Project	**Insurance Contracts**
Topic	**Composite Margin**

Purpose of this paper

1. This memorandum provides an overview of an approach that measures an insurance contract using a composite margin. Specifically, this memorandum provides information about potential approaches to the release of the composite margin subsequent to inception. Part of this memorandum uses excerpts from the memorandum for the April joint Board meetings (Agenda Paper 3B [FASB Memorandum No. 43B]). However, the other part of this memorandum develops approaches suggested by Board members during those meetings to describe how to subsequently account for the composite margin.

2. This memorandum should be read with Agenda Paper 2A (FASB Memorandum No. 45A). In that memorandum, the staff asks the boards to decide which approach (composite margin or risk adjustment plus a residual margin) is the preferred approach.

Summary of staff recommendations

3. The staff recommends that, with respect to the amortization of the composite margin, the amortization should be based on a combination of two drivers and both drivers should be specified (paragraph 20(b)ii), for example, by using the amortization formula depicted in paragraph 16.

Structure of the Paper

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

    (a) Background (paragraph 6)

    (b) Composite margin approaches (paragraphs 7 through 21)

    (c) Could the carrying amount of the composite margin be remeasured each period? (paragraphs 22 through 41)

(d) Embedded derivatives (paragraph 42)

5. This paper does not discuss the 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 short term contracts, as an approximation to the approach proposed for all (other) insurance contracts. The FASB has not yet concluded on this topic.

Background

6. At the April 2010 Joint Board meeting, the boards tentatively agreed to the following:

    (a) If the initial measurement of an insurance contract results in a negative day-one difference (loss):

        (i) The insurer should recognize that difference (loss) immediately in profit or loss.

        (ii) For this purpose, a negative day-one difference (loss) would arise only if, at inception, the expected present value of the outflows exceeds the expected present value of the premiums. In other words, no separate risk adjustment would be included in determining whether there is a day-one loss under a composite margin approach.

    (b) The composite margin should be:

        (i) released over both the coverage period (during which the insurer provides insurance coverage) and the claims handling period (during which the insurer is expected to pay claims).

        (ii) displayed with the insurance liability rather than a separate liability outside the insurance liability

        (iii) disclosed separately

    (c) With regard to accreting interest on the composite margin:

        (i) the IASB tentatively decided that interest should be accreted

        (ii) the FASB tentatively decided that interest should not be accreted

Composite Margin Approaches

7. During the April 2010 meeting, the boards spent a significant amount of time discussing the release of the composite margin subsequent to inception. The staff provided an analysis of the numerous available drivers for amortizing the composite margin (such as release of risk, expected benefit and claim payments, premium receipts, passage of time). Some Board members suggested an approach that does not amortize the composite margin in an explicit way (though the ultimate result may be similar to amortization) but rather calculates a new composite margin each period. The staff provides for the boards' considerations the following brief analysis of potential approaches to releasing the composite margin

Composite versus residual margin

8. For the approach discussed in agenda paper 2B (FASB Memorandum 45B), the boards tentatively decided that the residual margin should be released in a systematic way that best reflects the exposure from providing insurance coverage, as follows:

    (a) on the basis of passage of time; but

    (b) if the insurer expects to incur benefits and pay claims in a pattern that differs significantly from passage of time, the residual margin should be released on the basis of the expected benefits and claims at inception

9. The residual margin and the composite margin are similar to each other because both result from measurements that eliminate day one gains.

10. However, a fundamental difference between the two margins is that the residual margin is the product of a calibration at inception conducted **after** a separate adjustment for risk is included in the measurement, whereas the composite margin at inception is determined by comparing expected cash inflows with expected cash inflows (both discounted). Because risk is no longer dealt with separately under the composite margin model, it is implicit in the composite margin. Risk therefore should be an important factor in determining the release of the composite margin. Hence the boards' decision in April that the release of the composite margin should cover both the coverage period and the claims handing period. Any potential amortization pattern for the composite margin will at least have to meet this requirement.

11. The following paragraphs discuss various approaches to subsequent measurement of the composite margin:

    a. Amortization based on the passage of time (paragraph 12)

    b. Amortization of two components (paragraphs 13-18)

Amortization based on passage of time

12. Basing the release of the composite margin on the passage of time could provide an observable and cost-beneficial approximation for release from risk. This provides a simple and straight-forward basis for releasing the composite margin. However, basing the release of the composite margin on the passage of time will not reflect uneven insurance risks, nor will it reflect changes over time in the probability that that options and guarantees may come into the money (many insurance contracts contain significant options and guarantees). The tentative decision to use the passage of time for the residual margin was a result of two main reasons: the residual margin is being released over the coverage period and there is a separate risk adjustment to capture decreases in risk during the coverage period and claims handling period.

Amortization of two components

13. During the Board meeting in April, some Board members suggested an approach based on the decisions reached in the revenue recognition project; that is, any release of a margin or margins should be based on two inherent components.

    a. the insurer's exposure from the provision of insurance coverage, and

    b. the insurer's exposure from uncertainties related to future cash flows. (Other components may exist but for this discussion the staff will focus on the presence of just two components)

14. One way to implement this would be to split the overall composite margin into two separate components. Those two components would then be run off on separate bases. The part related to the provision of insurance coverage could for example be run off on a straight-line basis over the coverage period (unless another basis better reflects the provision of coverage). The run-off of the remaining component (related to claims handling) would be based on a factor that reflects the release from risk over the claims

handling period. However, splitting the composite margin into two components may be challenging because the insurer may not be able to find an objective factor for that split.[1]

15. Another way to implement the principle described in paragraph 13 is to release the composite margin as one single margin, but use a combination of two drivers to reflect the two inherent elements of the composite margin (the provision of insurance coverage and uncertainty from future cash flows). One driver should reflect the insurer's exposure from providing insurance coverage and one should reflect its exposure from uncertainties related to the future cash flows. The boards could either:

   a. not specify those two drivers, but instead require the insurer to select the drivers that best depict the release of the (two components of the) composite margin. However, this may result in some subjectivity and diversity in the release of the composite margin; or

   b. specify both drivers. This would limit judgement, but, on the other hand, would also force a degree of comparability.

16. One way of applying the latter (specifying the drivers) was discussed in Agenda Paper 3B [FASB Memorandum No. 43B] at the April meeting. For this purpose, the insurer would apply to the initial composite margin the percentage calculated by dividing (i) the sum of the current period actual premium *plus* the current period claim and benefit cash flows by (ii) the sum of the expected value of the current period cash flows premiums *plus* the expected value of future claims and benefits cash flows. The calculation is depicted as follows:

<u>Current period actual premium + current period claims and benefits</u>
Expected value of premiums + Expected value of future claims and benefits

17. As evidenced by the formula, the current period actual cash inflows and outflows are compared to the total expected future cash inflows and outflows to derive a ratio for releasing the composite margin. The allocation can be adjusted (using the same initial amount of the composite margin) over time if expectations concerning the amounts and

---

[1] A direct application of the guidance proposed revenue recognition guidance (allocation of the transaction price between performance obligations based on relative stand-alone selling prices) may not be readily applicable here because that guidance focuses on allocating the entire transaction price; not a part of it.

timing of cash flows change significantly. The composite margin would be trued up based on the updated current ratio of the initial composite margin (amount) as a percentage of the total expected total cash flows over the life of the contract. That ratio applied to the cash flows to date would provide a revised amortized margin as of the reporting date.

18. This approach allocates a portion of the composite margin to the protection component (premium) of the contract as well as a portion to the risk to the insurer resulting from uncertainties related to expected claims and benefits cash flows arising from that coverage. This approach also combines the cash flows related to premiums and claims and benefits as a measure of risk and activity into a driver that tracks both the protection service provided by the insurer and the risk in settling claims over the claims handling period from inception to the last payment of the final claim (likely with a greater weight to the coverage period). For an example of this approach, the staff can provide upon request Appendix A, Case 1A of Agenda Paper 3B [FASB Memorandum No. 43B] from the April 2010 meeting.

Staff recommendation

19. Staff identified the following approaches for amortizing the composite margin over time:

    a. Amortization based on the passage of time (paragraph 12)

    b. Amortization of two components (paragraphs 13-18)

20. The latter approach, amortization of two components could be implemented in two ways;

    a. splitting the overall composite margin into two components and amortize those components based on a driver that best depicts the significance of the risk to the entity associated with the two components—perhaps simply a split based on the total expected cash flows for each phase of the contract (could get result similar to paragraph 20(b)(ii).

    b. amortize the composite margin based on a combination of two drivers, which can be done by:

    i. allowing the insurer to select the drivers that best depict the release of the two components of the composite margin (the exposure from (i) the provision of coverage and (ii) the uncertainty associated with future cash flows—that is, the risk in the runoff of the benefits and claims expected cash flows); or

    ii. specifying both drivers, for example, by using the amortization formula depicted in paragraph 16.

21. The staff recommends that an insurer should specify both drivers (paragraph 20(b)ii), for example, by using the amortization formula depicted in paragraph 16.

Question for the boards

Do you agree with the staff recommendation in paragraph 21?

If not, how would you amortise the composite margin over time.

Could the carrying amount of the composite margin be remeasured each period?

22. During the April discussion on margins, an approach was suggested for releasing the composite margin that did not result in amortization. Rather, the composite margin would be determined each period by recalculating the difference between the cash inflows (premium) and the cash outflows (benefit and claims).This approach would also link cash flows to the presentation in the statement of comprehensive income. For example, the following presentation was proposed[2]:

  (a) Revenues (premium that are due)

  (b) Expenses (benefits and claims paid and IBNR)

---

[2] This presentation was not necessarily limited to the composite margin discussion and is applicable to an approach that uses a risk adjustment (the risk adjustment would be included under *Change in estimates of cash flows* as part of (or potential separated from) *Benefits and claims*).

(c) Change in estimates of cash flows for:

    (i) expected premiums

    (ii) expected benefits and claims

Insurance profit or loss (as the sum of (a) through (c)).

Investments:

(a) Dividends

(b) Interest

(c) Realized gains/losses

(d) Credit impairment

Investment profit or loss (as the sum of (a) through (d)).

Net income or loss

23. A simple example illustrates how a composite margin could be determined each period by recalculating the difference between the cash inflows and the cash outflows [although staff will argue later on that this approach will only work in particular fact patterns such as the one in this example]:

    Base case:

    Premium of CU 100 is the expected value at inception.

    Expected claims are CU 80. The difference (CU20) is the composite margin.

    In Period 1:

        CU 10 of premium is recognized

        CU 8 of claims are paid (claims develop as expected so the remaining claims liability of CU72 at the end of Period 1 is correct).

	Inception	Period 1
Premium	100	90
Claims	80	72

Composite margin	20	18

Profit or loss:

Premium revenue   10

Claim expense   (8)

Change in estimate   0

Profit   2

24. The next illustration uses the same fact pattern for inception but at the end of Period 1, the expected claims have increased (that is, more claims are expected than originally anticipated at inception).

Case 1: Increase in expected claims

Premium of CU 100 is the expected value at inception.

Expected claims are CU 80. The difference (CU20) is the composite margin.

In Period 1:

CU 10 of premium is recognized

CU 8 of claims are paid (claims develop worse than expected and the claims liability should be CU78 at the end of Period 1).

	Inception	Period 1
Premium	100	90
Claims	80	78
Composite margin	20	12

Profit or loss:

Premium revenue   10

Claim expense   (8)

Change in estimate   -

Profit   2

25. The next illustration uses the same fact pattern for inception but at the end of Period 1, the expected claims have decreased (that is, less claims are expected than originally anticipated at inception).

Case 2: Decrease in expected claims

Premium of CU 100 is the expected value at inception.

Expected claims are CU 80. The difference (CU20) is the composite margin.

In Period 1:

CU 10 of premium is recognized

CU 8 of claims are paid (claims develop better than expected and the claims liability should be CU68 at the end of Period 1).

	Inception	Period 1
Premium	100	90
Claims	80	68
Composite margin	20	22

Profit or loss:

Premium revenue   10

Claim expense   (8)

Change in estimate   -

Profit   2

26. We note that in all three cases the composite margin is determined as the difference between (i) the expected present value of remaining premiums and (ii) the expected present value of remaining claims. Changes in subsequent estimates are reflected in the

remaining composite margin rather than being recognised in profit or loss in when they occur. Consequently, the profit number is the same for all three cases.

27. Looking at the examples in the previous paragraphs, two questions arise:

    (a) is some kind of amortization pattern necessary for the composite margin?

    (b) how should we characterize the recalculation of the composite margin and what factors should be included in that recalculation?

Amortization pattern

28. On the first question (paragraph 27(a)), it seems natural that some kind of amortization pattern is applied to the composite margin. If not explicit, this amortization pattern should at least be implicit.

29. Consider for example the base case and presume that no further changes in estimates occur during the remaining nine years of the contract. At the end of year 10, the residual margin must be zero. That means that the margin at inception of CU20 (with CU18 remaining after year 1) would have to be fully released to profit or loss over the life of the contract.

30. In the base case, this release is implicitly achieved by the unwinding of the future cash flows. As the remaining premiums and claims decline, the resulting balance, defined as the difference between expected present value of premiums and claims, declines as well. This decline is recognised in profit or loss, as the difference between premiums and claims expenses. This works as long as premium receipts and claims payments follow a pattern that resembles performance under the contract, an approach that determines the composite margin each period by recalculating the difference between the cash inflows (premium) and the cash outflows (benefit and claims) produces a logical (and continuous) result.

31. However, premium receipts and claims payments do not always follow a pattern that resembles performance under the contract. Consider the following examples:

    (a) An upfront single premium payment (a prepayment by the customer)

(b)   Linear premium payments, but with a non-linear (that is, increasing or decreasing over time) risk pattern (in effect a prepayment by the customer as well)

(c)   Claims are paid (significantly) after the insured event occurred (a relevant claims handling period)

32. In all those cases, it is not possible to determine the composite margin as the product of remaining cash inflows and cash outflows at that point in time because the contract position is influenced by the timing of cash receipts and cash payments. Consider for example (a) a single premium payment for the base case in paragraph 23. Now the policyholder pays the premium for the contract of CU100 as one single premium at inception instead of ten annual premiums of CU10. All other facts remain the same, including the pattern in which the insurer performs under the contract. This results in the following amounts for the insurance liability at inception and at the end of period 1:

	Inception	Period 1
Premium	100 (*)	-
Claims	80	72
Composite margin	20	18

(*) For the purpose of determining the composite margin at inception, the premiums included at that moment must include both remaining future premiums and any premiums received at inception.

33. This table shows that, at the end of period 1, there are no future premiums left, only future claims. Therefore, the composite margin at the end of period 1 cannot be the outcome of a calculation from comparing cash inflows and cash outflows at that date. The outcome of CU 18 is the result of an amount determined at inception less an amortization amount, based on an explicit amortization pattern (as discussed in paragraphs 12-21). [However, a possibility would be to adjust the remaining balance of the composite margin for changes in estimates; we come back to that issue in paragraphs 35-42.]

34. Staff therefore concludes that under the proposed insurance model it is not inherently possible to achieve a systematic release that is reflective of performance under contract by updating it as the difference between expected cash inflows and cash outflows at each reporting period. If such a pattern occurs under this approach, it would merely be the accidental result of a particular fact pattern.

What is the recalculation?

35. The composite margin determined at inception is amortised over time. As mentioned in paragraph 33, a possibility would be to 'recalculate' the remaining carrying amount for changes in estimates of cash flows. For example, if estimates of expected claim payments increase by X (discounted), the carrying amount of the composite margin would decrease by X. The insurer would then amortise that adjusted amount over the remaining life of the contract.

36. Arguably such a recalculation is not a remeasurement because it does not directly measure the remaining composite margin (in the April paper, staff argued that, because the composite margin is a blend, any direct remeasurement after day one would lack substance). Rather, such a recalculation could best be described as adjusting the composite margin for subsequent changes in estimates. The remaining issue then is whether all changes in estimates would be adjusted or just some. For this purpose, we distinguish two types of changes in estimates:

    a. changes in financial market inputs, such as discount rates and equity prices

    b. changes in other inputs, such as mortality and lapse rates

37. It seems not decision-useful to adjust the composite margin for changes in estimates for (a) financial market variables. When changes in financial market variables affect insurance liabilities, adjusting the composite margin for those changes (ie not recognising those changes in income) would result in an accounting mismatch if the assets backing those liabilities are measured at fair value.

38. It would be possible to consider (b) adjusting the composite margin for changes in estimates other than financial market variables, provided that it does not become negative (at that point no margin would be left in the contract and it has become onerous).

39. An approach that adjusts an allocation amount for changes in estimates other than financial market variables was discussed by the boards in the January 19 meeting, notably in the context of residual margins, and the boards decided not to adopt that approach. Rather, the boards selected an approach that recognized all changes in estimates in profit or loss.

40. Though the boards made this decision for the two margin approach, the staff see no reason for changing this for a composite margin approach. An important underlying rationale, regardless of whether a two margin approach or a composite margin approach is used, is that one of the main objectives is to report changes in circumstances.

41. Consequently, the staff explained in the April paper that it intended to develop the composite margin approach in a way that it would not be adjusted for changes in cash flow estimates (that is, all changes in estimates are recognised in profit or loss). Staff also reported that it did not plan to bring this topic to the boards, unless the boards determine that a separate discussion on the recognition of changes in estimates is needed for a composite margin approach.

> **Question for the boards**
>
> Do you want to reconsider the issue about the recognition of changes in estimates for a composite margin approach?

Embedded derivatives

42. As staff discussed in Agenda Paper 6E (FASB Memorandum 41E) for the March meeting, including a separate risk adjustment that is remeasured explicitly each period would be consistent with the measurement of options (ie embedded derivatives). Under a composite margin, the insurance model would not include such a component.

    a. Some would deal with this by bifurcating embedded derivatives, using existing bifurcation guidance. For those embedded derivatives that would be bifurcated, a risk adjustment arises as part of the fair value measurement for the derivative.

    b. Others point out that the proposed insurance measurement requires financial market variables to be consistent with observable market information. Often,

embedded derivatives that would be bifurcated under existing requirements rely heavily on market inputs (for example, guaranteed return on an equity index). The proposed insurance model would therefore result in a market-consistent measurement for embedded derivatives, including a risk adjustment, even if the insurance model does not include a risk adjustment in general. If the measurement does not include the requirement for financial market variables to be consistent with observable market information, embedded derivatives would need to be bifurcate under a composite margin model.