
Project	Financial Instruments (Replacement of IAS 39) – Hedge Accounting
Topic	Risk Components – The ‘sub-LIBOR’ issue

Introduction

Background

1. This paper addresses an issue that predominantly arises in a narrow subset of interest rate risk hedging. It is about the benchmark interest rate risk component of a financial asset or liability that bears interest below the benchmark rate.
2. Although the subset is narrow it an important issue for the entities affected—predominantly financial institutions—and has been raised by constituents during the outreach as well as in responses to the IASB in the past.

Purpose of the paper

3. The purpose of this paper is to analyse the implications for hedge accounting when an entity uses a hedging instrument that is based on a benchmark risk to hedge an item with total cash flows that are less than those associated with that benchmark.
4. For that purpose this paper uses as an example hedges of the LIBOR component of an interest-bearing financial asset or financial liability whose effective interest rate is lower than LIBOR (ie a negative spread to LIBOR). The paper contains one question to the Board.

This paper has been prepared by the technical staff of the IFRS Foundation for discussion at a public meeting of the IASB.

The views expressed in this paper are those of the staff preparing the paper. They do not purport to represent the views of any individual members of the IASB.

Comments made in relation to the application of an IFRS do not purport to be acceptable or unacceptable application of that IFRS—only the IFRS Interpretations Committee or the IASB can make such a determination.

The tentative decisions made by the IASB at its public meetings are reported in *IASB Update*. Official pronouncements of the IASB, including Discussion Papers, Exposure Drafts, IFRSs and Interpretations are published only after it has completed its full due process, including appropriate public consultation and formal voting procedures.

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The issue

5. Is there a LIBOR-component of an interest-bearing financial asset or financial liability if the effective interest rate of the instrument is lower than LIBOR? If so, should that LIBOR-component be eligible for designation as a hedged item?

Staff analysis and alternatives*IAS 39 requirements*

6. IAS 39 discusses hedging portions of risk in an interest-bearing financial asset or liability as part of the designation of financial items as hedged items (refer to paragraphs AG99C and AG99D reproduced in Appendix A).
7. The requirements of IAS 39 mandate that entities cannot designate a portion that is bigger than the total of the cash flows of the hedged item. The total exposure in the context of the example in the current guidance is given by the effective interest rate on the hedged item.
8. IAS 39.AG99C uses an example of variable rate instruments. That paragraph allows entities to designate the LIBOR component of an interest-bearing asset or liability provided that the instrument has a *zero or positive* spread over LIBOR.¹ Upon designation entities might achieve accounting for a fully effective hedge².
9. IAS 39.AG99D applies the same approach to a scenario where the risk being hedged is the benchmark component of a fixed rate instrument. In this scenario, if the effective interest rate of the instrument (a fixed rate) that would be determined had the asset been purchased on the date of designation of the hedged item is higher than LIBOR, entities are allowed to designate the LIBOR-

¹ However, for an asset or liability with a negative spread an entity could designate *all* of the cash flows of the *entire* financial asset or financial liability as the hedged item thus hedging the change in the fair value or cash flows of that entire liability that is attributable to changes in LIBOR.

² Credit risk is ignored for simplicity.

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component and might achieve accounting for a fully effective hedge³ (as the fixed rate component can be decomposed in a LIBOR plus spread coupon).

The sub-LIBOR issue

10. The sub-LIBOR issue arises when entities, particularly banks, have access to funding below LIBOR or linked to a reference rate that is demonstrably below LIBOR. Under the current hedge accounting model, in these scenarios entities are unable to designate the hedging relationship on a risk component basis, which results in hedge ineffectiveness.
11. During our outreach, some constituents raised the issue that because of this restriction they are unable to designate on a components basis. In their view, designation on a risk components basis reflects the risk management approach also when the hedged item has a negative spread to the benchmark rate. For example, this occurs when the reference rate is highly correlated with LIBOR and the negative spread arises because of the better credit risk of the contributors to the reference index when compared to LIBOR. It can also arise on variable rate loans that bear interest as the benchmark reference rate ‘minus xx basis points’.
12. In these constituents’ view it should be possible to hedge the LIBOR risk as a benchmark component and treat the spread as a negative residual component.
13. Their view reflects that they are hedging their exposure to the variability of cash flows attributable to LIBOR (or correlated index) using LIBOR swaps. Its proponents therefore contend that the current model, by not allowing entities to reflect this risk management activity, does not allow them to show the substance of the hedging relationship, and that this forces them to recognise hedge ineffectiveness that in their view is not reflective of their risk management strategy.

³ Credit risk is ignored for simplicity.

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Staff analysis

14. The staff believe that the 'sub-LIBOR' issue is broader than the restriction requiring components to be smaller than the hedged cash flows that are represented by the effective interest rate.
15. As mentioned in paragraph 8, the sub-LIBOR issue arises in scenarios where entities, particularly banks, have access to sub-LIBOR funding (bearing an interest coupon at LIBOR minus a spread). This spread represents a positive margin for the borrower because banks will on average pay LIBOR for their funding in the interbank market.
16. When entering into hedging relationships, entities cannot obtain (at a reasonable cost) a standardised instrument for all homogeneous groups of transactions that are priced sub-LIBOR (for example deposits). Consequently, entities must carry out hedging by using standardised instruments that have LIBOR as their underlying index.
17. For risk management, entities normally do not try to hedge the effective interest rate of the instrument but rather the changes in the variability of the cash flows attributable to LIBOR. By doing this, such entities ensure that exposure to interest risk is managed and that the margin is 'locked' over time provided that LIBOR is not below the absolute spread.

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18. This risk management hedging strategy provides offsetting changes regarding the LIBOR related interest rate risk just like in a 'LIBOR-plus' situation (ie with a spread that is zero or positive) as long as LIBOR does not fall below the (absolute value of the negative) spread. However, if LIBOR falls below that spread this will potentially imply zero or negative interest. Depending upon the relevant terms and conditions of the instrument, either a zero interest rate floor applies or negative interest would arise leading to counterintuitive results. In order to illustrate this issue, the staff provides an analysis of the various perspectives underlying the designation of a LIBOR component in an instrument priced sub-LIBOR. The analysis is structured in 4 sections in order to outline the various areas the Board needs to consider when assessing the issue of risk components of instruments priced sub-LIBOR.

Designation of a LIBOR component

19. The first issue is to what extent a 'LIBOR' component can always be found in an instrument priced sub-LIBOR.
20. In the staff's view such a component can generally be identified provided that the value of LIBOR will not drop below the absolute value of the negative spread. We will analyse this issue using 2 examples.

Example 1

21. Entity A holds a fixed rate interest-bearing financial asset that pays 3% (fixed when LIBOR is 4%). The LIBOR equivalent coupon can be represented as LIBOR-1%.
22. If Entity A enters into an interest rate swap whereby it receives LIBOR and pays 4% the hedging relationship will achieve the desired effect (hedge of the changes in the cash flows attributable to LIBOR) if LIBOR is above 1%. This is illustrated in the table below:

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Asset Coupon	Swap		Return on the asset (after hedge)	Floating rate equivalent
	Pay 4%	Receive LIBOR		
3%	4%	4%	3%	LIBOR -1%
3%	4%	3%	2%	LIBOR -1%
3%	4%	2%	1%	LIBOR -1%
3%	4%	1%	0.0%	Zero interest (floor on asset)
3%	4%	0.50%	-0.5%	Negative interest

23. The table above shows that provided that LIBOR is above 1% the desired outcome (link the income to the changes in LIBOR with a locked negative margin) is achieved, however below the absolute value of the spread (ie 1%) the income on the asset will generate interest so low that together with the net payments under the swap the hedged return become negative interest. This is counterintuitive as economically the interest income on the asset has a ‘natural’ floor of zero.
24. A similar outcome would occur if the sub-libor instrument bears a floating rate interest coupon that is priced sub-LIBOR (ie a LIBOR-spread type coupon) but did *not* have a floor of zero (ie the *holder* could be required to pay ‘interest’ to the debtor).

Example 2

25. Taking the same logic as in Example 1 assume now that Entity A has a financial liability that pays LIBOR-1% when the level of LIBOR is 4%. If Entity A enters into an interest rate swap whereby it receives LIBOR and pays 4%, the hedging relationship will achieve the desired outcome (ie lock in the cost of funding to 3%) if the level of LIBOR does not drop below 1%. This is illustrated in the table below:

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Liability Coupon	Payment without hedging	Swap		Cost of funding	Floating rate equivalent
		Pay 4%	Receive LIBOR		
LIBOR -100 bps	3%	4%	4%	3%	Cap of the cost of funding
LIBOR -100 bps	2%	4%	3%	3%	
LIBOR -100 bps	1%	4%	2%	3%	
LIBOR -100 bps	0%	4%	1%	3%	
LIBOR -100 bps	0%	4%	0.50%	3.5%	Negative margin on a sub-LIBOR coupon as interest rate on the liability is floored at zero

26. In scenarios in which LIBOR is lower than 1% the funding costs of the entity after hedging would be variable and higher than in scenarios in which LIBOR is higher than (or equal to) 1%. In the LIBOR range between 1% and 0% the funding costs after hedging increase from 3% to 4% as LIBOR decreases. This is inconsistent with the creditworthiness of the entity and market interest rates because with declining market interest levels the entity pays higher interest (that is unrelated to changes in its credit standing (similarly to a ‘reverse floater’).
27. Taking the outcome of the two examples into account there is an issue that crosses the two examples - the likelihood of achieving a negative margin. This is reflected in a negative interest when the hedged item is an asset or in cost of funding that inconsistent with market levels of interest and the issuer’s credit worthiness.
28. Similarly, for fixed rate liabilities and variable rate assets that bear interest below LIBOR there are also counterintuitive results (after taking into account the effect of hedging) that contradict the economic phenomenon (ie ‘income’ received on a liability or excessive interest income on the asset that increase as market interest rates decrease).
29. The staff believe that these possible outcomes should not be ignored as there is always the possibility that LIBOR might go below the margin or implied margin (in the case when the hedged item is a component of a fixed rate sub- LIBOR instrument).

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30. If the Board decides it is possible to designate a LIBOR component in a sub-LIBOR instrument such designation needs to be supplemented by guidance on how to determine the probability of reaching the limit for automatic discontinuation (because LIBOR reached the absolute value of the spread). This takes designation of risk components a step further which is the possibility of designating risk components subject to the occurrence/non-occurrence of contingent events (in this scenario an automatic discontinuation event).
31. In the staff's view, this will introduce complexity and will require the Board to provide further application guidance on how to determine whether the likelihood of occurrence of those events can or cannot be ignored when designating the desired LIBOR component of the sub-LIBOR instrument as a hedged item.
32. Based on these arguments we believe that designation of a LIBOR component in sub-LIBOR instrument is inappropriate from an accounting perspective. However, this question encompasses other angles which are explored below.

Margin issue

33. The 'negative margin' issue is illustrated by the examples above. In both examples if LIBOR drops below the level of the spread counterintuitive outcomes will arise. (Conversely, in the case of fixed rate liabilities and variable rate assets that bear interest below LIBOR there would be a 'positive margin' issue, ie the margin could increase in a way that contradicts the economic phenomenon of how market interest rates move).
34. In the first scenario an entity will be reporting negative interest on the asset which is inconsistent with the presumption that the interest income on an interest bearing financial asset is floored at zero per cent⁴. The potential outcome of this type of hedge designation—negative interest—would misrepresent the economic phenomenon that hedge accounting would purport to achieve: converting interest *income* on an asset from fixed to variable.

⁴ Ignoring credit risk for simplicity.

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35. Similarly, for floating rate liabilities priced sub-LIBOR (as described in example 2 above), if LIBOR falls below the absolute value of the spread, the outcome of the hedging relationship will mean that the cost of funding will be inconsistent with market levels of interest (and the creditworthiness of the issuer) because it will be above the current interest rate level and the margin that represents the issuer's credit standing.
36. In this example, within a LIBOR range between 0% and 1% the interest payments *after the effects of hedging* behave like a 'reverse floater'. This means the hedged interest expense moves opposite to market levels of interest for a hedge that otherwise locks in the interest by swapping it to fixed.
37. Given the outcomes when LIBOR levels are below the spread as illustrated above, the staff consider that hedge accounting on a risk components basis that assumes higher total cash flows than those of the actual hedged item would not be aligned with the economic substance of the (combined) transactions. Hence, the staff consider that the designation of a LIBOR risk component in an interest rate bearing instrument that is priced sub-LIBOR is inappropriate.
38. There are however two more angles to this question. These are described below.

Relationship with hedges of a one-sided risk

39. The relationship of the sub-LIBOR issue with the hedges of one-sided risks arises because different types of hedging instruments can be used to hedge the same type of risk. For example the LIBOR risk can be hedged using interest rate swaps (IRS) or forward rate agreements (FRAs), but also with option based derivatives (caps, floors, collars and others) or even a combination of both if entities want to hedge the one-sided risk of changes in the interest rate below or above a certain level and want to achieve different payoffs.
40. The question in this context is the sub-LIBOR scenario can be compared to hedges of one sided risks. This is because the hedges of sub-LIBOR assets or liabilities described above achieve offset for LIBOR changes above a certain threshold (1% in the examples) but not below.

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41. In the case of the sub-LIBOR issue the hedge of one-sided risks using option contracts will produce a different accounting outcome from hedging using forward type contracts. This because the option contracts become active or cease to be active depending on whether they are in, at or in-the money. The three stages are driven by the relationship between the absolute value of the spread and the value of LIBOR.
42. In the case of example 1, the counterintuitive outcome arising from the recognition of negative interest can be avoided if the hedging relationship is designed as follows:
- (a) A combination of a swap with an option feature in the floating rate leg (range accrual) that allows entity A to pay 4% and receive the *higher* of LIBOR and 1% on the receive leg (ie 1% fixed if LIBOR is below 1%).
 - (b) The option feature included in the floating rate leg is a strip of binary options whereby entity A receives the higher of LIBOR and 1% provided that LIBOR is below 1%. In all other scenarios the option will be worthless and the *vanilla* interest rate swap would apply. The outcome is illustrated below:

Asset Coupon	Floating rate equivalent without hedging	Swap			Strip of binary options	Return on the asset	Floating rate Equivalent
		LIBOR	Pay 4%	Receive LIBOR	Intrinsic value		
3%	LIBOR - 3%	6%	4%	6.0%	0%	5%	LIBOR - 100bps
3%	LIBOR - 2%	5%	4%	5.0%	0%	4%	LIBOR - 100bps
3%	LIBOR - 1%	4%	4%	4.0%	0%	3%	LIBOR - 100bps
3%	LIBOR	3%	4%	3.0%	0%	2%	LIBOR - 100bps
3%	LIBOR + 1%	2%	4%	2.0%	0%	1%	LIBOR - 100bps
3%	LIBOR + 2%	1%	4%	1.0%	0%	0%	LIBOR - 100bps
3%	LIBOR + 2.5%	0.5%	4%	0.0%	1%	0%	Zero interest floor
3%	LIBOR + 2.7%	0.3%	4%	0.0%	1%	0%	Zero interest floor
3%	LIBOR + 2.9%	0.1%	4%	0.0%	1%	0%	Zero interest floor
3%	LIBOR + 3%	0%	4%	0.0%	1%	0%	Zero interest floor

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Higher of LIBOR and 1%
Inception of the hedging
relationship

43. For example 2 the same structure can be used to avoid the counterintuitive result of recognising a cost of funding inconsistent with the issuer’s (Entity A) credit worthiness. This can be designed as follows:

- (a) A combination of a swap with an option feature in the floating rate leg (range accrual) that allows entity A to pay 4% and receive the higher of LIBOR of and 1% on the receive leg (ie 1% fixed if LIBOR is below 1%).
- (b) The option feature included in the floating rate leg is a strip of binary options whereby entity A receives the higher of LIBOR and 1% provided that LIBOR is below 1%. In all other scenarios the option will be worthless and the *vanilla* interest rate swap would apply. The outcome is illustrated below:

Liability Coupon	Fixed rate equivalent without hedging	Swap			Strip of binary options	Cost of funding
		LIBOR	Pay 4%	Receive LIBOR	Intrinsic value	
LIBOR -100 bps	5%	6.0%	4%	6.0%	0%	3%
LIBOR -100 bps	4%	5.0%	4%	5.0%	0%	3%
LIBOR -100 bps	3.0%	4.0%	4%	4.0%	0%	3%
LIBOR -100 bps	2.5%	3.5%	4%	3.5%	0%	3%
LIBOR -100 bps	2.2%	3.2%	4%	3.2%	0%	3%
LIBOR -100 bps	2.0%	3.0%	4%	3.0%	0%	3%
LIBOR -100 bps	1.0%	2.0%	4%	2.0%	0%	3%
LIBOR -100 bps	0.0%	1.0%	4%	1.0%	0%	3%
LIBOR -100 bps	-0.50%	0.5%	4%	0.00%	1%	3%
LIBOR -100 bps	-0.70%	0.3%	4%	0.00%	1%	3%
LIBOR -100 bps	-0.90%	0.1%	4%	0.00%	1%	3%
LIBOR -100 bps	-1.00%	0%	4%	0.00%	1%	3%

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	Inconsistent with the rationale of an interest expense bearing financial liability therefore it will be floored at zero
	Higher of LIBOR and 1%
	Inception of the hedging relationship

44. The profiles illustrated above resolve the issue created by the forward type derivatives - the fact that forward type derivatives generate either a cost of funding or a return that is inconsistent with the economics of the hedged transaction. This is because it is possible to create asymmetrical payoffs by incorporating option type derivatives into the hedging structure.
45. The outcomes show that the result of a one-sided hedge is different from that achieved with plain vanilla LIBOR swaps described in Examples 1 and 2. The one-sided hedge strategy would avoid the outcomes that are inconsistent with the economic phenomenon of what is hedged. Hence, an analogy to one-sided hedges cannot support the hedging on a risk components basis that involves designating a portion that is bigger than the total of the cash flows of the hedged item.
46. In the section below the staff explores the third angle relevant to analyse this question. This is the relationship with the qualifying criteria under the proposed model.

Relationship with the qualifying criteria under the proposed model

47. The qualifying criteria that are being developed for the new hedge accounting model have a strong link to risk management and require entities to demonstrate for the purpose of the effectiveness testing that hedging relationships will produce an unbiased result and minimise expected ineffectiveness. Hence, there should not be a deliberate imbalance between the quantities of the hedged item and hedging instrument⁵.

⁵ Refer to papers 4 and 4A presented at the 24 August meeting.

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48. Under the current hedge accounting model entities were not allowed to designate the LIBOR component of a sub-LIBOR instrument as a hedged item and therefore potentially achieve a fully effective hedge for the LIBOR component. This meant that all these hedging relationships incorporated some degree of ineffectiveness.
49. In relation to the way hedging relationships are designated under the current model, entities *may* adjust the hedge ratio to a ratio other than a one-to-one if that improves hedge effectiveness⁶, or alternatively establish the hedging relationship on a one to one basis, provided that there no expectation that the hedging relationship would fail the arbitrary bright-line of 80 to 125% during its term.
50. Under the proposed model, the adjustment of the ratio to a ratio other than one-to-one is *mandatory* if that is necessary to avoid hedging relationships having a deliberate imbalance between the quantities of the hedged item and hedging instrument (and would therefore create a biased result regarding ineffectiveness). If at any point during their term there are changes affecting the hedging relationship implying that the relationship gives rise to ineffectiveness exceeding the expected level, the hedging relationship will be subject to rebalancing.⁷ This means that the one-to-one ratio may not be appropriate under the new model.
51. However, entities may still achieve hedge accounting by designating *all* of the cash flows of the hedged item for LIBOR interest rate risk. Note that this is different from designating a LIBOR component that assumes cash flows exceeding those of the hedged item (in Example 2, if LIBOR changes from 1% to 0.5% the LIBOR interest rate risk related change in the cash flows of the actual hedged item is zero while on a LIBOR components basis that assumes cash flows exceeding those of the hedged item there would be (an assumed) 50 basis points decrease).

⁶ Refer to IAS 39 paragraph AG107A—Note that this only improves effectiveness but will not allow entities to account for a fully effective hedge.

⁷ Refer to agenda papers 17 to 17B for further details.

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Staff's conclusion

52. Based on the analysis above, the staff believe that the Board has at least two alternatives:
- (a) **Alternative 1**—Keep the current model as described in paragraphs AG99C and AG99D of IAS 39.
 - (b) **Alternative 2**—Allow the designation of risk components on a benchmark risk basis that assumes cash flows exceeding the total actual cash flows of the hedged item (eg designation of a LIBOR risk component in instruments priced sub-LIBOR that are subject to a hedging relationship using standardised instruments linked to LIBOR).

Implications for hedge accounting

53. The pros and cons of the alternatives above are as follows:

Alternative 1**Pros**

54. This alternative will retain the requirements in IAS 39 and avoid counterintuitive outcomes like negative interest and cost of funding inconsistent with movements in the market rates (and the issuer's creditworthiness).

Cons

55. The Board will not be addressing the concerns of some of its constituents and hedge accounting will not be showing the results of some risk management strategies 'through the eyes of management'.
56. The designation of hedging relationships involving sub-LIBOR instruments may involve increased complexity because entities may have to use a hedge ratio

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other than one-to-one. This may also involve rebalancing during the term of the hedge relationship.

Alternative 2

Pros

- 57. By allowing some sub-LIBOR hedges to be designated on a risk components basis that assumes higher cash flows than the total actual cash flows of the hedged item, the hedge accounting model would facilitate that a strategy that is commonly used for hedging, particularly by banks when hedging their financial margin, can be presented ‘through the eyes of management’.
- 58. This would address the concerns of some constituents .

Cons

- 59. The hedging relationship may produce an accounting outcome that is inconsistent with the economics of the instrument being hedged (eg negative interest, or cost of funding inconsistent with the issuer’s credit worthiness);

Staff recommendations and questions to the Board

- 60. Taking into account the pros and cons the staff recommend Alternative 1.

Question - Sub-LIBOR Issue
<p>Does the Board agree with the staff recommendation as outlined in paragraph 61?</p>
<p>If the Board disagrees with the staff recommendation, what would the Board recommend and why?</p>

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Appendix A – Current Guidance in IAS 39

- A1 AG99C** - If a portion of a financial asset or financial liability is designated as the hedged item, that designated portion must be less than to the total cash flows of the asset or liability. For example, in the case of a liability whose effective interest rate is below LIBOR, an entity cannot designate (a) a portion of the liability equal to the principal amount plus interest at LIBOR and (b) a negative residual portion. However an entity may designate all of the cash flows of the entire financial asset or financial liability as the hedged item and hedge the entire liability (ie principal plus interest at LIBOR minus 100 basis points) and hedge the change in the fair value or cash flows of that entire liability that is attributable to changes in LIBOR. The entity may also choose a hedge ratio of other than one to one in order to improve the effectiveness of the hedge as described in paragraph AG100
- A2 AG99D** - In addition, if a fixed rate financial instrument is hedged some time after its origination and interest rates have changed in the meantime, the entity can designate a portion equal to a benchmark rate that is higher than the contractual rate paid on the item. The entity can do so provided that the benchmark rate is less than the effective interest rate calculated on the assumption that the entity had purchased the instrument on the day it first designates the hedged item. For example, assume an entity originates a fixed rate financial asset of CU100 that has an effective interest rate of 6 per cent at a time when LIBOR is 4 per cent. It begins to hedge that asset some time later when LIBOR has increased to 8 per cent and the fair value of the asset has decreased to CU90. The entity calculates that if it had purchased the asset on the date it first designates it as the hedged item for its then fair value of CU90, the effective yield would have been 9.5 per cent. Because LIBOR is less than this effective yield, the entity can designate a LIBOR portion of 8 per cent that consists partly of the contractual interest cash flows and partly of the difference between the current fair value (ie CU90) and the amount repayable on maturity (ie CU100).