Staff Paper

Topic **Discount rate: overview of March papers**

1. This paper provides an overview of the staff's proposals for the March board meeting.

2. At the March board meetings, the boards will consider the following papers:

   (a) Discount rate for participating features (AP3F)

   (b) Practical expedient for the discount rate (AP3G)

   (c) Discount rate - comments on a proposal to use an 'ALR' rate (AP3H) and the related proposal (AP3E)

   (d) Discount rate for ultra long duration contracts (AP12E)

Discount rate for participating features (AP3F)

3. In this paper, the staff examines which additional considerations apply in determining the discount rate for insurance contracts that contain participating features.

4. In some insurance contracts, the cash flows depend on the performance of a portfolio of insurance contracts, a pool of assets or even the performance of the insurance company. Such 'participating insurance contracts'[1] may provide such benefits in addition to guaranteed or predetermined benefits.

5. Paragraph 32 of the ED provided additional guidance for applying the principles of the time value of money section to participating contracts, as follows:

[1] For the rest of this paper, 'participating insurance contracts' is used to describe contracts with these characteristics.

> **"If the amount, timing or uncertainty of the cash flows arising from an insurance contract depend wholly or partly on the performance of specific assets, the measurement of the insurance contract shall reflect that dependence. In some circumstances, the most appropriate way to reflect that linkage might be to use a replicating portfolio technique (see paragraphs B45–B47)."**

6. Some readers question whether this paragraph implies that there are two radically different approaches for determining the discount rate for participating and non-participating contracts. They have interpreted paragraph 32 as requiring an insurer to use an asset-based discount rate for all the cash flows arising from participating contracts.

Measuring policyholder participation

7. In principle, the measurement objective for insurance contract liabilities should be the same for non-participating contracts and participating contracts. In other words, the measurement of both non-participating and participating insurance contracts should reflect the characteristics of the liability.

8. When there is no link between the liability and the assets supporting the liability, this implies that the characteristics of the assets are not relevant for the measurement of the liability. However, in participating insurance contracts, there is a direct or indirect linkage to assets.

9. Policyholder participation is a form of risk sharing between policyholders and the insurer (and, in effect, the shareholder in the insurer). This can be more complicated to measure when the risk sharing is asymmetric: ie when the policyholder participates in a gain on the underlying assets but is protected from loss because of a guaranteed minimum value.

10. The ED proposed that the measurement of insurance contracts should be based on the use of observable market information to the largest extent possible. It noted that one way to achieve this is through the concept of a replicating portfolio.

11. The reference to replicating portfolios in the ED and the staff paper was not intended to imply that replicating portfolios exist or could be used on a large scale to measure the insurance contract liability. Rather the notion is intended to remind people that it is not appropriate to ignore market information where it is available. As an example, if an option exists in an insurance contract and the same or similar option may be purchased in the market, the measurement of both should be similar if not the same. The discussion of replicating portfolios in the ED was intended to convey the need for the measurement to capture asymmetries in risk sharing between the insurer and policyholders.

12. The asymmetric risk sharing needs to be appropriately reflected. In some circumstances this might be done by adjusting the discount rate used. Simply applying an asset-based discount rate without reflecting the asymmetry will not lead to a faithful representation of the characteristics and the economics of the insurance contract liability. Thus, the discount rate used to adjust for the time value of money for participating contracts should differ from the rate for non-participating contracts only to the extent that the assets affect the measurement of the cash flows, ie to reflect the same risk consistently in cash flows and the discount rate.

13. At the meeting on 14 March, the boards concluded that:

    (a) there is no reason for the objective of the discount rate to differ between participating and non-participating contracts.

    (b) there is a need to clarify the extent to which paragraph 32 in the ED should be applied to participating insurance contracts. As the level of linkage to asset performance varies among participating contracts, the staff recommend that the boards provide guidance that the discount rate applied to the cash flows should reflect the extent to which the amount, timing or uncertainty of the cash flows arising from an insurance contract depend on the performance of those specific assets.

14. Accordingly, the boards tentatively decided to:

    (a) clarify that the objective of the discount rate used to measure participating insurance contracts should be consistent with the discount rate used to measure non-participating insurance contracts.

    (b) provide guidance that to the extent that the amount, timing or uncertainty of the cash flows arising from an insurance contract depend wholly or partly on the performance of specific assets, the insurer should adjust those cash flows using a discount rate that reflects that dependence.

Practical expedient for the discount rate (AP3G)

15. At its February meeting, the boards noted that the complexity inherent in determining the discount rate could be reduced if the boards include in the standard a default solution for insurers that is easier to determine than the current proposals while still achieving the objective. This could address some criticisms about the difficulty of determining the discount rate. Accordingly, this paper considers whether the following prescribed discount rates could be a practical expedient to determine the discount rate in some circumstances:

    (a) Government rates;

    (b) High quality corporate bond rates;

    (c) Option to select (a) or (b) (similar to the approach used in IAS 19 *Employee Benefits* to discount post-employment benefit obligations).

16. These alternatives reflect discount rates used in IFRSs or US GAAP today. In the staff's view, examining a host of benchmark alternatives that are not used today could have unintended consequences as well as not achieve the goal of providing a suitable default solution for insurers that is easier to determine than the current proposals.

17. The paper analyses the alternatives for providing a benchmark rate for a practical expedient and determined none of the options achieves the goal of providing a suitable default solution for insurers that is easier to determine than the current

proposals while still accomplishing the objective of reflecting the characteristics of the liability.

18. The boards tentatively decided at their 14 March meeting not to provide a practical expedient for determining the discount rate.

Proposal to use an 'ALR' rate (AP3E and AP3H)

19. Agenda papers 3E and 3H describe an approach (the ALR approach) to the discount rate developed by the French insurer CNP, with assistance by Deloitte. We invited CNP and Deloitte to present this approach to the boards on 15 March.

20. The approach is intended to address concerns that:

    (a) locked in discount rates do not result in a faithful representation of duration mismatches, and of embedded options and guarantees.

    (b) when current discount rates are used for insurance liabilities, and for the assets that back them, changes in credit spreads cause volatility that is not particularly useful to users and obscures more important information.

21. The boards have tentatively decided not to permit or require a locked in discount rate for insurance contracts. However, the main factor driving that decision is the view that it is important to account for all duration mismatches and embedded options and guarantees, ideally on a basis consistent with current market prices. The staff understands that the ALR approach is intended to combine that feature together with a lock-in of duration matched cash flows. One advantage of the ALR approach is that it would reduce volatility that arises from fluctuations on credit spreads. Although those fluctuations undoubtedly arise from an economic mismatch, most commentators view them as being of minor importance for interest-bearing assets that are held to generate cash flows to fulfil liabilities with the same expected duration.

Brief overview of the approach

22. ALR stands for Asset Liability rate. The approach is grounded in asset liability management (ALM) systems. It identifies those liability cash flows that are matched in duration with the cash flows from the insurer's existing asset portfolio, considers the reinvestment needs for cash flows that are not matched in duration, and considers the effect of options and guarantees embedded in the liabilities. It uses this information to derive a yield curve (ALR curve) that is used to discount all cash flows expected at a given duration.

Alternative description of the approach

23. In the staff's view, the approach can be analysed as dividing all the cash flows from the insurance liabilities into three buckets:

    (a) Those cash flows for which the insurer currently holds assets that are expected to generate cash flows that match them in duration (the duration-matched cash flows)

    (b) Those cash flows that are mismatched in duration with the cash flows of the assets.

    (c) The effect of embedded options and guarantees, such as minimum interest rate guarantees.

24. For the duration-matched cash flows, the model, in effect, uses a discount rate that is locked in at inception (if the related assets are carried at amortised cost) or current (if the related assets are at fair value). The rate is the risk-free rate plus a liquidity premium.

25. For the cash flows that are mismatched in duration, the approach assumes reinvestment or divestment at rates consistent with the current market forward curve for risk-free investments (and a liquidity premium is added). For example, if a liability has a cash flow in 15 years and the insurer has only 10 year assets, the model assumes reinvestment at the rate given by today's 10 year forward rate for a 5 year risk free investment. As a result, the liability is discounted at a risk free rate (plus illiquidity):

(a) from years 15 to 10 using a current market (forward) rate

(b) from years 9 to 0 using a locked in rate (if the assets are at amortised cost. If the assets are at fair value, a current rate is used).

26. The model addresses embedded options and guarantees by using stochastic simulation. In other words, a number of scenarios are run and the average is taken, to capture both the intrinsic value and time value of embedded options and guarantees. We understand that these models are set up in a way that is intended to be consistent with current market prices and with techniques that are often used to determine the fair value of options and guarantees.

So what is the practical effect of this model?

27. The staff believes that the ALR approach has the following important features:

(a) It accounts for all duration mismatches and all embedded options and guarantees, on a basis that is broadly consistent with how they would be reflected if insurance liabilities were measured applying the proposals in the exposure draft and if all the assets backing those contracts were measured at fair value.

(b) It locks in the discount rate for the duration matched cash flows. Thus, if the insurer uses amortised cost to measure the assets backing those liabilities, fluctuations in asset credit spreads will not affect profit or loss or equity.

(c) The model assumes that the assets that back the duration matched cash flows generate no more than the risk-free rate. (An illiquidity adjustment is added as a second stage.) Thus, the measurement of the liability is not reduced by a decision to invest in more risky assets. (Indeed, if some of the investment returns are passed on to the policyholder, the inclusion of riskier investments will increase the liability measurement because of the treatment of options and guarantees).

28. As stated above, the model is designed to be used in cases where some or all of the assets backing the insurance contracts are carried at amortised cost.

However, in principle there is no reason why it could not also be used if all the assets are carried at fair value. Thus it should give broadly (perhaps even exactly) the same result as applying the proposals in the ED. Said differently, the main (perhaps only) difference between the model proposed in the ED and the ALR proposal is that the ALR proposal uses a locked in discount rate for those liability cash flows whose durations are matched by cash flows from the assets held by the insurer.

Discount rate for ultra long duration contracts (AP12E)

29. This paper analyses additional considerations for the discount rate in cases where the yield curve is extended beyond observable market prices (so-called 'ultra-long duration' contracts). Discount rates for ultra-long duration contracts have the following features:

    (a) Discount rates for ultra long durations cannot be observed.

    (b) It is impossible to back test an assumption about the yield curve beyond the longest durations for which market data exist.

    (c) As the contract matures, the cash flows will be discounted with more observable rates. Any difference between discount rates for the longest observable durations and discount rates for later dates will reduce itself naturally.

    (d) An asset-liability management strategy cannot match the cash flows from an ultra-long duration contract with supporting debt instruments.

30. The paper considers whether it would be useful to present the measurement changes in ultra-long duration cash flows in other comprehensive income. There are two different methods to determine the amounts to be presented in OCI:

    (a) The first method would report in OCI all changes in measurement (**'change approach'**) attributable to changes in the unobservable part of the yield curve. Under this approach, when discount rates become

observable some would want to reclassify the amount remaining from OCI into profit or loss.

(b) The second method would report in OCI only the effect of the difference between the longest observable interest rate and the extended yield curve (**'spread approach'**). For the ultra-long duration contracts, this approach would include in profit or loss the effect of changes in the discount rate at the longest duration for which that rate is observable; it would include in accumulated OCI the difference between (i) the discount rate at the longest observable duration and (ii) the discount rates for those longer durations.

31. Because of the effect of a 'cliff' when discount rates become observable for each cash flow, the staff recommends to the boards using the 'Spread approach'.