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International Accounting Standards Board

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These notes are based on the staff papers prepared for the IASB. Paragraph numbers correspond to paragraph numbers used in the IASB papers. However, because these notes are less detailed, some paragraph numbers are not used.

INFORMATION FOR OBSERVERS

Board Meeting: **March 2006, London**

Project: **Insurance contracts (phase II):**
Estimating cash flows (Agenda Paper 7D)
Risk margins (Agenda Paper 7E)
Embedded derivatives (including options and guarantees) (Agenda Paper 7F)

AGENDA PAPER 7D
ESTIMATING CASH FLOWS

Purpose of this paper

1. This paper provides an initial working draft of high level guidance on estimating future cash flows arising from insurance contracts.

Background

2. That Board decided in May 2005 that this project should clarify the measurement objective for insurance liabilities and give high level guidance on techniques for estimating the number and amount of claims arising under insurance contracts, but should not give detailed operational guidance.

3. We discussed a much less developed version of this guidance with the Insurance Working Group in September 2005. The focus of that discussion was on the guidance on updating estimates (paragraphs A16-A18 of the enclosed draft) and the proposal for estimates of

market variables to be consistent with observable market prices (mainly paragraph A8 of the enclosed draft).

Questions for discussion

4. The staff invites comments on the following points:

   (a) The staff sees the enclosed as an early version of material that could be included in the Discussion Paper, probably as an appendix. Is the material at the right level of detail?

   (b) Paragraph A2 expresses the view that the material is equally relevant for both current entry value and current exit value. For the most part, this statement is probably fairly uncontroversial. However, for current entry value, some might prefer a more entity-specific approach to estimates of market variables (paragraphs A8 and A12) and to entity-specific cash flows, particularly expenses (paragraph A27). Paragraph A8 takes the position that other evidence can never over-ride observable market prices, for both current entry value and current exit value.

   (c) Paragraph A6 emphasises that the expected present value approach is really about making estimates of probabilities, rather than making estimates of cash flows.

   (d) In insurance, surprises are generally bad surprises and big surprises are almost always bad. Arguably, expected present values ought to include some scenarios in which unforeseeable surprises occur. However, that might be a licence to make unreliable estimates. Should the guidance address this point? If so, what position should the guidance take?

   (e) Paragraph A9 notes that market prices are not intended as a forecast of future outcomes, and that differences between the ultimate outcome and previous prices are not 'failures'.

   (f) Paragraph A11 notes the need to consider both external and internal non-price data and notes that external non-price data does not automatically over-rule internal data. It emphasises the need to consider the strength of the evidence.

(g) The guidance on future events in paragraph A19 is broadly consistent with the IAS 37 exposure draft (with some refinement of the wording to focus more on scenario modelling). It may need updating as that project progresses.

(h) Paragraph A24 suggests that estimates of cash flows should not be made on a run-off basis unless the insurer expects to put the contracts into run-off. Is that an appropriate trigger? Alternative approaches might be (i) to analogise to restructuring liabilities (ii) to use probability-weighted scenarios (though this is arguably less appropriate for decisions of the entity itself) or (iii) to rely on the going concern material in the Framework, IAS 1 and IAS 10.

(i) Paragraph A25 discusses which cash flows should be included. It may be appropriate to include in here some reference to constructive obligations, once the IAS 37 redeliberations are more advanced.

(j) Paragraph A25(c) refers to the margins associated with contractual benefits paid in kind. We plan to look at a similar area in April (margins associated with future investment management services).

(k) Paragraph A26(g) notes that the cash flows exclude transaction costs that would be incurred in negotiating and implementing a transfer of the contractual rights and obligations to another party. These costs could be significant.

(l) Paragraph AG27(c) distinguishes an insurer's strategy for determining the level of service and the approach to claims management from the efficiency with which the insurer implements that strategy.

(m) Is it ever appropriate to use assumptions that differ from those implied by observable market prices? If so, when?

(n) Building on work performed by the FASB, the project on fair value measurements will develop guidance that may be helpful for entities developing estimates of current entry value or current exit value.

Appendix
Working draft of guidance on estimates of future cash flows

A1. The Board has tentatively decided that insurers should measure insurance liabilities at current entry value or current exit value. [The staff plans to ask the Board in April to choose between current entry value and current exit value.] In general, current entry value and current exit value are not directly observable. Therefore, an insurer must estimate them, using three basic building blocks:

(a) estimates of the amount, timing and uncertainty of future cash flows

(b) discounting for the time value of money

(c) margins[1]

A2. This appendix is a working draft of guidance on estimating the amount, timing and uncertainty of the future cash flows. It does not address the other two building blocks. [The staff expects the same guidance on cash flows would be appropriate for both current entry value and current exit value]. The guidance applies to all forms of insurance liability (eg life and non-life, direct insurance and reinsurance).

Overall principle

A3. **In estimating the current [entry / exit] value of insurance liabilities, an insurer should develop estimates of cash flows that:**

(a) **are explicit.**

(b) **incorporate, in an unbiased way, all available information about the amount, timing and uncertainty of all cash flows arising from the liabilities.**

(c) **are as consistent as possible with observable market prices.**

(d) **correspond to conditions at the end of the reporting period.**

A4. The rest of this appendix deals with:

[1] We are dealing with these three components separately to make the discussion more manageable. That does not imply that the three elements will necessarily need to be kept separate for measurement purposes, and presented separately. We will consider that later.

(a) Uncertainty and the expected present value approach (paragraphs A5-A6)

(b) Consistency with current market prices (paragraphs A7-A14)

(c) Source of estimates (paragraph A15)

(d) Using current estimates (paragraphs A16-A18)

(e) Future events (paragraphs A19-A24)

(f) Which cash flows (paragraphs A25-A26)

(g) Entity-specific cash flows (paragraphs A27-A28)

(h) Approximations (paragraphs A29)

Uncertainty and the expected present value approach

A5. The starting point for an estimate of current [entry / exit] value is a range of scenarios that reflects the full range of possible outcomes. Each scenario specifies the amount and timing of the cash flows for a particular outcome, and the estimated probability of that outcome. The cash flows from each scenario are discounted and then weighted by the estimated probability of that outcome, to derive an expected present value.[2]

A6. Thus, in estimating future cash flows, the aim is not to develop a single 'best' estimate, but to identify all possible scenarios and make unbiased estimates of the probability of each scenario.

Consistency with current market prices

A7. This appendix distinguishes two types of variable:

(a) Market variables: variables that can be observed in, or derived directly from, markets (eg prices of publicly traded securities and interest rates)

(b) Non-market variables: all other variables (eg the frequency and severity of insurance claims and mortality)

[2] In addition, it is necessary to include a risk margin, but that is beyond the scope of this paper.

Market variables

A8. Estimates of market variables should be consistent with the observable market prices at the end of the reporting period. An insurer should not substitute its own estimate for the observed market prices, even if other evidence causes the insurer to believe that those prices are unrepresentative.

A9. Market prices blend a range of views about possible future outcomes and also reflect the risk preferences of market participants. Therefore, they are not a forecast of the future outcome. If the actual outcome differs from the previous market price, this does not mean that the market price was 'wrong'.

Non-market variables

A10. Estimates of non-market variables should reflect all available evidence, both external and internal.

A11. Market prices over-rule all other forms of evidence. However, non-price external data (eg national mortality statistics) may have more or less weight than internal data, depending on the circumstances. For example, a life insurer should not rely solely on national mortality statistics, but should consider all other available internal and external sources of information in developing unbiased estimates of probabilities for mortality scenarios. In developing those probabilities, an insurer should consider the relative strengths of the various types of evidence available.

A12. Estimates should form a coherent package. Therefore, estimates for non-market variables should not contradict observable market variables. For example, estimates of future inflation rates should be within a range that is consistent with expectations implied by market interest rates.

A13. In some cases, an insurer concludes that market variables vary independently of non-market variables. If so, the insurer should prepare scenarios that reflect the range of outcomes for the non-market variables, but use the observed value of the market variable in each of those scenarios. If the joint effects are significant, the observed value of the market variable captures both the full range of outcomes identified by market participants, and also the margin that market participants require.

A14. In other cases, market variables and non-market variables may have joint effects. An example is when lapse rates are correlated with interest rates. Similarly, claim levels for house or car insurance may be correlated with economic cycles and hence with interest rates and expense levels. In such cases, an insurer should develop scenarios for each outcome of the variables. The insurer should calibrate the probabilities for each scenario, and the margins relating to the market variables, so that they are within the range implied by market prices.

Source of estimates

A15. An insurer estimates the probabilities associated with future payments under existing contracts on the basis of:

(a) information about claims already reported by policyholders

(b) other information about the known or estimated characteristics of the book of insurance contracts

(c) historical data about the insurer's own experience, supplemented where necessary by historical data from other sources. Historical data is adjusted if the characteristics of the book differ (or will differ, because of anti-selection) from that of the population used as a basis for the historical data. It is also adjusted if there is evidence that historical trends will not continue, or that new trends will emerge.

(d) the insurer's competitive situation and whether any existing competitive advantage is likely to be sustainable. This may affect items such as claims management policies and claims management procedures. Information about the competitive situation may also provide a reasonableness check for assessing whether contracts are likely to be profitable.

(e) the state of the insurance price cycle for similar exposures, which will give some background information to help assess whether insurance contracts may reasonably be expected to be profitable.

(f) known or reasonably foreseeable economic, demographic and other changes that may affect the insurer's cash flows

(g) if available, recent market prices for transfers of books of insurance contracts, taking account of known differences between those books and the book being measured. Such market prices may help to confirm whether an insurer's own estimates of cash flows are in line with the market consensus. On the other hand, these prices sometimes include an implicit (and perhaps not easily quantifiable) amount attributable to future benefits from the relationship with policyholder.

(h) reinsurance prices, if care is taken to identify factors that may cause the reinsurance price to differ from the price that would rule for a true transfer. Reinsurance prices are not generally true exit prices because reinsurance transactions do not typically extinguish the cedant's obligation towards the policyholder. Also, reinsurance often covers only part of the cedant's liability. In addition, the price for reinsurance may be affected by the relationship between the policyholder and the reinsurer.

(i) if available, prices for instruments (if any) covering similar risks such as catastrophe bonds and weather derivatives. Care is needed to identify differences between the risk covered by these instruments and the risk covered by the insurance contracts. Furthermore, markets in such instruments may be thin.

Using current estimates

A16. Estimates of non-market variables should incorporate all available current information about conditions at the end of the reporting period. An insurer should review those estimates at the end of the reporting period and update them to the extent evidence indicates that previous estimates are no longer valid. In doing so, an insurer should consider both:

(a) whether the updated estimates represent faithfully conditions at the reporting date.

(b) whether changes in estimates represent faithfully changes in conditions during the period. For example, if estimates were at one end of a reasonable range at the beginning of the period and conditions have not changed, it would not be representationally faithful to move to the other end of the range. If an insurer's most recent estimates are, initially, out of line with previous estimates, but conditions have not changed, the insurer should assess carefully whether the probabilities assigned to

each scenario have changed since the beginning of the period, and whether the available information supports that change.

A17. Current estimates are not necessarily identical to the most recent actual experience. For example, suppose that mortality experience last year was 20 per cent worse than previous experience and previous expectations. A current estimate of mortality does not typically change immediately by as much as 20 per cent. Several factors could have caused the sudden change in experience, including:

(a) lasting changes in mortality

(b) changes in the characteristics of the insured population (eg changes in underwriting or distribution, or selective lapses by policyholders in unusually good or bad health)

(c) flaws in the estimation model, or mis-calibration of parameters used in the model

(d) random fluctuations

(e) identifiable non-recurring causes

A18. An insurer should investigate the reasons for the change in experience and develop new estimates that are a blend of the most recent experience, earlier experience and other information. The insurer should weight these different pieces of evidence to reflect the relative degree of confidence the insurer has in each source. Actuaries have developed various techniques for determining such weightings (or 'credibility'). In this example, as evidence of higher mortality accumulates, the insurer should begin to increase the probability assigned to scenarios in which mortality is higher.

Future events

A19. If future events may affect the net cash flows arising from an insurance liability, the insurer should develop cash flow scenarios that reflect those future events, as well as unbiased estimates of the probability weightings for each scenario. In contrast, the insurer should not develop cash flow scenarios reflecting future events that create new obligations (or change or discharge existing obligations). For example, an insurer should not develop scenarios reflecting possible new legislation that would create or change the obligation itself. [This paragraph is consistent with the exposure draft proposing amendments to

IAS 37, but the wording is modified to focus more on the individual scenarios. The staff plans to conform this wording in due course to whatever emerges from the Board's redeliberation of the exposure draft.]

A20. Estimates of non-market variables consider not just current information about the current level of insured events, but also information about trends. For example, mortality rates have declined consistently over long periods in many countries. In developing cash flow scenarios, an insurer should consider various possible trends and assign probabilities to each trend scenario in the light of all available evidence.

A21. Similarly, if contractual cash flows are sensitive to inflation, cash flow scenarios should reflect possible future inflation rates.

A22. Probability weightings should reflect conditions at the end of the reporting period. For example, there may be a 20% probability at the balance sheet date that a major storm will strike during the remaining six months of an insurance contract. After the balance sheet date and before the financial statements are authorised for issue, a storm may actually strike. The measurement of the liability under that contract should not reflect the storm that, with hindsight, is known to have occurred. Instead, the measurement reflects the 20% probability that was apparent at the balance sheet date (with an appropriate risk margin that reflects conditions at the end of the reporting period, and appropriate disclosure that a non-adjusting event occurred after the end of the reporting period[3]).

A23. The scenarios developed should include unbiased estimates of the probability of catastrophic claims under existing contracts. For example, if there is a 5% probability that an earthquake during the remaining term of an existing contract will give rise to losses with a present value of CU 1,000,000, the expected value of the cash flows includes a cash outflow of CU 50,000 (1,000,000 @5%) for the catastrophe losses. However, the scenarios exclude the possibility of claims under possible future contracts.

A24. Sometimes, an insurer stops writing some or all types of contract and allows the existing books of insurance contracts to run off. When a book of insurance contracts goes into run-off, the cash flows from that book may change because of, for example, changes in expense levels, lapse rates, claims management procedures or tax status. Although the

objective is to measure existing contracts, estimates of cash flows from them should not be made on a run-off basis if the insurer does not expect to put the contracts into run-off.

Which cash flows?

A25. Estimates of cash flows should include all cash flows arising from the contractual rights and contractual obligations associated with the existing insurance contracts, and no others. The relevant cash flows include:

(a) payments to (or on behalf of) policyholders[4] under existing contracts, including claims that have already been reported but not yet paid (reported claims), claims that have already been incurred but not yet reported (IBNR), and all future claims and other benefits under existing contracts. [may need to add some discussion of constructive obligations]

(b) claim handling expenses (expenses that will be incurred in processing and resolving claims under existing contracts, including legal and adjuster's fees and internal costs of processing claim payments)

(c) the direct and indirect costs of providing contractual benefits that are paid in kind [and the margin associated with the provision of those benefits]. An example is where the insurer replaces a stolen article directly, instead of reimbursing the policyholder. Another example is where an insurer uses its own hospitals and medical staff to provide medical coverage.

(d) net cash outflows resulting from policyholder behaviour that is unfavourable to the insurer (for example, selective lapsation by policyholders who present lower risks).

(e) enforceable cash inflows (eg enforceable premium adjustments and enforceable instalment premiums) from policyholders under existing contracts.

(f) policy administration and maintenance costs, including all direct and indirect costs that market participants consider in assessing whether a transaction price is acceptable.

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[3] See IAS 10 *Events After the Balance Sheet Date*

[4] **Payments to policyholders** include payments to others on behalf of policyholders.

(g) transaction-based taxes (such as premium taxes, value added taxes and goods and services taxes) and levies (such as fire service levies and guarantee fund assessments) that arise directly from existing insurance contracts, or can be attributed to them on a reasonable and consistent basis

(h) [recoveries (such as salvage and subrogation) on past claims, and potential recoveries on future claims covered by existing insurance contracts.][5]

(i) [if classified as a liability, a subject for separate discussion at this meeting] payments to policyholders to satisfy policyholder participation rights

(j) [may need to add something on universal life contracts]

A26. The following cash flows are not relevant:

(a) investment returns. The investments are recognised, measured and presented separately. However, the measurement of the insurance liability does reflect:

(i) liability cash flows, if any, that depend on the investment returns.

(ii) implicit or explicit investment management charges that will be levied on policyholders under the insurance contract (as well costs incurred by the insurer in generating those investment charges).[6]

(b) payments to and from reinsurers. Reinsurance assets are recognised, measured and presented separately.

(c) net cash inflows resulting from policyholder behaviour that is beneficial to the insurer (for example, continued payment of premiums that exceed the resulting policyholder benefits, or possible benefits from future policy loans to policyholders). Although the measurement of the insurance liability excludes these cash flows, they may be

[5] We intend to discuss salvage and subrogation in May.
[6] We plan to discuss the treatment of implicit or explicit management charges with the Board in April when we ask the Board to look at unit-linked contracts.

captured in the measurement of the portion of the customer relationship that derives from the insurance contract.[7]

(d) cash flows that may arise from future insurance contracts.

(e) income tax payments and receipts (recognised, measured and presented separately under IAS 12 *Income Taxes)*

(f) cash flows between different components of the reporting entity, for example between policyholder funds and shareholder funds.[8]

(g) transaction costs that the insurer would incur in negotiating and implementing a transfer of its contractual rights and obligations to a third party. These costs are not relevant until the insurer is obliged to incur them.

(h) cash flows that would not arise for other market participants if they held the current insurer's rights and obligations under the insurance contract (entity-specific cash flows).

Entity-specific cash flows

A27. The objective is to estimate the current [entry / exit] value of the rights and obligations associated with the insurance contracts themselves, without considering cash flows attributable to other assets and liabilities or to goodwill. It follows that cash flow scenarios exclude cash flows that other market participants would not generate (or suffer) if they held the contracts. Examples might include:

(a) the presence of superior claims management skills, managerial skills or distribution network, an unusually effective system for detecting fraud, actions that limit lapse rates, a monopolistic market position, special tax circumstances that affect only the insurer and would not affect other market participants, or synergies with the insurer's other assets or liabilities.

[7] The Board discussed criteria for recognising that portion of the customer relationship in February.

[8] We plan to discuss with the Board in April whether such funds are part of the reporting entity.

(b) an intention to settle insurance liabilities differently from the way that other market participants would settle them. For example, an insurer may decide to use its own garages to service motor claims, whereas other market participants might prefer to pay third parties and so incur the profit margin charged by those third parties.

(c) unusually efficient, or unusually inefficient, administration systems. Here, it is worth distinguishing two aspects of future expense levels:

(i) the insurer's strategy for determining the level of service provided to policyholders and its approach to claims management. This will have a pervasive effect on the insurer's expense levels, lapse and claim rates because of the implications for the level of service and for claims handling procedures. For example, an insurer that has very aggressive, but expensive, claims management will have low claims rates but high expense levels. Estimates of current [entry / exit] value should reflect the insurer's chosen strategy for determining the level of service provided to policyholders and its approach to claims management. It would be neither informative nor practicable to estimate the cash flows on a different basis.

(ii) the insurer's efficiency in providing that level of service and implementing its selected approach to claims management. Current [entry / exit] value should reflect the general level of efficiency in the market.

A28. Estimates of non-market variables should reflect the characteristics of the existing insurance contracts, not a hypothetical portfolio of standardised liabilities. For example, unbiased mortality estimates should reflect, as far as possible, the demographics of the portfolio being measured. Although these estimates are portfolio-specific, they are not necessarily entity-specific. In other words, they are not necessarily inconsistent with estimates that other knowledgeable market participants would make. Moreover, there will rarely be persuasive evidence that the insurer's estimates differ from estimates that other market participants would make.

Approximations

A29. The expected present value approach requires more intensive analysis and computation than many existing approaches. In some cases, relatively simple modelling may give a reasonably robust answer that falls within a tolerable range of precision,

without the need for a large number of detailed simulations. However, in some cases, the cash flows may be driven by complex underlying factors and respond in a highly non-linear fashion to changes in economic conditions, for example if the cash flows reflect a series of inter-related implicit or explicit options. In such cases, more sophisticated stochastic modelling may be required.

AGENDA PAPER 7E
INSURANCE CONTRACTS (PHASE II) – RISK MARGINS

Purpose of this paper

1. This paper asks the Board to:

   (a) decide the extent of guidance to be given on determining risk margins.

   (b) select criteria that an insurer should consider in selecting an approach to risk margins.

2. This paper does not address the following questions, which will be the subject of separate discussions:

   (a) Methods for addressing the risk associated with embedded guarantees and options. (see agenda paper 7F)

   (b) Should the measurement of reinsurance assets reflect risk? If so, how should it be quantified? (There are two components of that risk: (i) the uncertainty associated with the underlying insurance liability (ii) the risk that the reinsurer will be unwilling or unable to pay its portion of reinsured losses. Similar issues will arise in due course for insurance assets of non-insurance policyholders. We plan to discuss these topics in May.)

   (c) Should the margin included in the measurement of an insurance liability include, in addition to a risk margin, a profit margin relating to future services other than the service of bearing risk (eg investment management services)? We plan to discuss this in April in the context of a discussion on unit-linked contracts.

   (d) What should the unit of account be for determining risk margins? We plan to discuss this in April.

Summary of recommendations

3. This paper recommends the following:

   (a) The objective of a risk margin is not to provide a shock absorber for the unexpected, nor is it to enhance the insurer's solvency. Instead, the objective is to convey decision-useful information to users about the uncertainty associated with future cash

flows. A risk margin will satisfy that objective best if it is consistent with an unbiased estimate of the compensation that market participants would demand for bearing the risk in question. (paragraph 21)

(b) The Board should not prescribe specific techniques for developing risk margins. Instead, the Board should explain in the Discussion Paper (and ultimately in an IFRS) the attributes of techniques that will enable risk margins to convey useful information to users about the uncertainty associated with risk margins (paragraph 25). The staff recommends the attributes listed in paragraph 26.

Background

4. It is convenient to break down the estimation of a current entry value or current exit value into the following steps:

   (a) make unbiased estimates of the amount, timing and uncertainty of future cash flows

   (b) discount the cash flows to reflect the time value of money

   (c) incorporate the effect of risk and uncertainty by including a risk margin. This paper deals only with step (c).

5. To determine a risk margin, three questions must be answered:

   (a) What units should be used to measure the quantity of risk?

   (b) How many units of risk are present in the liability?

   (c) What is the monetary amount that corresponds to each unit of risk?

6. To illustrate, an insurer might answer question (a) by determining that risk should be measured using a multiple of the standard deviation of the estimated probability distribution of future cash flows. The insurer would derive the answer to question (b) from the cash flows scenarios that it develops in estimating the expected present value of the cash flows. The answer to question (c) would need to come from an observed market price, from a pricing model, or from some other source.

7. In principle, the answer to question (b) would always be derivable from the cash flow scenarios. Therefore, this paper concentrates on questions (a) and (c).

8. Risk margins are one of the main differences between current entry value and current exit value. For current entry value:

   (a) At (or before) inception, the insurer would specify the unit used to measure the quantity of risk.

   (b) At inception, the insurer would calibrate the aggregate risk margin to the premium charged, less relevant acquisition costs.[9] The insurer would use its estimated cash flow scenarios to determine how many units of risk are present at inception. From these two results, the insurer would derive the implied margin (at inception) per unit of risk.[10] Thus, no profit is reported at inception when current entry value is used (though a loss could be reported if the liability adequacy test reveals a loss)

   (c) At the end of each subsequent reporting period, the insurer would:

      (i) use its estimated cash flow scenarios to determine how many units of risk are still present. Typically, the number of units of risk will have reduced as the insurer is released from risk. However, in some cases, the estimated amount of risk may have increased (for example, if some unforeseen source of uncertainty has emerged, or if embedded options have come into the money).

      (ii) multiply the number of units by the implied per-unit margin that was identified at inception. The change in the number of units of risk is recognised as income or expense.

9. In contrast, for current exit value, the insurer would do the following, both at inception and subsequently:

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[9] The Board had a preliminary discussion of relevant acquisition costs in February, but the staff did not ask the Board to conclude. If the Board decides to adopt a current entry value approach, the staff will ask the Board to discuss relevant acquisition costs further.

[10] The current entry value approach would also require the insurer to carry out a liability adequacy test at inception. The Board decided in February that the margin used for this test should be the same as the margin used for current **exit** value.

(a) assess which units market participants would use to measure the quantity of risk.

(b) use the cash flow scenarios to estimate the number of units of risk.

(c) estimate the margin per unit of risk using an appropriate combination of observed market prices, pricing models, and other sources.

(d) multiply the estimated per-unit margin by the estimated number of units to derive the aggregate margin. The change in the aggregate risk margin is recognised as income or expense.

Risk-adjusted discount rates

10. A traditional way to capture the effect of risk and uncertainty is to use 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 the quantity of risk is primarily related to the size of the liability and the remaining time until the liability is discharged. However, insurance liabilities do not always have these characteristics.

Risk and uncertainty

11. This paper treats the terms **risk** and **uncertainty** as indistinguishable. Some writers use **risk** when it is feasible to assign probabilities and **uncertainty** when probabilities may be arbitrary.

Other initiatives

12. At the request of the International Association of Insurance Supervisors (IAIS), the International Actuarial Association (IAA) began a project last year to develop recommendations on (a) estimates of cash flows and (b) risk margins. The immediate focus of the project is on reporting to supervisors, but the participants expect that much of the output may also be usable for general purpose financial reporting. The IAA committee for this project expects to report later this year.

13. Risk margins developed for supervisory purposes may differ in two important respects from those that would be appropriate for insurance liabilities in general purpose financial reporting. First, supervisory margins might seek a notion of 'sufficiency' that would not

be appropriate for financial reporting. Second, supervisory reporting might (perhaps, but not inevitably) incorporate in the liability measurement some risks that relate to things other than the liability (for example, asset-related risks, asset-liability mismatch risk and general operational risk relating to future transactions).

Introduction to the rest of this paper

14. The rest of this paper addresses the following questions:

    (a) What is the purpose of a risk margin in the measurement of a liability (paragraphs 15-21)?

    (b) Should the Board develop detailed requirements for determining risk margins (paragraph 22-25)?

    (c) What are the attributes of a suitable risk margin (paragraph 26-31)?

Purpose of a risk margin

15. There are different views about the purpose of risk margins. Some argue that risk margins should act as a shock absorber to absorb unexpected changes in assumptions. In other words:

    (a) As the insurer is released from risk, the risk margin will reduce.

    (b) If adverse changes in estimates occur, the central estimate of the liability (ie its expected present value) is increased, but this is offset by a corresponding reduction in the risk margin so that the total liability is unchanged. Unless the risk margin is exhausted, adverse changes in estimates do not affect profit or loss and equity (until those changes in estimates are translated into actual experience). Once the risk margin is exhausted, further adverse changes in estimates affect profit or loss (and equity).

    (c) If favourable changes in estimates occur, the central estimate of the liability is decreased, with an immediate effect on profit or loss (and equity). At the same time,

there may also be a reduction in the risk margin if the insurer concludes that less risk now remains (ie a release from risk notion).[11]

(d) If favourable changes in estimates reverse previous adverse changes, part or all of the previously eliminated risk margin might or might not be restored (depending on the model adopted).

16. Others view margins as a measurement of the compensation that entities demand for bearing risk. In other words, at each reporting date an insurer would assess how much risk remains in the liabilities and would adjust the risk margin accordingly.

17. The example in appendix A illustrates the two approaches. We used this example with the Insurance Working Group in July 2005.

Margins as a shock absorber

18. Supporters of the shock absorber notion argue that it has the following advantages:

(a) It leads to less volatility in profit or loss and equity than the risk-compensation view does.

(b) When adverse changes occur in estimates, the risk-compensation view is likely to result in increases in risk margins. Those increased margins will be released as income in future years. Those increased margins released do not represent cash received or receivable from the policyholder, but instead represent cash that might have been receivable if the insurer had been free to reprice the contract. Users are not accustomed to this approach and may find it counter-intuitive.

(c) If insurance liabilities are measured at the central estimate with no risk margin, the amounts paid are likely to exceed the previous measurement approximately 50% of the time. A shock absorber provides a higher 'level of sufficiency', which shows users that the entity is being managed prudently.

[11] Alternatively, some may prefer to increase the risk margin, to offset the effect of the favourable change in assumptions.

(d) Risk margins cannot be determined objectively, except by calibrating them at inception to the premium charged. The shock absorber notion does not require insurers to make subjective estimates of risk margins at a later date.

19. Some view the shock absorber notion as particularly relevant for participating contracts. Participating policyholders bear risks up to a specified point. Beyond that point, the risks are borne by shareholders (if any).

Margins as a measurement of compensation required for bearing risk

20. Those who view risk margins as compensation for bearing risk argue that this approach has the following advantages:

(a) Changes in estimates are reported promptly.

(b) Identical exposures are reported identically and exposures that differ are reported as different.

(c) The amount of the risk margin has a clear meaning, whereas the remaining risk margin reported under the shock absorber notion can be described only as the result of the process used to generate it.

(d) This view requires entities to focus more explicitly on their risk exposures. This is likely to lead to an improved understanding of risk and more reliable reporting.

(e) The purpose of financial reporting is not to persuade users that an entity is being managed prudently, but to give users neutral and useful information that will help them assess the entity's financial position, performance and cash flows.

Recommendation

21. In the staff's view, the objective of a risk margin is not to provide a shock absorber for the unexpected, nor is it to enhance the insurer's solvency. Instead, the objective is to convey decision-useful information to users about the uncertainty associated with future cash flows. A risk margin will satisfy that objective best if it is consistent with an unbiased estimate of the compensation that market participants would demand for bearing the risk in question.

Extent of guidance on risk margins

22. Some feel that the Board should prescribe specific techniques for determining risk margins. Proponents of this view argue that this is necessary to ensure comparability between different insurers, given the inevitable subjectivity involved in determining the amount of risk and the appropriate price for that risk.

23. However, in the staff's view, it is not appropriate to hard wire specific techniques into a standard. Doing so would inhibit future development of improved techniques, fossilize techniques that may become outdated and require techniques that may not be applicable in all circumstances.

24. The staff sees advantages and disadvantages in most approaches the staff has encountered. In the staff's view, none is demonstrably better than all others in all circumstances. Appendix B lists some approaches the staff has seen, but does not analyse their strengths and weaknesses.

Staff recommendation

25. The staff recommends that the Board should not prescribe specific techniques for developing risk margins. Instead, the Board should explain in the Discussion Paper (and ultimately in an IFRS) the attributes of techniques that will enable risk margins to convey useful information to users about the uncertainty associated with risk margins.

Criteria for selecting an approach to determining risk margins

26. The staff suggests that an approach for determining risk margins should satisfy the following criteria:

    (a) The risk margin ought to be described and determined in a way compatible with the measurement attribute:

        (i) If the measurement attribute is current exit value, the risk margin should be consistent with the margin that would be expected if the insurer were to transfer all its contractual rights and obligations to another party.

        (ii) If the measurement attribute is current entry value, the risk margin should be determined by the quantity of risk that is inherent in the estimated cash flow

scenarios and by the price of risk implicit in the initial measurement of the liability (see paragraph 8(c) for discussion).

(b) Risk margins 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 margins should improve the quality of estimates and enhance transparency.

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

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

(e) The margin should be as consistent as possible with observable market prices (see paragraph 28).

(f) The approach should be implementable at a reasonable cost and in a reasonable time, and be auditable. The approach should be implementable by insurers of all sizes, in all parts of the world.

(g) 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), 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%, the approach should not ignore that risk if market participants could be expected to consider that risk in determining a price that they

would regard as acceptable.[12] Option-pricing methods or stochastic modelling may be needed to provide effective estimates of the risk margins associated with these items.

(h) The approach should make it easy to provide concise and informative disclosure, and to benchmark the performance of one insurer against another.

(i) 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.

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

Consistency with market prices

27. In general, insurance liabilities expose insurers to risks associated with both market variables (ie variables, such as interest rates, that can be derived from market prices) and non-market variables (such as the frequency and severity of claims, and mortality). It follows that risk margins for insurance liabilities include components related to market variables and components related to non-market variables. Because the risks may have joint effects, the total risk margin may not equal the sum of the margins that would be appropriate for each risk individually.

28. Paragraph 26(e) states that margins should be as consistent as possible with observable market prices. Therefore, the component(s) of the risk margin that relate(s) to market variables should be consistent with the observed prices from which those variables are derived. Market variables may also provide some (probably limited) indications of how

[12] The tail risk affects both (1) the expected cash flows and (2) the margin that market participants would require to compensate them for possible variations from the expected cash flows. The staff views it as given that expected cash flows should capture (1). The suggested criterion in this paragraph is that the risk margin should capture (2).

market participants might price the risks associated with non-market variables, particularly for risks that have similar profiles to market variables.

Other possible criteria – 'coherence'

29. Actuarial researchers have suggested criteria that measurements (ie expected value plus risk margin) should satisfy to be 'coherent'. Here is the staff's attempt to summarise these criteria in (relatively) plain English:[13]

    (a) The aggregate measurement for liability X and liability Y is less than, or equal to, the measurement for liability X plus the measurement for liability Y. In other words, diversification may or may not provide a benefit, but should not result in a penalty. [The formal name for this property is sub-additivity**]**

    (b) If cash outflows for liability X are less than the cash outflows for liability Y in all states of the world, the measurement of liability X (expected value plus risk margin) is less than the measurement of liability Y. [formal name: monotonicity]

    (c) If the pay-out for liability Y in every state of the world is B times the pay-out for liability X in that state of the world, the measurement for liability Y is B times the measurement for liability X. [formal name: positive homogeneity]

    (d) Assume the payout for liability Y is the same as the payout for liability, with the addition of a fixed amount c (thus Y = X + c). 'Fixed' means X could be different in different states of the world (such as claim versus no claim), but c is the same in every state of the world. The measurement for liability Y equals c plus the measurement of X. [formal name: translation invariance]

Other possible criteria – value additivity

30. Some suggest that risk margins should also satisfy a criterion of value additivity. In other words, the aggregate risk margin for two books of contracts should be the same as the sum of the risk margins for the individual books. We plan to discuss that question when we discuss the unit of account in April.

[13] For more information, see papers on 'coherent measures of risk' at http://www.gloriamundi.org

Staff recommendation

31. The staff recommends that the Board adopt the criteria in paragraph 26.

Appendix A

Shock absorber or compensation for bearing risk – example

Example 1 – compensation for bearing risk or shock absorber?

Background information

On 1 January 20X1, insurer A issues several identical insurance contracts to various policyholders. The contracts cover insured events occurring between 1 January 20X1 and 31 December 20X1. At inception, the expected value of the cash outflows from the contracts is 200. For simplicity, this example ignores the time value of money, and investment income.

Insurer A determines that it requires an additional payment of 40 to compensate it for bearing the risk associated with the contracts. Insurer A charges a premium of 240 and collects the entire premium at inception.[14] Insurer A estimates that other insurers would not require a significantly different return.[15]

At 30 June 20X1, insurer A pays claims totalling 118 and determines that no further insured events had occurred up to that date. Insurer A estimates that claims for the 6 months to 31 December 20X1 have an expected value of 118. Insurer A also determines that it would require additional compensation of 25 for bearing the risk associated with those contracts for those six months (but is not able to charge that additional amount because the pricing was set at inception).

At 31 December 20X1, Insurer A pays claims of 118 (ie the same amount as the expected value determined at 30 June 20X1).

View A (shock absorber)

If risk margins are viewed as a shock absorber, Insurer A recognises a liability of 120 at 30 June 20X1. This represents the remaining portion of the original premium (6/12 x 240). It could also be analysed as the (revised) expected value of 118 plus an implicit risk margin of 2.

[14] It is beyond the scope of this paper to consider what would happen if the premium is higher or lower than the sum of the expected value of the cash flows (200) plus the required compensation for bearing risk (40).

[15] It is beyond the scope of this paper to consider what would happen if the insurer requires a higher or lower return than other insurers.

In the sixth months to 31 December 20X1, Insurer A recognises revenue (earned premium) of 120 and claims expense of 118. The net profit of 2 for those six months corresponds to the release of the implicit risk margin that was included in the liability at 30 June 20X1.

View B (compensation for bearing risk)

If risk margins are viewed as a measure of the compensation for bearing risk, Insurer A recognises a liability of 143 (118 + 25) at 30 June 20X1 and an additional loss at that date of 23 (143 – 120). During the six months to 31 December 20X1, Insurer A recognises a profit of 25, representing the release of the margin that was included at 30 June 20X1.

Example 1 illustrates several points:

(a) If view A is adopted, Insurer A's balance sheet reports the liability as if it were almost free from risk (ie with an implicit risk margin of only 2).

(b) Under view A, if Insurer A's pricing reacts promptly to changes in estimate, its balance sheet may measure identical liabilities at different amounts. For example, if Insurer A issues new six month contracts on 1 July with exposures identical to the remaining exposures and for a premium of 143, it will measure the new liabilities at 143 and the old exposures at 120, although the exposures are identical.

(c) If view A is adopted, Insurer A's income statement will not give a timely reflection of the deterioration in expected outcomes for the second six months.

(d) If view B is adopted, an additional loss of 23 is recognised in the first six months and an additional gain of 23 is recognised in the following six months.

Appendix B

Approaches to determining risk margins

(a) confidence levels:

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

(ii) explicit minimum confidence level, but insurers may use a higher confidence level. [An approach of this kind is in use in Australia. See the Board's education session in April 2005]

(iii) implicit (and unspecified) confidence level. [Implicit confidence levels do not meet the staff's proposed criteria]

(b) conditional tail expectations (CTE), sometimes known as tail value at risk (Tail VaR). CTE is the expected value of all outcomes that exceed a designated level. For example, CTE 90 is the expected value of all outcomes beyond the 90^{th} 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 kind is in use in Canada. See the Board's education session in April 2005]

(d) implicit (but unspecified) risk margin 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. [This is a fairly common approach today, but implicit margins would not meet the staff's proposed criteria.]

(e) 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 (European) CFO Forum suggests that an approach of this kind 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 margins associated with market variables), and a cost of capital approach to determine the risk margin associated with non-market variables). For more information, see the presentation by Francis Ruijgt at the January 2006 meeting of the Insurance Working Group.]

(f) methods based on the capital-asset pricing model or related asset-pricing models.

(g) adjustments to cash flows to place greater weight on cash flows in some states of the world (eg 'deflator', 'no arbitrage' and 'market consistent' approaches) or greater weight on larger cash flows (eg 'transformation' or 'distortion' approaches).

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

The above approaches may not be mutually exclusive. It may be possible to combine some of these techniques, or use elements from more than one of these techniques.

AGENDA PAPER 7F
EMBEDDED DERIVATIVES (INCLUDING OPTIONS AND GUARANTEES

Purpose of this paper

1. This paper discusses the treatment of embedded derivatives (including embedded options and guarantees) included in a host insurance contracts that is measured at current entry value.

2. For a host insurance contract measured at current exit value, there would be no need to separate embedded derivatives.

Participating contracts

3. For some types of participating contract, policyholders could be viewed as having an interest in the underlying assets and liabilities, together with a put option on those assets and liabilities. That put option could be viewed as an embedded derivative. Some of the matters discussed in this paper may be relevant to the measurement of participating contracts.

Policyholder accounting

4. This paper concentrates on accounting by insurers. Some of the matters discussed in this paper may be relevant when we come to discuss policyholder accounting later in the project.

Summary of recommendations

5. This paper recommends the following for derivatives embedded in a host insurance contracts if the host contract is measured at current entry value:

   (a) If the embedded derivatives would be embedded derivatives within the scope of IAS 39 if they were stand-alone instruments, they should remain subject to classification as ‘at fair value through profit or loss’.

   (b) If the derivatives contain both a significant insurance-related underlying and a significant financial underlying (eg guaranteed annuity options), they should no longer be exempt from classification as ‘at fair value through profit or loss’.

(c) If the derivatives are mainly insurance-related and do not contain a significant financial underlying, they should remain exempt from classification as 'at fair value through profit or loss'.

Background

6. IAS 39 requires an entity to classify embedded derivatives as 'at fair value through profit or loss'. To achieve this, if an entity does not classify the entire hybrid (combined) contract as 'at fair value through profit or loss', the entity must separate the embedded derivative from the host contract.

7. The requirement described in the previous paragraph does not apply:

   (a) if the economic characteristics and risks of the embedded derivative are closely related to the economic characteristics and risks of the host contract.[16]

   (b) if the embedded derivative:

      (i) itself meets the definition of an insurance contract, or

      (ii) is a policyholder's option to surrender an insurance contract (or a financial instrument containing a discretionary participation feature) for a fixed amount (or for an amount based on a fixed amount and an interest rate).[17]

8. If an entity cannot measure separately an embedded derivative that it is required to separate, it must designate the entire hybrid (combined contract) as at fair value through profit or loss.

9. Sometimes, an embedded derivative and the host insurance contract are so interdependent that an entity cannot measure the embedded derivative separately. IAS 39 gives this as an example of when an embedded derivative is closely related to the host insurance contract.[18]

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[16] see paragraph AG33 of IAS 39 for examples of embedded derivatives that are closely related to their host contract and paragraph AG30 of IAS 39 for examples of embedded derivatives that are not closely related.
[17] IFRS 4, paragraphs 8 and 9
[18] IAS 39, paragraph AG33(h)

10. If an insurance contract is measured at current exit value, there would be no requirement to separate any embedded derivative.

Types of embedded derivative contained in host insurance contracts

11. Many insurance contracts contain embedded options, guarantees or other types of embedded derivative. Paragraphs IG 3 and 4 and the related IG example 2 of the *Guidance on Implementing IFRS 4* explains how the existing requirements apply for 20 different types of embedded derivative.

12. This paper identifies three categories of embedded derivatives in insurance contracts:

    (a) financial derivatives: derivatives that would, if they were stand-alone instruments, be derivatives in the scope of IAS 39.

    (b) insurance derivatives: derivatives for which the underlying is mainly insurance-related.

    (c) hybrid insurance-financial derivatives: derivatives that contain both a significant insurance-related underlying and a significant financial underlying.

Financial derivatives

13. In this paper, financial derivatives are derivatives that would, if they were stand-alone instruments, be derivatives in the scope of IAS 39. Examples are:

    (a) an equity-indexing feature of a life insurance contract if that feature applies equally to all benefits payable on death, maturity and surrender.

    (b) a guaranteed minimum return on an index-linked investment contract.

14. Financial derivatives must be classified as ‘at fair value through profit or loss’.

Insurance derivatives

15. In this paper, insurance derivatives are derivatives for which the underlying is mainly insurance-related. Examples are:

    (a) Guaranteed insurability options.

(b) Options to surrender an insurance contract, or to suspend or cease premiums.

(c) Options to convert one form of contract for another at prices constrained by the original contract.

(d) Insurance swaps (eg a swap of Japanese earthquake risks for California earthquake risks)

(e) Insurance features embedded in catastrophe bonds with an indemnity trigger (ie a trigger that requires an adverse affect on the issuer). However, catastrophe bonds with a parametric trigger (ie with no requirement for an adverse effect) do not meet the definition of an insurance contract in IFRS 4.

Hybrid insurance-financial derivatives

16. Some embedded derivatives contain both a significant insurance-related underlying and a significant financial underlying. This paper describes such embedded derivatives as hybrid insurance-financial derivatives. Examples are:

(a) A guaranteed annuity option. An example is a contract where the policyholder pays a fixed monthly premium for thirty years. At maturity, the policyholder can elect to take either (i) a lump sum equal to the accumulated investment value or (ii) a lifetime annuity at a rate fixed at inception (ie when the contract started). Fixing the annuity price at inception exposes the insurer to both interest rate risk and significant insurance risk (mortality risk).

(b) A guaranteed minimum death benefit. An example is a contract where the policyholder pays a fixed monthly premium for 30 years. Most of the premiums are invested in a mutual fund. The rest is used to buy life cover and to cover expenses. On maturity or surrender, the insurer pays the value of the mutual fund units at that date. On death before final maturity, the insurer pays the greater of (i) the current unit value and (ii) a fixed amount. The host contract is a mutual fund investment and the embedded derivative is a feature that pays a death benefit equal to the fixed amount less the current unit value (but zero if the current unit value is more than the fixed amount).

17. In developing IFRS 4, the Board was concerned that insurers need not, during phase I of this project, recognise some potentially large exposures to hybrid insurance-financial derivatives creating risks that many regard as predominantly financial. To go some way to meeting those concerns, IFRS 4 requires an insurer:

    (a) to disclose information about 'exposures to interest rate risk or market risk under embedded derivatives contained in a host insurance contract if the insurer is not required to, and does not, measure the embedded derivative at fair value.'

    (b) to consider embedded options and guarantees in carrying out a liability adequacy test Although the Board's objective was not to develop a detailed liability adequacy test for phase I, the Board decided that the minimum requirements for an existing liability adequacy test should include considering cash flows resulting from embedded options and guarantees. The Board did not specify how those cash flows should be considered but noted that an insurer would consider this matter in developing disclosures of its accounting policies. If an existing liability adequacy test does not meet the minimum requirements, a comparison is made with the measurement that IAS 37 would require. IAS 37 refers to the amount that an entity would rationally pay to settle the obligation or transfer it to a third party. Implicitly, this amount would consider the possible effect of embedded options and guarantees.

Discussion

18. Some would oppose a requirement to separate embedded derivatives contained in a host insurance contract and measure them at fair value. They argue that:

    (a) separating these derivatives would be costly and burdensome.

    (b) some of these derivatives are intertwined with the host insurance contract in a way that would make separate measurement arbitrary. The fair value of the whole contract might differ from the sum of the fair values of its components.

    (c) a robust liability adequacy test could identify possible losses from embedded options and guarantees.

(d) It would be contradictory to require a fair value measurement of an insurance contract (ie an insurance derivative or a hybrid insurance-financial derivative) embedded in a larger contract if such measurement is not required for a stand-alone insurance contract.

19. Arguments for classifying all or many embedded derivatives as at fair value through profit or loss:

(a) Fair value is the only relevant measurement basis for derivatives. It is the only method that provides sufficient transparency in the financial statements. The cost of most derivatives is nil or immaterial. Hence if derivatives were measured at cost, they would not be included in the balance sheet and their success (or otherwise) in reducing risk, or their role in increasing risk, would not be visible. In addition, the value of derivatives often changes disproportionately in response to market movements (put another way, they are highly leveraged or carry a high level of risk). Fair value is the only measurement basis that can capture this leveraged nature of derivatives—information that is essential to communicate to users the nature of the rights and obligations inherent in derivatives.

(b) Contractual rights and obligations that create similar risk exposures should be treated in the same way whether or not they are embedded in a non-derivative contract. Without such requirements, entities might seek to avoid the requirement to measure derivatives at fair value by embedding a derivative in a non-derivative contract.

(c) IAS 39's requirements for embedded derivatives apply to a host contract of any kind. Exempting host insurance contracts from those requirements would be a retrograde step.

(d) A liability adequacy test will under-emphasise the importance of embedded derivatives if it considers only their intrinsic value and not their time value.

Staff recommendation

20. Embedded **financial derivatives** must already be classified as 'at fair value through profit or loss'. There is no obvious reason to change this requirement.

21. A current entry value measurement would not capture the full intrinsic value and time value of embedded **insurance derivatives**. Nevertheless, it would be contradictory to require a current exit value measurement of an embedded insurance derivative, if a stand-alone insurance contract with the same contractual terms is not subject to the same requirement. Therefore, embedded insurance derivatives should not be required to be classified at fair value through profit or loss.

22. Traditionally, many insurance accounting models have not accounted for the full intrinsic value and time value of derivatives with a significant financial element, though this has started to change over the last few years. This omission has been a significant failing of many accounting models. Because current entry value freezes the margin determined at inception, it will not give full recognition to the time value of these derivatives. Therefore, embedded **hybrid insurance-financial derivatives** should be classified as 'at fair value through profit or loss', even if the host insurance contract is measured at current entry value.