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Project	**Accounting for Macro Hedging**		
Paper topic	Internal derivatives: role for external accounting? (Step 10)		
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Introduction

1. The purpose of this paper is to discuss step 10 of the '11 steps' that the Board started discussing at the November 2011 meeting[1] with respect to accounting for macro hedging activities.

2. This paper provides an overview of how banks typically use derivatives, specifically internal derivatives, as part of their risk management practices. It also discusses the potential roles that internal derivatives might play in an accounting model for macro hedging.

3. The below discussion focuses on two key questions:

   (a) What criteria should be considered when identifying the portfolio managed on a macro hedging basis that is eligible for the revaluation model[2]? Should consideration be given to the external view (ie the consolidated Group) or be based on business unit activities?

   (b) Should internal derivatives have an impact on the income presentation in the accounting for macro hedging in the consolidated financial statements?

[1] See staff paper 7A.
[2] In this paper, 'revaluation model' refers to the accounting model for macro hedging that has been developed to date during the discussions of the '11 steps'.

Organisational structure of banks for interest rate risk management

4. Banks typically have separate Trading and Group Treasury units for interest rate risk.

5. Trading units will run interest rate positions, within their delegated trading limits[3], with a view to earning a fair value profit from favourable movements in market interest rates. In contrast, the aim of the Group Treasury or Banking Risk Management unit is to minimise benchmark interest rate mismatches within the bank's lending operations[4] (often referred to as the 'banking book'), allowing the bank to stabilise a lending margin by reducing its sensitivity to changes in benchmark interest rates.

6. Typically the Trading and Group Treasury units are managed separately with different personnel, applying different limit structures, remuneration arrangements, and often with discrete reporting lines to the Bank's board. Both Trading and Group Treasury units will however transact similar instruments, eg interest rate swaps and other interest rate risk derivatives, albeit for different purposes.

Group Treasury's use of internal hedging derivatives

7. It could be assumed from the above discussion that all derivatives transacted by Group Treasury are external. However, a common approach amongst banks is for Group Treasury to undertake its risk management activity using predominantly internal derivatives with the Trading unit rather than an external counterparty.[5] This creates an internal risk transfer from a non-trading (banking unit) to a trading unit.

8. The Trading unit would then treat the interest rate risk from internal derivatives with Group Treasury in the same way it would treat interest rate risk from external derivatives. The internal derivative forms part of the trading unit's risk position

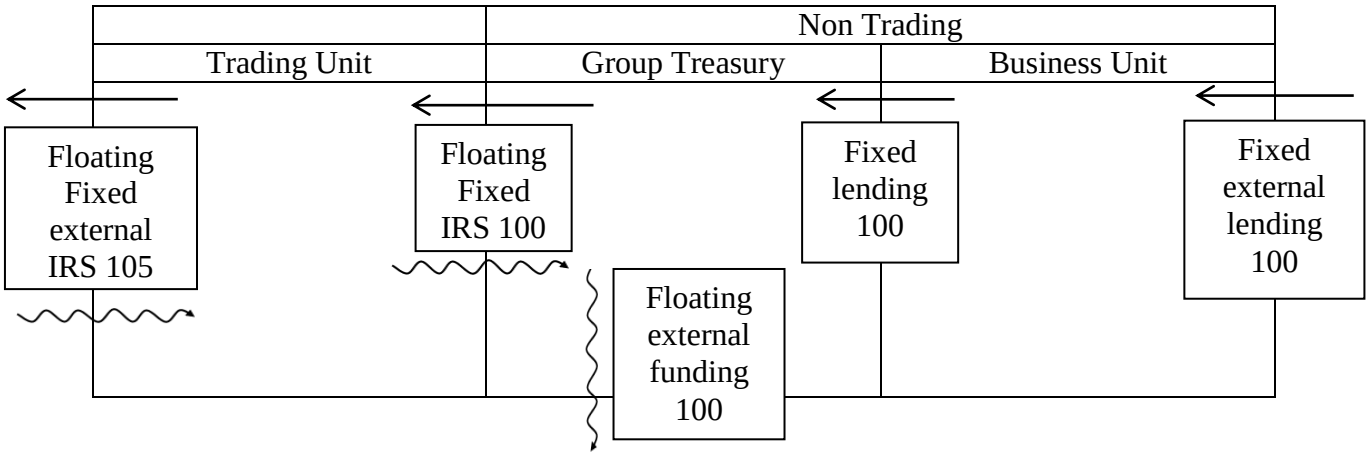
[3] See further discussion on trading or risk limits in agenda paper 4B
[4] Group Treasury also funds the bank's lending operations in the business units. Group Treasury usually provides matched funding via internal loans, which has the result of transferring interest rate mismatches within different parts of the group into Group Treasury.
[5] The rationale for Group Treasury using internal derivatives rather than external derivatives is to minimise counterparty risk and transaction costs.

and the traders would need to decide what action to take as a result of the new position, acting within their own pre-agreed trading limits. This action could take the form of a one-to-one externalisation, minimisation of the risk position (eg duration hedge[6]), incorporation into a trading position[7] or variations on all three. See the diagram below for an overview and a simplified example.[8]

[6] Duration is a weighted average of the timing of all the cash flows from interest rate instruments, and it approximately measures the amount of the change in fair value due to 1% change in the interest rate. For example a £200m 10 year fixed rate bond will have a similar amount of interest rate risk as a £400m 5 year bond, since duration (interest rate sensitivity) of the former is approximately twice as large as the latter. Traders may close out interest rate positions using instruments with similar amount of interest rate risk based on durations rather than an instrument with exactly offsetting cash flows. However, duration hedging is not perfect as instruments with similar durations may have different sensitivities to individual parts of the yield curve which could result in profit or loss volatility. Duration hedges tend to be dynamic for this reason.

[7] For example, an entity has a (net) interest rate risk position of receiving fixed interest for 5 years. Instead of hedging it with an interest rate swap that pays fixed and receives variable interest for 5 years the entity uses a forward starting swap that starts only in 6 months' time (and a 4.5 year maturity) as the traders expect short-term interest rates to decrease. By starting the hedging only in 6 months' time the entity will receive higher interest than if it had swapped interest payments to variable—if interest rates actually decrease (this means retaining the risk of receiving less interest than market interest if interest rates actually increase).

[8] In the diagram IRS means interest rate swap, FVTPL means fair value through profit or loss, AC means amortised cost, FV means fair value and BU means business unit. All numbers refer to a notional or principal amount.



Goal of business activity		
Trading within risk limits (trading risk position of 5)	Protect margin against changes in benchmark interest rates	Earn customer margin
Segmental accounting default outcome		
External and internal derivatives at FVTPL 5	Internal derivatives at FVTPL 100 Funding and lending activity at AC 100	Customer loan and internal funding at AC 100
Consolidated accounting default outcome		
External derivatives at FVTPL 105	External floating rate funding at AC 100	Customer loan at AC 100

9. It can be seen from the above that at both the consolidated[9] and segmental[10] level that the default outcome is an accounting mismatch as the hedging derivatives are measured at fair value through profit or loss whereas the hedged assets are measured at amortised cost.

10. A key consideration of this paper is the criteria required to identify the appropriate portfolio for which a revaluation adjustment should be applied in order to eliminate that mismatch and therefore provide more decision useful information reflecting the economic exposure of the bank more accurately.

11. It would seem sensible that the appropriate exposures to attract a revaluation adjustment should be a matter of fact, based on actual risk management activities. Specifically the hedged portfolio should be identified based on Group Treasury

[9] Fair value movements on only 100 of the 105 external derivatives represent offset to the revaluation of 100 of the customer lending held at amortised cost.
[10] Fair value movements on 100 of the internal derivatives in Group Treasury represent offset to the revaluation of 100 of the customer lending held at amortised cost.

risk management activities without regard for any actions undertaken by the Trading unit. Where Group Treasury carry out risk management activity using external derivatives this approach is widely accepted, however some might have a different view where internal derivatives are used for risk management.

12. As can be seen in the above diagram, typically prior to any hedge accounting, internal derivatives are subject to fair value measurement in the trading and non-trading book in the same way as external derivatives, before they become subject to elimination on consolidation. Consequently, they will not affect consolidated profit or loss by themselves.

13. It would be difficult to argue that just because risk management and trading activities are managed separately and at arm's length via internal derivatives, those internal derivatives were not required to be eliminated on consolidation in the financial statements.

14. The more pertinent issue being considered here is whether it is acceptable to permit the use of a revaluation accounting model for a portfolio of instruments where the interest rate risk has been (partly or wholly) transferred to a trading unit via internal derivatives.

Eligibility of a revaluation model: relevance of internal derivatives?

15. If using a revaluation model is permitted purely on the basis of risk management activities within Group Treasury without regard to whether external derivatives exist or not, it could lead to the following extreme example: a business unit has lent 100 for 3 years at a fixed rate of 5% to an external customer. Group Treasury provides fixed rate funding to the business unit allowing them to lock in their lending margin. Group Treasury in turn is funded with floating rate liabilities and so transacts an internal interest rate swap with the Trading unit, paying fixed and receiving floating rate interest for 3 years. The Trading unit absorbs the internal swap into its trading position and chooses not to transact any additional external instruments as it wishes to leave its receive fixed 3 year position from the internal derivative open in order to generate trading profit or loss.

16. Because Group Treasury has passed on the fair value interest rate risk of its 3 year receive fixed position with an internal derivative, it wishes to revalue its fixed rate loans for interest rate risk to avoid an accounting mismatch. If using a revaluation

model was permitted based purely on the existence of internal derivatives, then a revaluation adjustment for interest rate risk on the external 3 year fixed rate customer lending would be taken to profit or loss. On consolidation the impact of the offsetting internal derivative in both the Trading unit and Group Treasury would be eliminated, leaving just the revaluation adjustment on the external lending in consolidated profit or loss. In addition, the impact of the Group's actual earned net lending interest margin (ie the external positions whereby the Group receives fixed and pays floating interest) is included in profit or loss.

17. Such a treatment would correctly indicate that the Trading unit has chosen to retain the receive-fixed interest rate risk as a trading position, but net interest would not reflect the stable margin Group Treasury has attempted to achieve. However, from a consolidated perspective the Bank has not achieved a stable interest margin so from that perspective the accounting outcome does provide relevant information.

18. If using a revaluation model was prohibited in the above scenario, the financial statements would reflect an unhedged margin through variability in net interest income, but without any fair value volatility, despite the trading decision to run an open position. This would be the same outcome as a bank where the Group Treasury specifically chose *not* to eliminate interest rate risk from funding fixed rate assets with floating rate liabilities.

19. This is a reminder that under the mixed accounting model for financial instruments, unhedged interest rate positions from non-derivative instruments do not result in immediate profit or loss volatility to the extent that they arise from instruments measured at amortised cost.

20. Permitting the application of a revaluation model where interest rate risk management has been undertaken, yet where no external hedges were transacted, allows the revaluation of the interest rate component of assets for which the business model is to collect contractual cash flows, *irrespective* of whether that interest rate risk has been externally hedged.

21. Whilst there is no suggestion in this paper that profit or loss should be recognised from an internal derivative (as it will be fully eliminated), the existence of an

internal derivative will affect profit or loss by facilitating a change in the accounting for the loans (ie their revaluation for interest rate risk).

Externalisation

22. The above example is not common, and was intentionally an extreme example. As described in the diagram in paragraph 8, it is more usual for trading units to cover risk positions transferred from non-trading units with external instruments, either partially or in full.

23. A prerequisite of hedge accounting where derivatives exist under IAS 39 is the need to demonstrate the existence of *external* derivatives as hedging instruments. Where internal derivatives are used for risk management purposes, banks currently apply a variety of practices in order to achieve hedge accounting for macro hedging activities. These vary from requiring trading units to externalise internal derivatives on a one-to-one basis where hedge accounting is desired, to the subsequent identification and designation of the best (but possibly unrelated) matching external derivative in the trading portfolio. Both these approaches have a significant operational impact on the bank's activities, either by restricting the normal activities of the Trading unit over and above their delegated risk limit structures, or requiring additional identification and tracking procedures as an appendage to the actual risk management activities.

24. One suggestion might be that if an entity could demonstrate that the risk transferred from Group Treasury through internal derivatives has been *substantially*[11] passed on to external counterparties, then the appropriate portfolio for which a revaluation model is applied may be based on actual (non-trading) risk management activities, including any internal derivatives.

25. In this situation the risks identified by the non-trading unit have been substantially addressed through external derivatives, even from a Group-perspective, and hence applying a revaluation model to the hedged portfolio would be appropriate.

26. Conversely, if the risks transferred to the Trading unit have not been substantially externalised, then the extreme example given above becomes relevant again. The revaluation of a portfolio that is ultimately not hedged from a group-perspective

[11] This is further discussed in paragraphs 27–31.

would be different to the accounting outcome for a bank that chooses not to hedge its interest rate risk (and hence retains amortised cost measurement for its assets that fall into that category).

27. The key factor in the above suggestion is whether the risks transferred to the trading unit have been *substantially* externalised or not. There are a variety of ways in which this could be determined and interpreted.

28. The externalisation criterion could be based on an instrument-by-instrument approach. However, such an approach would not always reflect the actual risk management because risks are typically not externalised on such a one-to-one basis. Instead Trading units may more usually transact externally only once the risk position that is built up by internal transactions reaches a size that makes an external transaction desirable and economical and after the offsetting effect of internal transactions is taken into account. Also, an instrument-by-instrument approach would mask any 'round trip'[12] externalisations.

29. An alternative would be to apply a portfolio approach whereby the bank is deemed to have demonstrated that the risk transferred through internal derivatives is substantially externalised, as long as some pre-defined risk limits are not breached, perhaps using existing trading limits. The second alternative may better reflect the actual risk management activities, however there is no consistency between banks as to what those pre-defined limits should be.

30. Prescriptive guidance could be provided in the standard as to what *substantially* means in this context, but this would require significant discussion and would only reintroduce artificial bright lines, which would not be consistent with this project's aim of improving and simplifying the accounting for macro hedging.

31. In addition, if particular criteria to prove an appropriate level of externalisation are required, we need to consider the question of what will happen if the criteria are not met for a particular period. Any proposed treatment is likely to introduce additional complexity to the accounting solution. If revaluation adjustments are

[12] Round trip externalisations in this context are where external derivatives are transacted to demonstrate externalisation, but an additional offsetting external derivative is also transacted to recreate the original position, resulting in a net nil externalisation

not permitted for a particular period once the revaluations model has been applied, onerous amortisation issues will arise (as they do under the current model).

32. On the other hand, let us revisit the fact pattern in paragraph 15 and the financial reporting outcome described in paragraph 17 where a revaluation adjustment is made without any externalisation. It could be argued that such an outcome in the consolidated financial statements does provide a good representation of the activities and financial position of the group. From that perspective, externalisation is not required in order to provide useful information and would only add unnecessary operational complexity to any revaluation model.

33. More broadly, a revaluation model is a way to distinguish between:

    (a) **Situation A**: a group that simply does not hedge its interest rate position;

    (b) **Situation B**: a group that holds the same interest rate position and hedges that interest rate risk internally or externally but also takes positions as part of a trading strategy to generate fair value profits, which in the extreme can be the same as not externalising interest rate risk (if the interest rate risk position coincides with the interest rate risk position desired for trading purposes).

34. Permitting a revaluation adjustment to a portfolio for which the interest rate risk is hedged would facilitate distinguishing situations A and B. Internal derivatives could play a role in this distinction as an indicator that a group hedges its interest rate risk instead of simply not hedging it. A further distinction could be made within situation B to address that an entity can arguably create the same interest rate risk position for trading purposes in different ways:

    (a) by not externalising the interest rate risk position that results from its lending activities; and/or

    (b) by hedging that position externally but in addition entering into another external transaction that would create an interest rate risk position like the one it hedged.

    Information about how the open interest rate risk position in situation B is created (ie not externalising, etc) could be given by way of disclosure and presentation.

Disclosures and presentation

35. The above analysis concentrates on the timing of recognition of net profit or loss. If a revaluation model is applied without any required linkage to external derivatives, then we need to consider presentation in the income statement and balance sheet.

Income statement presentation: relevance of internal derivatives?

36. Let us consider a less extreme and more common fact pattern to that described in paragraph 15, whereby a trading unit transacts an external derivative in order to hedge internal derivatives, but does *not fully* externalise the internally transferred risk position:

    (a) A bank grants a customer a loan of 100 with a term of 3 years, paying 6% fixed interest based on the benchmark interest rate of 5% (plus a 1% customer margin). It is funded with floating rate liabilities. The resulting interest rate risk is hedged with an internal interest rate swap with the Trading unit.

    (b) The Trading unit chooses to transact an offsetting external interest rate swap but it does not exactly match the internal one as the Trading unit wishes to maintain a small open trading position.

    (c) The example transactions lead to the following segmental and consolidated results in the financial statements[13]. Internal derivatives are fully eliminated in the consolidated results.

[13] The example 'financial statements' reflect the mechanics that are the working assumption of the revaluation model (ie that revaluation adjustments are recognised in the balance sheet as an adjustment to the amortised cost carrying amount and the other side of the entry is recognised in profit or loss).

Period	**0**	**1**	**2**	**3**
Market Interest Rate (Benchmark)	5%	4%	2.8%	2%
NON-TRADING SEGMENT				
Loan (customer margin of 1%)				
Revalued amount	100.0	101.9	102.1	100.0
Change in revalued amount		1.9	0.2	(2.1)
Interest revenue		6.0	6.0	6.0
Funding				
Revalued amount	100.0	100.0	100.0	100.0
Change in revalued amount		0.0	0.0	0.0
Interest expense		(5.0)	(4.0)	(2.8)
Internal swap (pay fix, receive variable)				
Fair value	0.0	(1.9)	(2.1)	0.0
Change in (clean) fair value[14]		(1.9)	(0.2)	2.1
Change in fair value from accruals[15]		0.0	(1.0)	(2.2)
TRADING SEGMENT				
Internal swap (receive fix, pay variable)				
Fair Value	0.0	1.9	2.1	0.0
Change in (clean) fair value		1.9	0.2	(2.1)
Change in fair value from accruals		0.0	1.0	2.2
External instrument(s)				
Fair value	0.0	(2.3)	(2.5)	0.0
Change in (clean) fair value		(2.3)	(0.2)	2.5
Change in fair value from accruals		0.0	(1.2)	(2.6)
NON TRADING SEGMENTAL RESULTS				
Net interest income		1.0	1.0	1.0
Other profit or loss		0.0	0.0	0.0

[14] Clean fair value is the fair value excluding the accruals for the current payment periods of the periodic payments required by the swap.

[15] This is the profit or loss from accruals for the current payment periods of the periodic payments required by the swap. This is part of the fair value change of the instrument, which in this example has been disaggregated for analytical purposes into the change in the clean fair value and the change from these accruals. Both types of amounts are included in profit or loss in the period in which they arise (together they equal the total fair value change of the derivative that is included in profit or loss).

TRADING SEGMENTAL RESULTS				
Trading P&L		(0.4)	(0.2)	(0.0)
CONSOLIDATED FINANCIAL STATEMENTS				
Approach 1—Revaluation model *not* applied				
Net interest income		1.0	2.0	3.2
Trading profit or loss		(2.3)	(1.4)	(0.1)
Net profit or loss		(1.3)	0.6	3.1
Approach 2—Revaluation model applied using external derivatives				
Net interest income		1.0	0.8	0.6
FV profit or loss – non trading		(0.4)	0.0	0.4
Trading profit or loss		0.0	0.0	0.0
Net profit or loss		0.6	0.8	1.0
Approach 3—Revaluation model applied, no presentation changes based on internal derivatives				
Net interest income		1.0	2.0	3.2
FV profit or loss – non trading		1.9	0.2	(2.1)
Trading profit or loss		(2.3)	(1.4)	(0.1)
Net profit or loss		0.6	0.8	1.0
Approach 4—Revaluation model applied using internal derivatives for presentation				
Net interest income		1.0	1.0	1.0
FV profit or loss – non trading		0.0	0.0	0.0
Trading profit or loss		(0.4)	(0.2)	0.0
Net profit or loss		0.6	0.8	1.0

37. Approach 1 demonstrates the outcome of not permitting the application of a revaluation model where internal derivatives have been used. It can be seen that this approach does not provide a good representation of the underlying business activities of the bank, as trading income and net interest income appear artificially

volatile, which is unrepresentative of the risk management activities and the small open trading position.

38. The net profit or loss profiles for Approaches 2, 3 and 4 are the same, as in each approach a revaluation adjustment[16] has been recognised for the hedged portfolio. However, key differences occur in the geography of where in the income statement amounts are presented.

39. Under Approach 2, applying a revaluation model is permitted, but will be entirely based on external derivatives. Whilst the net profit or loss reflects the profit or loss volatility from the trading position undertaken by the Trading unit, it is reported as non-trading instead of trading income[17]. In order to apply Approach 2, those *external* derivatives within the trading portfolio that are deemed to be hedging *must be identified*[18].

40. Approach 3 is similar to Approach 1, except that a revaluation adjustment for the hedged portfolio is recognised, which eliminates fair value volatility in net profit or loss (to the extent that it offsets fair value changes on the external derivatives). However, without any reclassification of profit and loss to net interest income to reflect the risk management activity or the stabilised lending margin.

41. Under Approach 4, a revaluation adjustment is permitted, but in addition a presentational change is made to the income statement as if the internal derivatives were designated at hedging instruments by Group Treasury, with the offsetting internal derivatives presented as part of trading income. This presentation change has no net effect on total profit or loss, but allows the Group to present a lending margin that also includes the stabilising effect of internal derivatives, quantify any ineffectiveness from risk management activities and present trading gains or losses consistent with trading activities.

[16] During this part of the discussion we are not focusing on whether the decision to allow applying a revaluation model is based on internal or external derivatives, our attention is now on the resulting income presentation once applying a revaluation model is permitted.
[17] For the income statement presentation under this approach it is assumed that the net accrual on the external swap can be presented in net interest income whereas the changes in the clean fair value are recognised as gains or losses outside net interest income.
[18] This gives rise to a similar need to identify particular external derivatives as the externalisation requirement that is part of hedge accounting (ie the fact that only external derivatives can be hedging instruments).

Segmental information

42. The reallocation suggested in Approach 4 may provide readers of the financial statements with useful information on the different activities, ie trading and risk management. However, sufficient information about the different activities may be available from the segmental reporting.

43. Typically, Group Treasury's reporting of the segmental result under IFRSs today reflects internal derivatives at FVTPL as well as fair value hedge adjustments from positions for which hedge accounting is achieved. Segmental results for the trading area usually include the FVTPL effect of both internal and external derivatives as part of the trading portfolio. Reported segment income would ordinarily present net interest income and non margin income separately, however a split between trading income, hedge ineffectiveness or other non-margin income is not routinely provided.

Externalisation disclosures

44. If an accounting model did not include any formal externalisation requirements, information on the level of externalisation may be useful for readers of the financial statements, demonstrating the degree to which the externalised derivatives offset the identified hedged portfolio.[19]

45. Similarly, such an accounting model would have to be accompanied by disclosure of information on hedging derivatives that distinguishes internal and external derivatives.

Conclusion

Risk management and revaluation adjustment

46. The considerations above could support the application of a revaluation model for a portfolio of financial assets or liabilities that is hedged wholly or partly with internal derivatives as part of risk management activities. Such an accounting treatment would be consistent with the risk management activities of Group Treasury. However, whether it would best represent the financial performance and position of the Group as a whole depends on how an open interest rate risk

[19] See paragraph 34.

position should most appropriately be characterised and what role the internal organisation and business models play.

47. For example, such an accounting treatment would mean that groups with exactly the same instruments and resultant open interest rate position could have very different profit or loss profiles depending on whether the group simply does not hedge or whether it does hedge but allows trading positions to be created by leaving the interest rate position (partly or fully) open. This relates to the more general question of what relevance business models (should) have for financial reporting.

48. If the availability of a revaluation model depended on substantial externalisation of internal derivatives the question arises how that could be demonstrated. There are a variety of ways in which this could be proven, all of which have operational difficulties and the end result may not be consistent with the entity's rationale for transacting certain external derivatives.

49. In addition, a debate would be required to determine what was meant by 'substantial' externalisation. This would necessarily either introduce 'bright lines' into the accounting model or leave a wide range for acceptable degrees of externalisation, which reduces comparability between entities.

50. This paper does not suggest that internal derivatives should not be eliminated in the consolidated financial statements. However, the paper explains that even if internal derivatives are eliminated on consolidation, they could play a role that *indirectly* affects the consolidated financial statements: they could be a consideration in determining for which portfolios a revaluation model could be eligible (which would affect consolidated net profit or loss)

51. In addition, internal derivatives could be relevant for income statement presentation purposes (which would *not* affect consolidated net profit or loss).

Presentations and disclosures

52. If a revaluation adjustment is recognised it affects the income statement, reducing net profit or loss volatility from derivatives used for risk management (to the extent the value changes offset each other). However, presentation difficulties arise in the income statement where there is no linkage to external derivatives. For example it is difficult to determine the appropriate impact on net interest

income and any remaining volatility in non-trading profit or loss from interest rate risk in the consolidated financial statements without reference to the internal derivatives.

53. This raises questions as to whether:

(a) it is appropriate to ‘gross up’ the impact of internal derivatives within the financial statements to reflect the different rationale of the two internal counterparties to the internal derivatives; or whether

(b) such information is only appropriate in the segmental reporting but should not be affecting the consolidated financial statements too.

54. Similar questions arise for disclosure purposes.