INFORMATION FOR OBSERVERS

Board Meeting: **19 July 2007, London**

Project: **Post-employment benefits**

Subject: **Cash Balance and similar plans – Benefit promises with
                         'higher of' options (Agenda paper 7C)**

Objective

1. The objective of this paper is to clarify the accounting for benefit promises that provide a 'higher of' option.

Background

2. Some benefit promises may have maximum or minimum limits placed on them. For example a plan may provide the higher of a DB or DR promise.

3. Under the current proposals, such a promise would not meet the definition of a DR or DC promise. It would, therefore, be classified as DB and measured using the projected unit credit method. In this case, the value of the option to have a higher DR benefit would be ignored.

4. Over the years, many insurance companies have been surprised by the financial costs of embedded guarantees and options in pension promises, such as these.

5. This paper examines the possible approaches that could be used for the classification, measurement and presentation of these types of benefit promises.

Staff Recommendation

6. The staff recommends the following:

   (i) A plan may provide the higher of two or more benefit promises. Promises such as this that include a 'higher of' option, and where one of the benefit options is a DB promise, should always be classified as DB with a 'higher of' option.

   (ii) The liability in respect of the DB promise should be accounted for in accordance with the requirements in IAS 19.

   (iii) The liability in respect of the 'higher of' option should be measured at fair value.

   (iv) The change in the liability in respect of the 'higher of' option should be disaggregated into a service cost and fair value gain/loss. The service cost is equal to the initial recognition of the liability for the 'higher of' option. The fair value gain/loss is equal to the amount arising on the subsequent remeasurement of that liability. The service cost and fair value gain/loss should be presented in profit or loss.

   (v) The 'higher of' option does not include optionality between different benefit events.

Identification of components of a benefit promise with a 'higher of' option

7. Consider the plan below. The benefit promise is equal to the higher of:

   - a lump sum benefit equal to 5% of the employee's current salary into a fund for each year of service. The benefit promise at retirement is a lump sum equal to the contributions increased with compound interest at the rate of each year's return on a specified equity index; and

   - a lump sum benefit equal to 5% of final salary for each year of service.

8. Such a benefit promise would be classified as DB, since this is the residual category for benefit promises that are neither DC nor DR.

9. However, the application of DB accounting methodology to such a promise is unclear. The DB accounting methodology requires the use of a projected unit credit (PUC) method. This method uses point estimates in order to calculate the expected value of the liability. It is difficult to apply in this case because it is not certain whether the DR promise or the DB promise would be greater at retirement. More importantly, calculating the expected value assuming either one of the promises would be higher ignores the value of the option to have an alternative benefit promise. Therefore, the application of the PUC method would significantly underestimate the employer's liability as it does not take into account the value of the benefit to have the 'higher of' option.

10. There are three main ways of characterising such a benefit promise to identify the 'higher of' option:

    (i) Classify the entire benefit promise as a 'higher of' option ie different from a DB, DR or DC promise.

    (ii) Split the plan into a DR promise with a DB 'higher of' option.

    (iii) Split the plan into a DB promise with a DR 'higher of ' option.

The entire benefit promise is a 'higher of' option

11. The staff does not recommend approach (i). If the entire benefit promise were identified as a 'higher of' option, it is not clear what measurement method could be used for such a benefit promise. The new measurement method would either have to be PUC (in which case the value of the 'higher of' option would be ignored), or it would be a different measurement method. In that case, plans that are predominantly DB but with a small 'higher of' option would be measured differently from DB plans. The staff thinks that this would undermine the principle of using DB accounting methods for DB promises.

12. Further, the Board has tentatively concluded that there are three types of benefit promises only. Including another type of benefit promise would add to the complexity and understandability of the changes to the standard.

13. If the promise is not regarded as a 'higher of' option as a whole, it would be necessary to bifurcate the benefits into 'normal' benefits and the 'higher of' option. In IAS 39, this would be analogous to identifying the host plan and

embedded derivative. The next two options illustrate two approaches that could achieve a similar effect.

A DR promise with a DB 'higher of' option

14. The plan could be split into a DR promise with a 'higher of' DB option. The staff does not recommend this approach.

15. Consider a plan that is comprised of a large DB promise with an option to have a very small DR promise, if higher. The Board has not yet agreed the measurement method to be used for the 'higher of' option. However, the staff notes that the 'higher of' option has the same basic formula as a traded option. The application of the projected unit credit (PUC) method to traded or similar options is inappropriate as the PUC method does not allow for the volatility in returns. Therefore, the 'higher of' DB option would need to be measured using a method other than the projected unit credit method. In accordance with previous Board decisions, the DR promise would also be measured using a method other than the PUC method. [part of paragraph omitted from Observer Notes]

16. Therefore, under this approach, a plan comprised of a large DB promise with an option to have a very small DR promise, if higher, would be classified as a DR promise with a 'higher of' DB option and measured using a method other than the PUC method. In other words, a benefit promise that is largely DB would be measured using a method other than PUC. The staff thinks that this would significantly undermine the principle of applying DB accounting for DB promises, and therefore does not recommend this approach.

A DB promise with a DR 'higher of' option

17. The classification of the benefit promise as DB with a 'higher of' DR option avoids the difficulties outlined above. At one extreme, if the DB promise were expected to be significantly bigger than the DR promise and the plan is categorised as DB plus a 'higher of' option, this would lead to a benefit promise that is largely DB being measured as DB with a small 'higher of' option. Therefore the accounting requirements for DB promises would be preserved.

18. At the other extreme, if the DR promise were expected to be significantly bigger than the DB promise and the plan is categorised as DB plus a guarantee of a higher benefit, this would lead to a benefit promise that is largely DR being measured as a small DB promise with a large 'higher of' option at fair value[1]. The measurement of DR promises has not yet been finalised but is likely to be at or close to fair value. Therefore, this approach would not be expected to undermine DR accounting for DR promises.

19. The staff argues, therefore, that in order to preserve DB and DR accounting for the relevant benefit promises, it is necessary to treat benefit promises with a 'higher of' option as DB plus a 'higher of' option when there is a choice of how the plan could be split into benefit promises.

Does the Board agree that if a plan has a 'higher of' option promise and there is a choice of how the plan could be split into benefit promises, it should always be classified as a DB benefit promises with a 'higher of' option?

Measurement of the 'higher of' option

20. There are two main approaches that could be used to measure the 'higher of' option; the intrinsic value of the option and the fair value of the option. Both of these are discussed below.

The intrinsic value of the 'higher of' option

21. The intrinsic value of the option is equal to the difference at the balance sheet date between the liability for the DB promise and the liability for the DR promise. For example, consider the following end of period results.

INTRINSIC VALUE APPROACH		
	Year 1	**Year 2**
DB liability	1000	1200

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[1] The staff argues in the next section that the 'higher of' option should be measured at fair value. This recommendation is subject to the Board's discussions on the relevance of performance risk in the determination of fair value.

DR liability	1100	980
Intrinsic value of 'higher of' option	100	0
Total liability	**1100**	**1200**

22. In essence, measuring the value of the 'higher of' option at intrinsic value results in measuring the liability at the balance sheet date at the value of whichever liability is higher at that date.

23. The intrinsic value is easy to calculate once the DB and DR liability have been calculated. However, this approach creates some problems.

24. Firstly, the approach could significantly underestimate the value of the liability. For instance, at the end of Year 2, the value of the option to have a higher DR benefit is ignored because the liability for the DR benefit happens to be lower than the liability for the DB benefit at that date.

25. Secondly, the DR benefit is measured at fair value while the DB benefit is measured using the PUC method. The employer would therefore be required to compare two numbers that have been measured in two very different ways.

26. Thirdly, measuring the 'higher of' option at intrinsic value would require a promise that is predominantly DR with a small 'higher of' DB option to be measured at intrinsic value rather than at fair value. This would undermine DR accounting for DR promises.

27. Overall the staff thinks that the disadvantages of this approach outweigh the advantages.

The fair value of the 'higher of' option

28. An approach that incorporates both the intrinsic value and time value of the 'higher of' option would better represent the nature of the employer's obligation. The staff notes further that the 'higher of' option is similar to an embedded derivative written by the employer. Under IAS 39, embedded derivatives are measured at fair value.

29. It may be possible, given enough time, to develop a measurement method peculiar to pension obligations which incorporates the PUC method as well as the intrinsic and time value of 'higher of' options. However, given the time constraints of Phase I, and the fact that fair value is already being used for similar liabilities, the staff does not believe that it would be appropriate to develop a new measurement method for these benefit promises. As such, the staff thinks that the 'higher of' option should be measured at fair value[2].

30. An example of this approach is set out below.

FAIR VALUE APPROACH		
	Year 1	**Year 2**
DB liability	1000	1200
Fair value of 'higher of' option	250	295
Total liability	**1250**	**1495**

31. The fair value approach gives a better estimate of the employer's liability. Also, under this approach, it would not be necessary to calculate the liability for the DR promise, as the fair value of the 'higher of' option could be calculated directly without this.

32. The 'higher of' option in a pension promise has the same basic formula as that of a traded option and, therefore, could be valued in a similar way. [Part of paragraph omitted from Observer Notes].

33. There are some difficulties with the fair value approach. The market for these types of promises is very incomplete (or doesn't exist) and there is no uniquely defined market-consistent value for these types of promises. Also, the fair value of the 'higher of' option takes into account the value of the DB benefit accumulated at retirement date. This may not be a fair value measure, and so the value of the option could be based on two sets of numbers that have been derived in different ways - the future strike price may not be based on fair value but the value of the assets will be.

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[2] Subject to the Board's discussions on the relevance of performance risk

34. However, the staff notes that it is the value of the defined benefit liability at retirement (ie the undiscounted amount) that is incorporated in the fair value calculation as the strike price. This reduces the problem of having two different types of numbers in the calculation of the option value considerably.

35. Overall, the staff thinks that the advantages of using the fair value approach for the 'higher of' option outweigh the disadvantages.

Does the Board agree that the 'higher of' option should be measured at fair value?

Presentation in the Income Statement

36. IAS 19 requires the service cost to be calculated as the increase in the present value of the defined benefit obligation resulting from employee service in the current period.

37. For a DB promise that provides, say, 2% of final salary per year of service, the service cost in each year is the present value of the entity's obligation for 2% of estimated final salary.

38. The equivalent for the 'higher of' option would be the initial value of the liability for the option.

39. Whenever the presentation of post-employment benefits costs has been considered, service cost has always been presented in profit or loss. The staff recommends that this should also be the case for the service cost for the 'higher of' option.

40. In relation to the subsequent changes in fair value, the staff notes that changes on remeasurement of DR promises will be presented in profit or loss with no further disaggregation. Further, the 'higher of' option is similar to an embedded guarantee under IAS 39.

41. In order to be consistent with the treatment of fair value changes for DR promises and other financial liabilities, the staff argues that it is appropriate to present the remeasurements in fair value of the 'higher of' option in profit or loss with no further dissaggregation.

Therefore the staff recommends that the change in the liability in respect of the 'higher of' option should be disaggregated into a service cost and fair value gain/loss.

The service cost is equal to the initial recognition of the liability for the 'higher of' option.

The fair value gain/loss is equal to the amount arising on the subsequent remeasurement of that liability.

The service cost and fair value gain/loss should be presented in profit or loss.

Does the Board agree that the 'higher of' option should be presented in this way?

Other types of 'higher of' options

42. The individual benefit promises may be DB, DC or DR. Therefore, there are 5^3 possibilities for limits arising. The plan may promise the higher of :

      (i)   A defined return and a defined benefit promise

      (ii)   A defined contribution and defined benefit promise

      (iii)   Two defined benefit promises

      (iv)   A defined return and a defined contribution promise

      (v)   Two defined return promises

43. The staff proposes that combinations (i) and (ii) are classified as DB promises with a 'higher of' option. Example (i) was discussed earlier in this paper.

44. Example (ii) could be a plan that promises the higher of:

    (i)   a lump sum benefit equal to 5% of final salary for each year of service

    (ii)   a lump sum benefit equal to 5% of the employee's current salary into a fund for each year of service. The benefit promise at retirement is a lump sum equal to the contributions increased with compound interest at the rate of the actual return in the plan; and

45. Under the current proposals, this benefit promise would be classified as a DB promise plus an option to have a higher benefit if the plan assets are higher. Clearly, in this case, the option would be a more complicated one as it would depend on the movement of more than one type of asset (assuming the plan is

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[3] It is highly unlikely that a sponsor would promise the higher of two DC benefit promises, since that would require funding two separate promises, when only one would be provided.

invested in more than one type of asset). Such options are typically valued using a Monte Carlo simulation or similar stochastic method. However, the basic approach would be the same as for Example (i).

46. The Board agreed previously that the accounting for 'higher of' options when a plan promises the higher of two defined benefit promises (combination (iii)) would not be included in Phase I of the project.

47. Combinations (iv) and (v) could either be classified as DR promises in their entirety or as DR promises with a 'higher of' option. Consider the following example. The employer promises to pay the higher of:

(i) a lump sum benefit equal to 5% of the employee's current salary into a fund for each year of service. The benefit promise at retirement is a lump sum equal to the contributions increased with compound interest at the rate of each year's return on a specified equity index; and

(ii) a lump sum benefit equal to 5% of the employee's current salary into a fund for each year of service. The benefit promise at retirement is a lump sum equal to the contributions increased with compound interest at a guaranteed fixed rate of return of 4% per year.

48. Another way of stating this benefit promise is as being a single benefit promise with a guaranteed minimum return:

For example:

(i) a lump sum benefit equal to 5% of the employee's current salary into a fund for each year of service. The benefit promise at retirement is a lump sum equal to the contributions increased with compound interest at the rate of each year's return on a specified equity index subject to a minimum return of 4% per year.

49. The promised return on contributions in a DR plan is measured at fair value. Therefore, if the plan were identified as a DR promise in its entirety, the effect of the 'higher of' option would automatically be included in the fair value measurement of the promised return.

50. Alternatively, if the plan were identified as DR with a 'higher of' option, the promised return and the 'higher of' option would both be measured at fair value, thereby achieving the same result. Since such promises would be adequately accounted for as DR promises, the staff does not think that it is

necessary to develop specific guidance for the identification and measurement of benefit promises, when there is no DB promise included in the options.

> Does the Board agree that no additional guidance is needed for plans that promise the higher of two or more benefit promises when none of the benefit promises is DB?

'Higher of' benefit events

51. The staff notes that its proposals do not apply to plans that provide options between different types of benefit events. For example an employer may promise an employee a defined contribution retirement benefit if the employee survives to retirement or a defined benefit death in service pension if the employee dies before retirement.

52. In such a case, the benefit events should be identified and accounted for separately. Such a plan has a DC retirement promise and a DB death in service promise.

53. The staff thinks dealing with options between different types of benefit events is outside the scope of phase 1.

> Does the Board agree that the 'higher of' option should not include optionality between different benefit events.

[Appendices A and B omitted from Observer notes].