not* be simply imputed by projecting terms and conditions of the *hedging instrument* onto the hedged item.

46. The different risk components for crude oil and gas oil do not relate to a difference over time but to a difference between a *raw material* benchmark (ie crude oil) and a benchmark for *refined* products (ie gas oil). Both benchmarks are relevant to the price of jet fuel and hence apply *irrespective of* the term for which jet fuel is hedged. Which risk component is hedged for what time horizon (eg the crude oil risk component for 24 months and the gas oil risk component for 12 months) is solely a question of the hedging strategy that an entity chooses—it does not affect what risk components are separately identifiable and reliably measurable (and are hence *eligible* for designation as a hedged item).

47. The staff consider that this is no different from the well-established application of the risk components criteria to debt instruments, which can be the risk free interest rate component or a different benchmark interest rate component (such as LIBOR) of the total interest rate exposure.[19] Clearly, the benchmark interest rate component overlaps with the risk free interest rate component but both risk components are eligible for designation as the hedged item irrespective of the term for which interest rate risk is hedged.[20]

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[19] See IAS 39 *Financial Instruments: Recognition and Measurement*, paragraph 81.

[20] In fact, for hedges of interest rate risk the criteria for risk components also allow a 'partial term' hedge, which means that for a debt instrument with a remaining maturity of 10 years an interest rate risk component can be designated as the fair value exposure of the interest rate payments until year 5 and the

48. Hence, the staff consider that the analysis of the market structure for the price risk of jet fuel is fully consistent with that of interest rate risk and how the risk components criteria have been applied to financial items under IAS 39 *Financial Instruments: Recognition and Measurement*.

A building block approach to identifying risk components must consider the pricing structure of the relevant market

49. Secondly, in order to identify a risk component of jet fuel using a building block approach it is *not* necessary to know details about the specific refinery from which the jet fuel is supplied (and its specific production cost structure).

50. The relevant information depends on the *market structure*. Jet fuel is a *standardised* product that must comply with rigorous specifications because it is used for different engines and also because of obvious aviation safety implications. Hence, even though refineries have different set-ups using different crude oils to produce varying mixes of refined products, those that produce jet fuel sell a standardised product, which results in a uniform price for a given market. The supplies of different refineries are mixed in fuel depots and jet fuel pipelines. Hence, while the refineries have different cost structures, the jet fuel price depends on the marginal refining capacity instead of different prices by each individual refinery. The market structure forces a uniform price for standardised refined oil products for a given market.

51. This is also reflected in the derivative financial instruments for the crude oil and refined oil products market. For example, even though European refineries process different crude oils from Europe, Russia and the Commonwealth of Independent States (CIS), the Persian Gulf, North Africa, West Africa and some other regions:

    (a) the benchmark crude oil futures contract is for Brent;

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change in value of the principal payment due at maturity (ie in 10 years) to the extent affected by changes in the *5 year* yield curve (see IAS 39, IG F.2.17).

(b) there is one benchmark gas oil future contract (gas oil is used as the pricing reference for distillates—eg jet fuel spread derivatives cover the price differential between jet fuel and gas oil); and

(c) the benchmark gas oil crack spread (ie the price differential between crude oil and gas oil—a refining margin) is indexed to Brent crude oil.

52. **Conclusion**: the ***analysis of the market structure is crucial for determining eligible risk components***. The market structure dictates the parameters for determining eligible risk components and ensures they cannot be simply imputed. The existence of different benchmarks is not unique to non-financial items but fully consistent with financial items. Also, while physical aspects of production processes affect the pricing of non-financial items, a building block approach to identifying risk components takes into account the pricing structure of the market. Hence, the production costs of one particular supplier of that market by themselves are not indicative of a risk component even when using a building block approach. Instead, the building block approach relates to the benchmarks associated with the standardised jet fuel (crude oil and gas oil).

The sum of the independent values of all components must equal the total value of the entire item

53. There was also confusion regarding what information needs to be available regarding unhedged risk components. Some believe that eligible risk components can only be appropriately determined if the sum of the values of all risk components (independently determined) equals the total value of the entire item.

Not a requirement under IAS 39

54. Firstly, the staff note that when determining eligible risk components of *financial* items under IAS 39 it is *not* required to ascertain or even to demonstrate that the sum of the independently determined values of all risk components equals the financial item's fair value. When designating the risk free interest rate component or a benchmark interest rate component the

difference between the value of that component and the fair value of the financial instrument in its entirety is *not* reconciled or analysed.

55. In fact, if that were required entities would encounter the same problems that have resulted in allowing the *indirect approximation* of the amount of own credit risk included in the financial instrument's fair value by way of a *residual amount* calculation under IFRS 7 *Financial Instruments: Disclosures* and IFRS 9 *Financial Instruments*.[21] The difference between the value of the interest rate risk component and the fair value of the financial instrument as a whole includes credit risk, liquidity risk and other aspects that cannot be separately identified (such as 'valuation noise' from discount rates).

Meaningless exercise

56. Secondly, the staff note that demonstrating that the sum of the independently determined values of all risk components equals the entire item's fair value would often be a *meaningless exercise*. This is illustrated by the following examples.

57. For example, assume an entity hedges the crude oil component of forecast jet fuel purchases 2 years ahead and the forward curve for jet fuel is liquid for only 6 months. In that case the entity would have to develop a forecast of the spread between jet fuel and crude oil for jet fuel deliveries in 2 years' time. That is a circular exercise because whatever is used as the forecast for the spread will explain the unhedged risk component (ie the spread between jet fuel and crude oil). Hence, the information would be generated solely for accounting purposes but is not decision-relevant for the entity's hedging. This typically results in meaningless information.

58. Not allowing a designation on the basis of risk components but instead only on the basis of the entire hedged item does *not* result in a meaningful exercise

[21] See IFRS 7.10(a)(i) and B4 and IFRS 9.B5.7.16-B5.7.19.

either. This issue has already been explained in an earlier agenda paper.[22] In short, because there is no liquid forward curve for jet fuel the entity would simply be forced to develop the same forecast of the spread between jet fuel and crude oil for jet fuel deliveries in 2 years' time and add that to the crude oil forward price in order determine a value for the entire item (ie the expected price of jet fuel in 2 years' time).

59. Similarly, the earlier agenda paper included an example of hedging the benchmark price component of future coffee purchases but not the price differential between the benchmark coffee price and the price for the coffee actually purchased for which the entity takes delivery.[23] In that case the entity would be required to estimate a price differential for a future harvest period for which there is no forward price. Again, it would result in a circular exercise and be more or less a speculative assumption about the yield of the next harvest, which heavily depends on the future weather in a particular crop growing region.

60. The staff note that one of the reasons why entities often hedge only a risk component is that there is *better* information available about that *component* than the entire item. This is particularly the case for forecast transactions (as illustrated in the earlier examples). Hence, while the information about the risk component is robust enough to facilitate hedging the related risk the information for the other risks that affect the entire item is not sufficiently robust to facilitate hedging.

61. **Conclusion**: under IAS 39 there is no requirement to demonstrate that the sum of the independently determined values of all risk components equals the entire item's fair value. Establishing such a requirement only for non-financial items would:

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[22] Agenda paper 3 of the 27 October 2010 IASB meeting (refer to Example 2, in particular paragraphs 35-36—these are provided in Appendix A (paragraph A2).
[23] Agenda paper 3 of the 27 October 2010 IASB meeting (refer to Example 1, in particular paragraphs 25-29.

(a) again create ‘double standards’ regarding financial versus non-financial items; and

(b) often result in a circular exercise that is meaningless.

62. Instead, the staff consider that a better way of addressing the issue of appropriate designation of risk components would be to *improve the understanding of hedging risk components*. This could be achieved by providing information about the context of determining risk components (ie their nature and how they are determined) and their economic meaning (instead of the estimated value of unhedged risk components on a given date). That would also provide useful information about the exposures that remain unhedged.

Appendix A

A1. Extracts of agenda paper 9D of the May 2010 IASB meeting [emphasis added]:

> 12. Contractually specified risk components are very common for non-financial items and cover a wide range of scenarios. Examples are:
>
> […]
>
> (c) Benchmark indexed commodity supply contracts: manufacturers that require specific qualities of commodities use supply contracts that price deliveries on the basis of contractually specified formulas that refer to a benchmark commodity price element and other price elements that eg reflect differences in the quality compared to benchmark or logistics service costs. An example is a coffee supply contract for Arabica coffee from Colombia to a specific manufacturing site that prices a tonne of coffee based on the exchange traded coffee future price plus a fixed price differential plus a variable logistics services charge. Broadly similar arrangements are used for other commodities such as cocoa, sugar, or palm oil. […]
>
> 38. Using a hedge ratio adjustment in the example of the coffee supply contract for Arabica coffee from Colombia would be tantamount to assuming that the exchange traded coffee future price would change largely proportional to the variable logistics services charge. Only that assumption would give rise to an expectation of achieving a better hedge effectiveness result given the ineligibility of the benchmark coffee price element for designation as a hedged item. The assumption of a valid statistical relationship between coffee prices and logistic charges is obviously untenable. Hence, even if a better hedge ratio were achieved using an adjusted hedge ratio this would be the result of a 'statistical lottery' and artificially overstate hedge effectiveness (on the basis of the unit of account required – ie the hedged item in its entirety). That is obviously not useful information to anyone.

A2. Extracts of agenda paper 3 of the 27 October 2010 IASB meeting:

> 35. In this context it is worth considering the valuation related implications of trying to compare the fair value changes of crude oil

derivatives to the change in the value of the jet fuel purchases in their *entirety*:

(a) As a result of a liquid (forward) market for crude oil there is an observable forward curve for the entire relevant period for which Entity C hedges.

(b) In contrast, for jet fuel there is no liquid forward market for the periods exceeding about 6 months. Hence, for the crude oil hedges that cover time periods of 12 to 24 months from delivery Entity C needs to construct a forward curve for jet fuel in order to determine the change in value of the jet fuel in its *entirety*. This forward curve is constructed by taking the crude oil forward curve and adjusting it for estimates of the future jet fuel refining margin. This is a very difficult estimate because of the nature of the forward market, and highly subjective.[24]

36. Hence, forcing entities to compare the fair value changes of crude oil derivatives to the change in the value of the jet fuel in its *entirety* has two implications:

(a) it does *not* result in 'more discipline' or a more verifiable or objective outcome (but rather the opposite);

(b) given how the forward curve of jet fuel has to be constructed, an assertion that the crude oil component of the jet fuel price cannot be measured reliably[25] is inconsistent with the measurement of the entire price change of jet fuel, which is based on a building block approach of crude oil element plus refining margin.

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[24] Jet fuel does not have a separate cost of carry element that could be used to build the curve, which means that the adjustments of the crude oil forward curve are very judgemental. The refining margin depends on production costs of refineries in the long run but in the short term can be driven by demand/supply imbalances in refining capacity and storages volumes of the different oil distillates, which is means it can be driven by very local market forces. Forecasting these factors is extremely difficult.

[25] However, this is the rationale in IAS 39.BC138 underlying the prohibition of designating risk components in non-financial hedged items—based on that it is in 'many cases' difficult so it should be disallowed in *all* cases (except FX risk).