IFRS

IASB/FASB Meeting
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IASB
Agenda **2I**
reference

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Agenda **59I**
reference

Staff Paper

Project	Insurance contracts
Topic	**Informational session on uncertainty in the measurement of insurance liabilities**

What is this paper about?

1. The purpose of this paper is to address the boards' concerns about possible double counting risk and uncertainty that arose during the February joint meetings. This paper provides a comprehensive view of the measurement model considering all building blocks and will analyze where the model intends to capture the elements of risk and uncertainty.

2. This paper does not discuss the merits of the model proposed under the IASB's Exposure Draft *Insurance Contracts* (the ED) or the FASB's Discussion Paper: *Preliminary Views on Insurance Contracts* (the DP), but rather attempts to provide in one memo a comprehensive examination of risk and uncertainty.

3. This paper does not provide a comparison of the composite margin and risk adjustment beyond where risk and uncertainty are captured respectively, nor does it provide arguments for including or excluding an explicit risk adjustment. These topics will be discussed at a future meeting.

4. This memo does not discuss the practicalities of performing probability-weighted assessments or calculations of the risk adjustment as proposed in the ED. Those topics will be discussed at future board meetings.

5. This memo is for informational purposes only and the staff will not ask the boards to make any decisions.

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Background

6. The recent discussions of the building block approach during the February joint meetings highlighted some board members' concerns about whether there is a potential for double counting risk and uncertainty in the separate building blocks of the measurement approach. In particular, some board members appear to be most concerned that uncertainty and risk captured in the estimates of expected cash flows are being double counted in the explicit risk adjustment and to a lesser extent the discount rate.

7. The staff have provided below an analysis of each of the building blocks included in the measurement model. Our discussion focuses on the intent of the model and the conceptual reasoning behind the intent of the model to analyze why we do not believe double counting of risk and uncertainty occurs.

Requirements in the ED

8. Paragraph 17 of the ED requires the insurer to measure an insurance contract initially at the sum of:

    (a) The expected present value of the future cash outflows less future cash inflows that will arise as the insurer fulfils the insurance contract, adjusted for the effects of uncertainty about the amount and timing of those future cash flows (present value of the fulfillment cash flows); and

    (b) A residual margin that eliminates any gain at inception of the contract. A residual margin arises when the amount in (a) is less than zero (ie when the expected present value of the future cash outflows plus the risk adjustment is less than the expected present value of the future cash inflows).

9. Paragraph 22 of the ED states that the following building blocks constitute the present value of the fulfillment cash flows:

(a)   An explicit, unbiased and probability-weighted estimate (ie expected value) of the future cash outflows less the future cash inflows that will arise as the insurer fulfils the insurance contract;

(b)   A discount rate that adjusts those cash flows for the time value of money; and

(c)   An explicit estimate of the effects of uncertainty about the amount and timing of those future cash flows (risk adjustment).

10.   Paragraph 51 of the DP expressed the preliminary view that the measurement model would include a composite margin that implicitly includes a measure of risk rather than explicitly measuring and recognizing this adjustment.

11.   When analyzing each of the building blocks the staff looked to FASB Statement of Concepts No. 7 *Using Cash Flow Information and Present Value in Accounting Measurement* (CON 7) as the basis of comparison for much of our analysis. Although CON 7 is written in the context of fair value, the staff believe there is no reason to think that the same conclusions would not apply to the fulfillment approach. As discussed below, fair value and the fulfillment approach are not very different from a practical standpoint.

12.   Paragraph 23 of CON 7 states that a present value measure that fully captures the economic differences of assets and liabilities measured should contain the following elements:

(a)   An estimate of the future cash flow, or in more complex cases, series of future cash flows at different times

(b)   Expectations about possible variations in the amount or timing of those cash flows

(c)   The time value of money, represented by the risk free rate of interest

(d)   The price for bearing the uncertainty inherent in the asset or liability

(e)   Other, sometimes unidentifiable, factors including illiquidity and market imperfections.

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We will address each of these elements in turn as we analyze each building block of the model.

13. Different measurement attributes for an accounting model use each of the above elements in different ways to accomplish the measurement objective. For instance, the building block approach in the ED and DP is a fulfillment model (otherwise known as an entity specific measurement). The only practical differences between the fulfillment model used for insurance contracts and that of fair value are that (a) the building blocks approach does not consider the entity's (ie the insurer's) own credit in the measurement of the insurance contract liability and (b) for inputs not derived from financial markets, the model relies on entity specific assumptions rather than those of market participants. This is not to suggest that the building blocks approach does not use observable inputs but rather substitutes those inputs with entity specific assumptions when observable inputs are not available or those inputs do not contradict those of the entity.

Staff analysis

14. Before analyzing each of the building blocks individually, it is important to review the general set of principles under which most present value techniques should operate. These general principles will provide a guide-post for comparison to the building blocks model. Paragraph 41 of CON 7 states that the following general principles should govern the application of a present value calculation:

    (a) To the extent possible, estimated cash flows and interest should reflect assumptions about the future events and uncertainties that would be considered in deciding whether to acquire an asset or group of assets in an arm's-length transaction for cash.

    (b) Interest rates used to discount cash flows should reflect assumptions that are consistent with those inherent in the estimated cash flows. Otherwise the effect of some assumptions will be double counted or ignored. For

example, an interest rate of 12 percent might be applied to contractual cash flows of a loan. That rate reflects expectations about future defaults from loans with particular characteristics. That same 12 percent rate should not be used to discount expected cash flows because those cash flows already reflect assumptions about future defaults.

(c) Estimated cash flows and interest rates should be free from both bias and factors unrelated to the asset, liability, or group of assets or liabilities in question. For example, deliberately understating estimated net cash flows to enhance the apparent future profitability of an asset introduces a bias into the measurement.

(d) Estimated cash flows or interest rates should reflect the range of possible outcomes rather than a single most-likely, minimum, or maximum possible amount.

15. In addition to the general principles outlined above, the staff would like to clarify what we mean by the terms uncertainty and risk in the context of this paper. We do not use the terms interchangeably in order to avoid confusion when discussing the model, and in particular, double counting uncertainty and risk. We also realize others may have different definitions than what is given here, however we thought it important to distinguish to facilitate the discussion.

16. The term uncertainty (consistent with CON 7) refers to the fact that the cash flows are estimated and not known amounts. Insurance contracts are entered into based upon expectations of uncertain future events. The outcome of the uncertain future events may place the insurer in a position that is worse or better off than expected. Although this uncertainty affects the expected cash flows, until the uncertainties are resolved the entity is at risk.

17. The term risk refers to the fact that the actual outcome may differ from that of the calculated expected outcome. Initially, it may be helpful to think of the term risk in terms of investing rather than insurance liability measurement. In investing, the term risk (or risk adjustment) is the compensation required to accept the uncertainty in the expected cash flows. In investing terms, it is safe to assume

most investors are risk-averse to varying degrees. If this were not the case, there would be no added risk premium for riskier investments. Therefore, it is also safe to assume that an investor, given a choice, between (a) an asset with expected cash flows that are uncertain and (b) another asset with the same expected cash flows but no uncertainty, the investor would place a higher value on (b) than (a). Applying this logic to liabilities leads to the conclusion that generally investors would demand more compensation to assume a liability with uncertain expected cash flows than a liability with the same expected cash flows and no uncertainty. In the context of insurance liabilities, the risk (or risk adjustment) is the risk that the actual outcome could be (and likely will be) different than the expected cash flow calculation.

18. For the first two building blocks the proposals in the ED and the preliminary views in the DP are consistent and therefore we will discuss the model with reference to the ED for ease of reading.

Uncertainty captured in the cash flows:

19. Paragraph 23 of the ED states that the estimates of cash flows for a portfolio of insurance contracts shall include all incremental cash inflows and cash outflows arising from that portfolio, and shall:

    (a)   Be explicit (ie separate from estimates of discount rates that adjust those cash flows for the time value of money and the risk adjustment that adjusts those cash flows for the effects of uncertainty about the amount and timing of those future cash flows).

    (b)   Reflect the perspective of the entity but, for market variables, be consistent with observable market prices.

    (c)   Incorporate, in an unbiased way, all available information about the amount, timing and uncertainty of all cash flows that will arise as the insurer fulfils the insurance contract.

    (d)   Be current [...].

(e)   Include only those cash flows that arise from existing contracts […].

A word on probability weighting

20.   As was discussed at the February joint meeting, the staff recommended and the boards agreed, that the final standard should clarify that the measurement objective of expected value refers to the mean, considering all relevant information. Additionally the staff recommended, and the boards agreed, that practical implementation would depend on the circumstances and that there is not a need to identify all possible scenarios provided that the insurer is satisfied that the measurement objective has been met.

21.   During the joint meeting there was some discussion about how the mean is determined for non-life insurers and whether this calculation resulted in a distribution of cash flows or a point estimate of the mean. The staff will address this concern at a future meeting. For purposes of this discussion, we have assumed that the mean calculation for a non-life insurer results in a cash flow distribution.

Discussion of the requirements

22.   If we examine the elements in paragraph 12 above, the expected cash flow for the model intends to capture elements (a) and (b) in that paragraph:

    ⊚   An estimate of the future cash flow, or in more complex cases, series of future cash flows at different times, and

    ⊚   Expectations about possible variations in the amount or timing of those cash flows

23.   These elements reflect the uncertainty in the timing and amount of the expected cash flows. Some would argue that the cash flows contemplate other uncertainties as an insurer would price premiums to reflect additional assumptions particular to specific of policyholders accordingly. While that may be the case, those particular assumptions could be incorrect and there is still a risk that the actual outcome could be (and likely will be) different than the expected cash flow calculation.

Therefore, these additional uncertainties discussed are already captured in the cash flows whereas the risk that the actual outcome differs from the expectations is not.

24. It may be useful to think of this difference in terms of alternative asset investments for an investor. In a simple example[1], an investor has a choice between the following assets to purchase:

   (a) Asset A: an asset with a fixed contractual cash flow of $1,000 due in 1 day and collection of the amount is certain.

   (b) Asset B: an asset with a fixed contractual cash flow of $1,000 due in 1 day and collection of the amount is uncertain. The amount may be less but it will not be more than $1,000.

25. Given the choices in paragraph 24, a rational investor would not pay the same price for each of these investments. The investor would pay no more than what is expected to be collected. If the expectation were for Asset B, a collection of $800 (or 80% in probability terms), a rational investor would not pay more than $800 for the investment. However this price only contemplates the uncertainty of the amount to be collected and not the compensation required for bearing that uncertainty (ie the risk). That adjustment for the compensation would be a deduction from the expected cash flows in one form or another. Although this example contemplates investments and compensation, the same logic is applicable to insurance liabilities.

26. In much the same manner, the expected cash flow calculation of the building blocks model is intended to capture only the uncertainty in the amount and/or timing of the cash flows and not the compensation for bearing that uncertainty (ie the risk that the actual outcome could be (and likely will be) different from the expectation). In the case of an insurance liability, the notion of compensation is replaced with the maximum amount an insurer would rationally pay to be relieved of this risk in the case of an explicit risk adjustment. The composite margin would implicitly include this risk. Although the staff plans to bring to the boards a

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[1] Example is adapted from CON 7 Appendix A for reference.

specific analysis about the objective of the risk adjustment at a future meeting, the fact remains that the risk accounted for is the risk that the actual outcome could be (and likely will be) different from the expectations.

27. Arguably, it is possible to capture this risk as an adjustment to the cash flows or the discount rate. To accomplish this adjustment, an entity adjusts the cash flows in a downward direction from $800 in the example given in paragraphs 24 – 25. Alternatively, the entity could adjust the discount rate. In the example in paragraphs 24 – 25 the discount rate would include an addition to a risk free rate to reflect the adjustment thus decreasing the present value of the cash flows and mathematically accomplishing the same goal. However, these options are not provided for in the building blocks model.

28. The use of the term unbiased has caused additional confusion in understanding the model. Some have considered the term unbiased problematic because they believe that entity specific assumptions are inherently biased and therefore because of this, some believe it is possible that some uncertainty is double counted between the cash flows and the risk adjustment.

29. First, as explained by the staff in Agenda Paper 3F/58F during the February meeting, the term unbiased is meant to portray the fact that all relevant and reliable information should be used to determine the expected value, because the omission of any possible outcomes (ie probability-weighted scenarios) could result in a biased estimate. This is further reinforced by the basis for conclusions of the ED that stated in paragraph B39 that when considering all possible scenarios, the objective is not necessarily to identify every possible scenario but rather to incorporate all relevant information and not simply ignore data or information that is difficult to obtain.

30. Second, and perhaps more importantly, this relevant and reliable information should only contemplate the uncertainty in the amount and timing of the cash flows. The relevant and reliable information discussed are potentially the outliers of the distribution of the expected cash flows that could significantly change the expected value if not included in the distribution. This does not suggest that these

outliers should be biased estimates. This point is reinforced with paragraph B40 of the basis for conclusions of the ED. That paragraph states that the probability assigned to each scenario shall reflect conditions at the end of the reporting period.

31. Finally, although these outliers arise from uncertainty, their inclusion in the expected value does not constitute an adjustment for the risk that actual outcomes could differ from expectations.

32. Although an adjustment could be made to the expected cash flows or the discount rate to reflect the risk that the actual outcome could (and likely will be) different than the expected value of the cash flows, the intent of the model is to provide for this adjustment separately (either explicitly through the risk adjustment or implicitly through the composite margin). Therefore, if the measurement is performed as intended, the staff conclude that there would be no double counting of uncertainty in the cash flows that is intended to be captured elsewhere in the model.

Uncertainty captured in the discount rate:

33. Paragraph 30 of the ED requires the insurer to adjust the future cash flows for the time value of money, using discount rates that:

    (a) Are consistent with observable current market prices for the instruments with cash flows whose characteristics reflect those of the insurance contract liability, in terms of, for example, timing, currency and liquidity.

    (b) Exclude any factors that influence the observed rates but are not relevant to the insurance contract liability (eg risks not present in the liability but present in the instrument for which the market prices are observed).

34. Referring back to paragraph 12 above, the intent of discounting the expected cash flows for insurance contract liabilities is to capture elements (c) and (e):

    • The time value of money, represented by the risk free rate of interest

    • Other, sometimes unidentifiable, factors including illiquidity and market imperfections.

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35. During the February joint meeting the staff recommended, and the boards agreed, that the objective of discounting expected cash flows is to adjust the future cash flows for the time value of money and reflect the characteristics of the insurance contract liability. The boards did not prescribe a method for accomplishing the objective, however practically, it is likely that entities will ultimately end at a rate that is reflective of a risk free rate plus an adjustment for illiquidity and an unknown residual that likely consists of market imperfections as described in paragraph 30. With this as the ultimate ending point, the question was raised as to whether the model is double counting any uncertainty or risk already captured in other building blocks within the discount rate.

36. The principles provided in paragraph 14 state that the interest rate used to discount expected cash flows should reflect assumptions that are consistent with those inherent in the estimated cash flows. By definition, the objective of discounting insurance liabilities includes the notion of reflecting only the characteristics of the liability. This is why as part of our discussion in Agenda Paper 3D/58D at the February meeting the staff highlighted the fact that using an asset-based rate as a starting point could be just as subjective and difficult to determine as starting with a risk-free rate.

37. The expected cash inflows of an insurance contract under the model do not contemplate investment returns on cash received or future investment performance over the long term. Therefore, all assumptions that are reflective of the assets invested in (or referenced to) would need to be eliminated to meet the objective. From an asset-based perspective, the worry is not double counting so much as it is including assumptions that do not belong. That is not to suggest that the risk of double counting in an asset-based methodology is non-existent but rather less likely in the methodologies provided by the staff at the February meeting. Consequently, the staff recommended at the February meeting, and the boards agreed, that the boards should provide guidance for determining the discount rate in these types of situations to assist entities in determining which assumptions should be eliminated from an asset-based rate.

38. On the other hand, starting with a risk-free rate could be more susceptible to double counting. Many consider an insurance contract a bundle of cash flows that are interrelated. The uncertainty the insurer bears on the cash inflows is that the policyholder does not pay their premium in which case the insurer would lapse the contract. The uncertainty of non-payment is already captured in the calculation of the expected cash flows as part of the lapse assumptions (through scenarios to estimate how many policyholders may lapse, and when). The calculation also considers when the insurer will receive the premiums. Therefore, this uncertainty should not be captured in the discount rate and is currently not under the building block model or in the recommendations offered by the staff during the February joint meeting.

39. In terms of the outflows, there is uncertainty about:

    (a) The amount and timing of the cash flows,

    (b) The fact that the insurer may not be able to pay,

    (c) Liquidity differences, and

    (d) The risk that the actual outcome with regard to cash flows will differ from that of the expectation.

40. The uncertainty for the amount and timing of the cash flows is captured in the probability-weighted expected cash flow scenarios and is discussed in paragraphs 20 – 32 above. The boards decided that the uncertainties for non-performance by the insurer should not be reflected in the model in either the cash flows, discount rate, risk adjustment, or composite margin and is currently not provided for under the building block approach or any proposals to date. Therefore, this leaves adjustments for assumptions about liquidity and the risk that actual outcomes will differ from expectations.

41. The adjustment for liquidity differences is contemplated by adjusting the discount rate. Insurers issuing contracts like long-term annuities can invest in relatively illiquid assets with a higher return than that achievable with more liquid assets. As a result, those insurers are often willing to price such contracts in a way that

provides a higher return to the policyholder through lower premium rates or higher credited rates than for contracts in which early surrender is possible (or an explicit surrender charge is included). If such liabilities are measured using a discount rate that reflects returns on highly liquid government bonds, the discount rate would not reflect the characteristic of the liability of being highly illiquid.

42.   Within the model an adjustment is not made to the discount rate to contemplate the risk that actual outcomes could differ from expected. This is not to suggest that an adjustment couldn't be made but rather reaffirm that although other uncertainties and risks could be captured in the discount rate, if the objective of discounting insurance contracts is met, the staff find it difficult to conclude that uncertainties would be double counted between the discount rate and the other building blocks.

Risk captured in the risk adjustment or composite margin:

43.   Paragraph 35 of the ED states that the risk adjustment shall be the maximum amount the insurer would rationally pay to be relieved of the risk that the ultimate fulfillment cash flows exceed those expected.

44.   Paragraph 51 of the DP states that under the FASB's preliminary view of the building block approach (the composite margin approach), risk and uncertainty would be reflected implicitly through a single composite margin rather than explicitly through a separate risk adjustment as in the IASB's two-margin approach.

45.   Regardless of the approach taken, the risk that the actual outcome will differ from expectations is captured in this portion of the model. Arguments can be, and have been made, as to which methodology is more appropriate. However, that discussion is beyond the scope of this paper.

46.   Referring back to paragraph 12 above, the intent of including a measure for risk, whether explicitly or implicitly is to capture element (d):

   •   The price for bearing the uncertainty inherent in the asset or liability

47. We have identified this element in the context of insurance liabilities as the risk that the actual outcome could be (and likely will be) different than the expected value of the cash flows. Although CON 7 presents this element from the perspective of fair value measurement, 1) as stated previously, the measurement attributes for insurance contract liabilities and fair value are practically not that dissimilar and 2) the concept of a price for bearing the uncertainty and the maximum amount an insurer would rationally pay to be relieved of the risk that actual amounts will differ from expectations are largely the same. Therefore, the staff believe the comparison to CON 7 is a valid one.

48. We have shown throughout the rest of the discussion how each element of uncertainty is captured in each of the building blocks. We have also shown how the risk that actual outcomes differ from expected outcomes are not captured in the expected cash flows or the discount rate thereby eliminating the possibility of double counting. The real question for the risk adjustment is whether the amount should be measured explicitly or implicitly as part of the composite margin. This will be discussed at a future meeting.

Conclusions about double counting of risk and uncertainty

49. From the discussion above, we have linked all elements of a present value measurement discussed in the conceptual framework to each of the building blocks of the insurance contract model and explained the intention of each of the measurement pieces. The staff are not suggesting that the elements could not be captured in a different way but rather that the intention of the model is to capture elements in the manner presented and if this is done double counting is avoided.

50. Conceivably entities could establish a methodology or application that could mistakenly misapply the intention of the model. However, the staff believe this to be the case in many measurement conventions and this practical problem is not unique to the insurance contracts project. For this reason, we see no compelling reason to be more concerned about double counting of risk and uncertainty in the insurance contracts project than any other project.

IASB/FASB Staff paper

Question to the boards

Discussion questions for the boards
1) What is the reaction of the boards to the analysis provided?
2) Are there any elements of the measurement model that we did not cover that the boards want additional clarification on?