Project **Insurance Contracts**

Topic **Margins**

Purpose

1. In agenda paper 7A (FASB Memorandum 32A), staff ask the boards to agree on a building block approach. Staff recommend that, as part of that approach, the boards agree with building block for margins that include:

   (a) a risk adjustment for the effects of uncertainty about the amount and timing of future cash flows (a risk adjustment);

   (b) an amount to eliminate any positive day one difference (a residual margin).

2. This paper assumes that the boards agree to separate the overall margin into a risk adjustment and residual margin as recommended by the staff in AP 7A (tentatively agreed to by the IASB at its September 2009 meeting). This paper discusses the basis for a separate risk adjustment and the characteristics of that risk adjustment. In addition, this paper discusses the subsequent accounting for the residual margin

3. Appendix A to this paper summarises why the discussion in the body of this paper does not refer to two items that the boards discussed in previous meetings: service margins and a single, composite margin.

Summary of the staff's recommendations

4. The principle for a risk adjustment should be the amount an insurer would rationally pay to be relieved of the risk in the obligation. The risk adjustment should be remeasured each reporting period.

5. Some staff members recommend that the **basis** for recognising a residual margin in profit or loss over time should reflect the characteristics of that margin. Those staff members also recommend that the exposure draft should not prescribe particular drivers; rather, the insurer should select the driver or drivers that result in recognising that margin in income in a systematic way that best depicts the insurer's performance under the contract (tentatively agreed to by the IASB at its September 2009 meeting). Other staff members believe that, in all cases, the driver should be the release from risk to provide some rigor for the release.

6. The residual margin be released to income over a period that follows from the driver(s) for releasing that margin.

7. The arguments for and against adjusting the residual margin for changes in the expected net cash flows can be summarized in the following two positions:

   (a) If the boards believe that the current measure is integral to understanding and reporting insurance contracts and therefore needs the most emphasis, they should select an approach that reports all changes in estimates in profit or loss (or other comprehensive income) (Approach A).

   (b) If the boards believe that the guidance in revenue recognition is integral to all components of the insurance liability and therefore the allocation part needs the most emphasis, then they should select an approach that recognises changes in estimates of financial market variables in profit or loss (or other comprehensive income, see agenda paper 16) but adjust the remaining residual margin for all other changes in estimates, provided that this margin does not become negative (Approach B).

Structure of the paper

8. The rest of this paper is divided into the following sections:

   (a) Why are margins needed? (paragraph 10)

   (b) The adjustment for risk (paragraphs 11-19)

   (c) Residual margin (paragraphs 20-23)

(d) Subsequent release of the residual margin to the income statement (paragraphs 24-37)

(e) Changes in expected present value of cash flows (paragraphs 38-44)

9. This paper does not address the following issues, which we will consider separately:

(a) The objective of the measurement of an insurance contract which is discussed in AP 7A.

(b) Detailed guidance on estimating and releasing a separate risk adjustment (if any). If necessary, we intend to bring this as a follow-up item in January 2010.

(c) Implicit release of margins under an unearned premium approach. The IASB has tentatively decided to require such an approach for the pre-claims period of some contracts, as an approximation to the approach proposed for all (other) insurance contracts. The FASB has not yet discussed this topic.

Why are margins needed?

10. Staff identified the following two reasons for including a margin in the measurement of insurance contracts:

(a) To acknowledge that a liability with a known outcome of 100 is less onerous than a liability with an expected present value of 100 but an unknown outcome. (adjustment for risk see paragraphs 11-19)

(b) To report the release of the residual profit to the income statement over an appropriate period. (residual margin, see paragraphs 20-37).

Adjustment for risk

11. A risk adjustment includes in the measurement the effects of uncertainty about amount and timing of future cash flows to acknowledge that a liability giving rise to future cash outflows with a fixed outcome of X is less onerous than a

liability with an uncertain outcome that has an expected value (ie probability-weighted) of the same amount of X.

12. The purpose (objective) of a risk adjustment is therefore to convey useful information to users about the (remaining) uncertainty associated with the measurement of insurance contracts.

13. To convey useful information about future cash flows, the characteristics of that risk adjustment are likely to include the following:

    (a) The less that is known about the current estimate and its trend, the higher the risk adjustment should be.

    (b) Risks with low frequency and high severity will have higher risk adjustments than risks with high frequency and low severity.

    (c) For similar risks, long duration contracts will have higher risk adjustments than those of shorter duration.

    (d) Risks with a wide probability distribution will have higher risk adjustments than those risks with a narrower distribution.

14. To the extent that emerging experience reduces uncertainty, risk adjustments will decrease, and vice versa. For a more detailed description of relevant factors for determining a risk adjustment and an overview of techniques, we refer to appendix B and appendix C respectively. Staff notes that the techniques in appendix C do not supply an objective for the risk adjustment; they simply supply a method for implementing an objective, once agreed.

15. Staff believe that, in addition to giving a set of characteristics, the risk adjustment should also have a principle. This would provide a frame of reference when applying guidance and techniques for determining a risk adjustment. Possibilities of principles for the risk adjustment are:

    (a) the price of risk a market participant would require when taking over the obligations from the insurer.

    (b) the price an insurer would require to induce it assume the risk from the policyholder or another party.

(c) the amount an insurer would rationally pay to be relieved of the risk.

16. Staff does not recommend (a) (the price a market participant would require) because the boards are not pursuing measurement that is based on a market participant's view (current exit price). Principles (b) (the price an insurer would require to induce it to assume the risk) would measure the risk from the perspective of the insurer and (c) (the amount the insurer would pay to be relieved of the risk) both rely on the insurer's assessment of the effect of the risk on the insurer. It also seems that both principles (b) and (c) would deliver similar results in practice. The staff believes that principle (c) fits in more naturally with an overall measurement objective that refers to the fulfilment of an existing obligation.

17. The very purpose of the risk adjustment (to measure remaining risk) implies the need for remeasurement. A number of factors can cause significant variability in the cash flows during the life of the contract. Uncertainty in future cash flows may change over time; that is, it may increase or decrease. It is important to ensure that both (a) the end of period margins are a faithful representation of the risk still present and (b) the change of the risk adjustment during the period is a faithful representation of what has changed in the period.

18. Disclosure of the methods used for each product and a roll forward will be necessary to provide some measure of discipline around this process. We intend to have a follow-up discussion on disclosures of margins at a future meeting. We also intend to bring the issue of guidance on risk adjustments in more detail at a future meeting, currently planned for January.

19. In agenda paper 7A(FASB Memorandum 32A), staff ask the boards to confirm that the measurement of insurance contracts should include a separate risk adjustment (see paragraph 24 of that paper). In this paper, we ask the boards to agree on the principle for the risk margin and whether the risk margin should be remeasured subsequently.

Questions for the boards
Do you agree with the proposed principle for a risk adjustment ie the amount an insurer would rationally pay to be relieved of the risk?

Do you agree that the risk margin should be updated (remeasured) each reporting period?

Residual margin

20. The boards have decided tentatively that the measurement of an insurance contract should not result in the recognition of an accounting profit at inception.

21. As a result, the positive difference between (a) the premiums and (b) the cash out flows plus the risk adjustment, the residual margin, should be included in the measurement at inception and reported in income over an appropriate period. [In agenda paper 7A, staff asked the board to (re)affirm that a negative day one difference should be reported in profit or loss.]

22. Therefore, initial measurement of the residual margin could be summarised as:

    (a) Set so the overall insurance measurement at inception does not result in recognizing positive day one differences in profit or loss. In other words, it is the difference at inception between:

        (i) the expected present value of premiums; and

        (ii) the expected present value of the cash outflows plus a risk adjustment.

    (b) Cannot be negative, which implies day one loss can occur. (see agenda paper 7A (FASB Memorandum 32A)).

Subsequent release of the residual margin to the income statement

Basis for release

23. Since any replication of the calculation of a residual margin after day one would have no intrinsic meaning, any remeasurement would lack substance and is therefore considered unnecessary (other than perhaps an adjustment for some changes in estimates, see paragraphs 37-43).

24. The subsequent release of residual margins is therefore an allocation. It seems natural to look for a release (allocation) that best reflects the dominant

characteristics of the margin. Such a basis would also seem to coincide with recognising a residual margin based on a pattern that resembles how an entity transfers a good or a service to the customer (that is, performance under the contract, as applied by the boards' proposed approach to revenue recognition).

25. Possible drivers for releasing the margin in a pattern that appropriately depicts performance under the contract include, but are not necessarily limited to, the following:

    (a) Release from risk

    (b) Expected benefit and claim payments

    (c) Premium receipts

    (d) Passage of time

    (e) Funds under management

    (f) A mix of two or more drivers

26. In addition to paragraph 25, we comment as follows:

    (a) Item (a) should refer to two different notions. One is the traditional notion of bearing the risk of insured events that occur during the coverage period. The other is the notion that the insurer is exposed to the risk that the ultimate outcome may differ from the expected outcome throughout both the coverage period and the claims handling (settlement) period.

    (b) Basing the release of the margin on item (d) could provide an observable and cost-beneficial approximation for release from risk in at least some cases. Releasing the margin based on the release from risk may produce skewed results if risk is not the predominant driver. Also, basing the release of the margin on the passage of time will not reflect uneven insurance risks, nor will it reflect changes over time in the probability that options and guarantees may come into the money (many insurance contracts contain significant options and guarantees).

(c) An approach based on item (e) (funds under management) may be an appropriate driver if the insurance contract contains a significant investment component.

27. However, a residual margin is a blend and differs from case to case. Identifying a driver related to one dominant component may be challenging. In the case of a residual margin, a risk component is not relevant because that component is already included as a separate margin. Consequently, release from risk may not be an appropriate driver for a residual margin. Other drivers like funds under management, expected premium receipts or claim payments could provide a better basis (but if no other driver is available, perhaps release from risk could be used for convenience).

28. As a way forward, the boards could select:

(a) An approach that gives detailed guidance, perhaps even prescribes, a particular driver for releasing the margin. This driver could depend on other features of the measurement approach. For example, a measurement approach that includes a separate risk adjustment will already include a factor based on the release from risk. Consequently, other drivers like funds under management or claim payments should be used.

(b) A more principles-based approach in which the insurer must determine what the driver or drivers are for the particular insurance contract. If the contract involves a significant service element, the pattern of provision of those services is likely to be a main driver. For some contracts, the main driver may be protection (generally short-duration contracts). For more investment-oriented contracts, the liability carrying amount may be a more significant driver (similar to funds under management). For other insurance contracts, a blend of drivers may be appropriate.

29. Providing detailed guidance reduces the ambiguity surrounding the intent of the boards and provides a degree of comparability among reporting entities. But such accounting guidance can limit judgment. Using a principles-based

approach allows for judgment but may lead to the need for implementation guidance in the future if the intent of the boards is not appropriately applied.

30. Some staff members recommend that the basis for releasing a residual margin should reflect the characteristics of that margin. Those staff members also recommend that the exposure draft should not prescribe particular drivers; rather, the insurer should select the driver or drivers that result in recognising that margin in income in a systematic way that best depicts the insurer's performance under the contract (tentatively agreed to by the IASB at its September 2009 meeting). Other staff members believe that, in all cases, the driver should be the release from risk to provide some rigor in the release of the residual margin.

Question for the boards
Should the release of the residual margin to income be based on the characteristics of that margin by selecting a driver for release that best depicts performance under the contract or should that release to income always be based on release from risk?

Period for release

31. Staff identified three possible views regarding the period over which the residual margin exist (that is, the insurer performs):

    (a) limited to the coverage period. The coverage period is the period during which the contract is in force (the period during which protection is provided). For example, the coverage period for an annual contract is one year. In most cases, the coverage period provides an easily observable time period over which to release the margin because most insurance contracts stipulate the coverage period.

    (b) the claims handling period. The claims handling period is the period from when the first claim arises to when the last claim is paid (the claims handling period often includes most if not all of the coverage period). In some instances, the coverage period and the claims handling period are not significantly different (such as for traditional life insurance). In other

instances, particularly for some non-life contracts, the coverage period may be 1 year but the claims handling period can be 10 or more years.

(c) some variation based on the coverage and claims handling periods.

32. Previously[1], staff argued that, if the measurement of insurance contracts includes a separate risk adjustment and a residual margin, that residual margin should be released over the coverage period (tentatively agreed to by the IASB at its September 2009 meeting).

33. However, in the previous section (paragraphs 23-30) some staff members argued that the insurer should release the residual margin to income based on the characteristics of that margin by selecting a driver for release that best depicts performance under the contract. Those staff members also argued that, if the contract involves a significant service element, the pattern of provision of those services is likely to be a main driver.

34. In some, perhaps many cases, the insurer would not be able to identify a significant service element or the service element mainly would be provided over the coverage period. In that case, the staff members referred to in the previous paragraph recommend that the residual margin should be fully released over the coverage period. In other cases, the insurer might identify significant services during the claims handling period and therefore would release some of the residual margin during that period.

35. Other staff members argued that release from risk should be used as a driver for reporting the residual margin to income. In that case, the period for releasing the residual margin will be the period over which the insurer is released from risk.

36. Therefore, the staff recommends releasing the residual margin over a period that follows from the driver(s) used for releasing that margin.

Question for he boards
Should the residual margin be released to income over a period that follows from the driver(s) for releasing that margin?

[1] See September 2009, agenda paper 17C (FASB Memorandum 27C).

Changes in expected present value of cash flows

37. The relationship between the residual margin and subsequent changes in the estimated expected present value of cash flows is a question about whether the margin should be impacted by changes in expected present value of the cash flows. Consider the following simplified example:

> Insurer A enters into an insurance contract on January 1, 2010. For simplicity, we ignore risk adjustment.
>
> The premium is CU100 and is received at inception. The initial expected present value of the claims is CU80. As a result, the residual margin at inception is CU20.
>
> Suppose that on January 2, 2010, the insurer's expected cash outflows increase from CU80 to CU 90. For simplicity, we ignore any amounts the insurer would release to the income statement from January 1 and 2.

38. From this example, the staff believes that there are three potential approaches to address the subsequent changes in the residual and composite margins:

    (a) **Approach A:** The margin remains locked-in at the amount determined at inception and is released over the remaining period of the contract. This means that the liability at January 2 is CU110, consisting of expected cash flows of CU90 plus a margin of CU20. The changes in cash flows of CU10 are recorded as an expense in the income statement. Variability in cash flows is a significant inherent characteristic of the contract. At each subsequent measurement date, the performance statement reports changes in estimates promptly and transparently. Those changes are not absorbed by the remaining residual margin and subsequent changes in estimates are reported in profit or loss as they occur.

    (b) **Approach B:** The residual margin is adjusted for the changes in cash flows. The liability at January 2 is CU100, with expected cash flows of CU90 and a margin of CU10. Consequently, no expense is recognised in the income statement. The measurement of an insurance contract includes the residual margin. The objective is to measure the overall margin that the insurer expects to earn based on current expectations. If the expected present value of the cash flows changes, any residual

margins must change accordingly, unless those margins would become negative (onerous). As a result, the residual margin should be adjusted for changes in estimates at each subsequent reporting date; that is, by adjusting the remaining margin for subsequent changes in estimates rather than recognising those changes in profit or loss. Changes in estimates therefore will be reflected in the release of smaller margins in future reporting periods, not in the current year's profit or loss (unless a residual margin would become negative). Similarly, if changes in estimates result in a decrease in the expected cash flows, the margins would be increased with no impact to profit or loss.

(c) **Approach C:** The residual margin is updated subsequently as a fixed proportion of the expected cash flows, determined at inception. This results in a liability on January 2 of CU112.5, consisting of cash flows of CU90 and a margin of CU 22.5 (CU90* CU20/CU80). The income statement shows an expense of CU12.5. This approach in effect remeasures the residual or composite margin in proportion to the premium. However, the staff does not believe that remeasuring a margin that is an aggregation of components is useful. Furthermore, under this approach, the total residual and composite margins on January 2 end up at an amount that is higher than implied by the actual premium at inception. The staff finds it difficult to understand why a margin that aims at eliminating day-one profit and is allocated over the life of the contract should be updated subsequently in such a way. Accordingly, no further analysis is provided for Approach C.

39. Approach A has the benefit of reflecting changes in the estimates of the underlying cash flows immediately in profit and loss. The immediate recognition of these changes provides information to users about changes in those estimates. Proponents of Approach A believe that it is more consistent with a current measurement approach. These proponents also point out that usefulness of that information could be enhanced by presenting changes in estimates as separate items in profit or loss. Proponents of Approach B note that Approach A may result in an insurer recognizing income or expense in one

period only to reverse it in a subsequent period; in their view, this is not a faithful depiction of the margin the insurer earns over the life of the contract.

40. Some point out that Approach B is more consistent with the allocated transaction price approach proposed for revenue recognition. Proponents of Approach B also point out that reporting changes in estimates and the impact those changes have on margins could be achieved by disclosing period-to-period changes in the margin. However, some opponents of Approach B note that the margin in effect absorbs negative changes in the expected cash outflows and therefore could conceal an insurance contract or a portfolio of insurance contracts that could become onerous in the near future. Accordingly, these opponents believe that current information is lost if negative changes are absorbed and that disclosure about the changes in estimates is not an adequate substitute for reporting those changes in profit or loss.

41. Most respondents to the discussion paper on insurance contracts, including those who support Approach B, agreed that changes in financial market variables should be reported in profit or loss or, in some cases, in other comprehensive income. When changes in financial market variables affect insurance liabilities, not recognising those changes would result in an accounting mismatch if the assets are measured at fair value.

42. Approach B would therefore only adjust the residual margins for subsequent changes in estimates of other than financial market variables. This typically would relate to changes in non-market variables like mortality, lapses, expenses, frequency, severity, and the risk adjustment. (Approach A by definition reports all changes in estimates in profit or loss or other comprehensive income).

Staff recommendation

43. The arguments for and against the approaches A and B described in paragraphs 38-40 can be summarized into the following two positions, that both from the perspective that the insurance model is a hybrid of an current measure model and an allocation model:

    (a) If the boards believe that the current measure is integral to understanding and reporting insurance contracts and therefore needs the most emphasis,

they should select an approach that reports all changes in estimates in profit or loss (or other comprehensive income) (Approach A).

(b) If the boards believe that the guidance in revenue recognition is integral to all components of the insurance liability and therefore the allocation part needs the most emphasis, then they should select an approach that recognises changes in estimates of financial market variables in profit or loss (or other comprehensive income, see agenda paper 16) but adjusts the remaining residual margin for all other changes in estimates, provided that this margin does not become negative (Approach B).

Question for the boards

a) Should changes in the expected present value of cash flows be recognized in income immediately (View A), or
b) should the residual margin be adjusted for changes in estimates other than financial market variables (View B)?

The result of View B is to recognize the change in estimate only when the contract becomes onerous.

Appendix A – margins used in prior deliberations not used in this paper

44. In previous discussions, two other types of margins were deliberated. Those margins are not included in analysis in the main paper, but are briefly explained in this appendix.

Composite margin

45. A composite margin initially was considered as part of a current fulfilment model. However, staff's proposal to include a separate risk adjustment in the insurance measurement would split the composite margin into two parts.

46. Using a single composite margin has the following characteristics:

    (a) The composite margin is a single margin equal at inception to the difference between the expected cash outflows (claims, benefits, and certain expenses) and the expected cash inflows (future revenues).

    (b) In theory the composite margin would include implicitly other margins such as risk and service margins. In this paper, the staff recommends an approach that:

        (i) uses a separate risk measurement, remeasured in each period.

        (ii) does not use a separate service margin (see below).

    (c) The composite margin is not remeasured.

Service margin

47. A separate service margin would explicitly include in the measurement of the liability the margin required for services under the insurance contracts other than risk protection rather than implicitly including that margin in a residual margin that would run off as service is provided.

48. Using a separate risk margin would lead to the same result as including it in the residual margin if all the following conditions are met:

(a) The driver used to release the residual margin is broadly consistent with the pattern of provision of the related services.

(b) There is no significant change in either the quantity of service required or the cost of providing the service.

(c) There is no significant change over the life of the contract in the margin required for providing the services.

Appendix B – Factors for determining a risk adjustment

49. The objective of including a risk adjustment in the measurement of an insurance contract is to convey useful information to users about the uncertainty associated with the contract. To achieve that objective AP 7A (FASB Memorandum 32A) notes that the estimate of the risk adjustment should consider the effects of uncertainty about the amount and timing of future cash flows.

50. To achieve this objective, an insurer should select an approach for determining risk adjustments that considers the following factors:

    (a) Numerous techniques exist for determining the risk adjustment. The selection of the appropriate method may vary between types of insurance contracts and different entities. Judgment must be applied in determining the appropriate method for each type of insurance contract.. Various techniques are available and the use of the methods may vary by product and management (see Appendix C). For example, one potential method could focus on a particular confidence level, such as the quantile method. Another method is based on cost of capital acknowledging that insurance entities must hold capital to support their business activities.

    (b) Risk adjustments should be explicit, not implicit. That is an important change from many existing practices that rely on estimates incorporating an implicit (and often unstated) degree of conservatism or prudence. Separating explicit estimates of future cash flows from explicit risk adjustments should improve the quality of estimates and enhance transparency.

    (c) The risk adjustment for an insurance liability should reflect all risks associated with the liability.

    (d) The risk adjustment for an insurance liability should not reflect risks that do not arise from the liability, such as investment risk (except when investment risk affects the amount of payouts to policyholders), asset-

liability mismatch risk, or general operational risk relating to future transactions.

(e) The approach should be implementable at a reasonable cost and in a reasonable time, and be auditable.

(f) The approach should not ignore the tail risk in contracts with very skewed pay-offs, such as contracts that contain embedded options (eg the interest guarantees and other financial guarantees embedded in many life insurance products) or that cover low-frequency high-severity risks (such as earthquake), or portfolios that contain significant concentrations of risk. For example, if a large portfolio of insurance contracts is subject to significant earthquake risk but the insurer estimates that the probability of an earthquake is only 1 per cent, the approach should not ignore that risk.[2] Option-pricing methods or stochastic modelling may be needed to provide effective estimates of the risk adjustments associated with these items.

(g) The approach should make it easy to provide concise and informative disclosure, and for users to benchmark the insurer's performance against the performance of other insurers.

(h) If more than one approach is compatible with the above criteria, it is preferable to select an approach that builds on models that insurers use (or are developing) to run their business. For example, an insurer may be able to build on an economic capital model, an embedded value model or a model developed for solvency, if the resulting approach is compatible with the above criteria.

(i) The approach should not overlook model risk (the risk that a model is not a good description of the underlying process) or parameter risk (the risk that a model uses estimates of parameters that differ from the true

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[2] The tail risk affects both (1) the expected cash flows and (2) the risk adjustment required for possible variations from the expected cash flows. Estimates of expected cash flows need to capture the effect that tail risk has on (1). The risk adjustment needs to capture the effect of tail risk on (2).

parameters, or that the parameters may change over time). However, because it may be difficult to quantify these risks, care should be taken in building them into a model.

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Appendix C – Techniques for Determining the Risk Adjustment

51. Listed below are various approaches that might be used in estimating risk adjustments, taken from the IASB discussion paper, *Preliminary Views on Insurance Contracts* (DP). In the DP, the IASB expressed the preliminary view that none is demonstrably better than all others in all circumstances, or demonstrably worse than all others in all circumstances. This list is not intended to be exhaustive. It may be possible to combine some elements from more than one of these techniques if the resulting combination satisfies the criteria identified above.

    (a) Confidence levels:

        (i) explicit confidence levels (eg 75 per cent probability of sufficiency).

        (ii) explicit minimum confidence level, but insurers may use a higher confidence level. [An approach of this type is in use in Australia.]

    (b) Conditional tail expectation (CTE), sometimes known as tail value at risk (Tail VaR). CTE is the expected value of the tail of a probability distribution. For example, CTE 90 is the expected value of all outcomes beyond the 90th percentile.

    (c) An explicit margin within a specified range. Accounting or actuarial guidance specifies the ends of the range (perhaps, as a percentage of the central estimate) and indicates criteria for deciding whether the margin should be set nearer one end of the range. [An approach of this type is in use in Canada.]

    (d) Cost of capital. The estimated cost of holding the capital that is needed to give policyholders comfort that valid claims will be paid, and to comply with regulatory capital requirements, if any. [The CRO Forum[3] suggests that an approach of this type might be suitable for both general purpose financial reporting and for reporting to supervisors. The suggested approach uses a 'replicating portfolio' of traded financial instruments to price the expected cash flows (and thereby also the risk adjustments associated with market variables), and a cost of capital approach to determine the risk adjustment associated with non-market variables.]

    (e) Methods based on the capital asset pricing model or related asset pricing models.

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[3] The CRO Forum is a forum for the chief risk officers of major European insurers.

(f) Adjustments to cash flows to place more weight on cash flows in some outcomes (eg 'deflator', 'no arbitrage' and 'market consistent' approaches) or to place more weight on larger cash outflows or smaller cash inflows (eg 'transformation' or 'distortion' approaches).

(g) Multiples of one or more specified parameters of the estimated probability distribution (eg multiples of the standard deviation, variance, semi-variance, or higher 'moments' of the distribution).

(h) A risk-adjusted discount rate. This approach is relatively simple and may be easy to benchmark against what other entities are doing. It may provide a reasonable indication of the pattern of release from risk if risk is directly proportional to the amount of the liability and the remaining time to maturity. However, insurance liabilities do not always have these characteristics. For example, lapse risk may affect cash inflows more than it affects cash outflows. Moreover, risk adjustments generally reduce the value of future cash inflows but increase the value of future cash outflows. A single risk-adjusted discount rate is unlikely to capture these differences in risk.

52. The following approaches do not meet the criteria proposed above.

(a) Implicit (and unspecified) confidence level.

(b) Implicit (but unspecified) risk adjustment through use of conservative assumptions that aim to give reasonable assurance at an implicit confidence level that ultimate cash payments will not exceed the recognised liability. Terms sometimes used in this context are 'sufficiency' (eg a high probability that amounts paid will not exceed the reported liability), 'provision for risk of adverse deviation' and prudence.