STAFF PAPER

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Project	**Transition Resource Group for Impairment of Financial Instruments**		
Paper topic	Incorporation of forward-looking scenarios		
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Introduction

1. We have received two submissions about whether more than one forward-looking economic scenario is needed when measuring expected credit losses. If so, the submitters also ask how to incorporate different forward-looking economic scenarios into the measurement of expected credit losses. In addition, one of the submitters asks how to incorporate different forward-looking economic scenarios when assessing significant increases in credit risk.

2. This paper:

   (a) sets out the relevant accounting requirements in IFRS 9 *Financial Instruments* (2014) and IFRS 7 *Financial Instruments: Disclosures*;

   (b) summarises the potential implementation issues raised by the submitters; and

   (c) asks the members of the Transition Resource Group for Impairment of Financial Instruments ('the ITG') for their views on the issues identified.

Accounting requirements

3. In this section we summarise the relevant requirements in IFRS 9 in respect of the measurement of expected credit losses and determining significant increases in credit risk. In addition, we summarise the relevant disclosure requirements in IFRS 7.

Measurement of expected credit losses

4. Paragraph 5.5.17 of IFRS 9 sets out the key principles and measurement objectives for measuring expected credit losses:

> **5.5.17** An entity shall measure expected credit losses of a financial instrument in a way that reflects:
>
> (a) an unbiased and probability-weighted amount that is determined by evaluating a range of possible outcomes;
>
> (b) the time value of money; and
>
> (c) reasonable and supportable information that is available without undue cost or effort at the reporting date about past events, current conditions and forecasts of future economic conditions.

5. Further guidance is given in IFRS 9 in respect of the following, as discussed below:

   (a) probability-weighted amount; and

   (b) evaluating a range of possible outcomes.

6. IFRS 9 also provides further guidance in respect of the requirement in paragraph 5.5.17(c) to reflect reasonable and supportable information that is available without undue cost or effort. This guidance was discussed in the context of

forward-looking information at the meeting of the ITG on 16 September 2015 (Agenda Paper 4).[1]

Probability-weighted amount

7. Appendix A of IFRS 9 defines expected credit losses as 'the weighted average of credit losses with the respective risks of a default occurring as the weights'. Credit loss is defined and is the difference between all contractual cash flows that are due to an entity in accordance with the contract and all cash flows that the entity expects to receive (ie all cash shortfalls), discounted at the original effective interest rate over the expected life of the financial instrument.

8. Further insight into the IASB's use of the term 'expected' is given in paragraph BC5.263 of IFRS 9:

> The term 'expected' as used in the terms 'expected credit losses', 'expected value' and 'expected cash flow' is a technical term that refers to the probability-weighted mean of a distribution and should not be confused with a most likely outcome or an entity's best estimate of the ultimate outcome.

Evaluating a range of possible outcomes

9. As noted in paragraph 4, IFRS 9 requires an entity to evaluate a range of possible outcomes. This is further elaborated in paragraphs 5.5.18, B5.5.41 and B5.5.42 of IFRS 9:

> **5.5.18** When measuring expected credit losses, an entity need not necessarily identify every possible scenario. However, it shall consider the risk or probability that a credit loss occurs by reflecting the possibility that a credit loss occurs and the possibility that no credit loss occurs, even if the possibility of a credit loss occurring is very low.

[1] See http://www.ifrs.org/Meetings/Pages/ITG-meeting-September-2015.aspx

> **B5.5.41** The purpose of estimating expected credit losses is neither to estimate a worst-case scenario nor to estimate the best-case scenario. Instead, an estimate of expected credit losses shall always reflect the possibility that a credit loss occurs and the possibility that no credit loss occurs even if the most likely outcome is no credit loss.
>
> **B5.5.42** Paragraph 5.5.17(a) requires the estimate of expected credit losses to reflect an unbiased and probability-weighted amount that is determined by evaluating a range of possible outcomes. In practice, this may not need to be a complex analysis. In some cases, relatively simple modelling may be sufficient, without the need for a large number of detailed simulations of scenarios. For example, the average credit losses of a large group of financial instruments with shared risk characteristics may be a reasonable estimate of the probability-weighted amount. In other situations, the identification of scenarios that specify the amount and timing of the cash flows for particular outcomes and the estimated probability of those outcomes will probably be needed. In those situations, the expected credit losses shall reflect at least two outcomes in accordance with paragraph 5.5.18.

10. The Basis for Conclusions to IFRS 9 provides further explanation in paragraphs BC5.264 and BC5.265:

> **BC5.264** In the IASB's view, an expected value measurement is the most relevant measurement basis because it provides information about the timing, amounts and uncertainty of an entity's future cash flows. This is because an expected value measurement would:
>
> (a) include consideration of expected credit losses using all the available evidence, including forward-looking information. Thus, an entity will be required to consider

> multiple scenarios and possible outcomes and their probability of occurrence. …
>
> **BC5.265** The IASB observed that an entity can use a variety of techniques to meet the objective of an expected value without requiring detailed statistical models. The calculation of an expected value need not be a rigorous mathematical exercise whereby an entity identifies every single possible outcome and its probability. Instead, when there are many possible outcomes, an entity can use a representative sample of the complete distribution for determining the expected value. The main objective is that at least two outcomes are considered: the risk of a default and the risk of no default. Based on the feedback received and fieldwork performed, the IASB believes that many preparers are already performing calculations for internal purposes that would provide an appropriate measure of expected values.

Determining significant increases in credit risk

11. Paragraph 5.5.9 of IFRS 9 sets out requirements for determining significant increases in credit risk:

> At each reporting date, an entity shall assess whether the credit risk on a financial instrument has increased significantly since initial recognition. When making the assessment, an entity shall use the change in the risk of a default occurring over the expected life of the financial instrument instead of the change in the amount of expected credit losses. To make that assessment, an entity shall compare the risk of a default occurring on the financial instrument as at the reporting date with the risk of a default occurring on the financial instrument as at the date of initial recognition and consider reasonable and supportable information, that is available without undue

cost or effort, that is indicative of significant increases in credit risk since initial recognition.

12. Paragraphs B5.5.12 and BC5.157 of IFRS 9 highlight that IFRS 9 does not prescribe one approach to meeting the objectives in the Standard:

> **B5.5.12** An entity may apply various approaches when assessing whether the credit risk on a financial instrument has increased significantly since initial recognition or when measuring expected credit losses. An entity may apply different approaches for different financial instruments. …
>
> **BC5.157** The IASB noted that it did not intend to prescribe a specific or mechanistic approach to assess changes in credit risk and that the appropriate approach will vary for different levels of sophistication of entities, the financial instrument and the availability of data. …

13. Paragraph B5.5.18 of IFRS 9 discusses some different approaches:

> In some cases, the qualitative and non-statistical quantitative information available may be sufficient to determine that a financial instrument has met the criterion for the recognition of a loss allowance at an amount equal to lifetime expected credit losses. That is, the information does not need to flow through a statistical model or credit ratings process in order to determine whether there has been a significant increase in the credit risk of the financial instrument. In other cases, an entity may need to consider other information, including information from its statistical models or credit ratings processes. Alternatively, the entity may base the assessment on both types of information, ie qualitative factors that are not captured through the internal ratings process and a specific internal rating category at the reporting date, taking into consideration the credit risk characteristics at initial recognition, if both types of information are relevant.

14. Paragraph B5.5.5 of IFRS 9 explains that for the purpose of determining significant increases in credit risk and recognising a loss allowance on a collective basis, an entity can group financial instruments on the basis of shared credit risk characteristics with the objective of facilitating an analysis that is designed to enable significant increases in credit risk to be identified on a timely basis. Paragraph B5.5.6 provides further guidance in circumstances in which an entity is not able to group financial instruments in such a way:

> Paragraph 5.5.4 requires that lifetime expected credit losses are recognised on all financial instruments for which there has been significant increases in credit risk since initial recognition. In order to meet this objective, if an entity is not able to group financial instruments for which the credit risk is considered to have increased significantly since initial recognition based on shared credit risk characteristics, the entity should recognise lifetime expected credit losses on a portion of the financial assets for which credit risk is deemed to have increased significantly. The aggregation of financial instruments to assess whether there are changes in credit risk on a collective basis may change over time as new information becomes available on groups of, or individual, financial instruments.

Disclosures (IFRS 7)

15. Paragraph 35B of IFRS 7 describes the objectives of credit risk disclosures. More specifically, paragraph 35B(b) of IFRS 7 notes that credit risk disclosures shall provide quantitative and qualitative information that allows users of financial statements to evaluate the amounts in the financial statements arising from expected credit losses, including changes in the amount of expected credit losses and the reasons for those changes. In addition, paragraph 35G(b) of IFRS 7 specifically requires disclosure about the use of forward-looking information:

> An entity shall explain the inputs, assumptions and estimation techniques used to apply the requirements in

> Section 5.5 of IFRS 9. For this purpose an entity shall disclose:
>
> …
>
> (b) how forward-looking information has been incorporated into the determination of expected credit losses, including the use of macroeconomic information; …

Potential implementation issue identified

16. The key issue raised by the submitters is whether more than one forward-looking economic scenario is required to be used in the measurement of expected credit losses and if so, how they should be incorporated into the measurement process. In addition, they also raise a related question about how to incorporate more than one forward-looking economic scenario when determining significant increases in credit risk.

17. The submitters note that paragraphs 5.5.17 and 5.5.18 of IFRS 9 require expected credit losses to be measured in a way that, among other things, reflects:

    (a) an unbiased and probability-weighted amount that is determined by evaluating a range of possible outcomes, including the possibility that a credit loss occurs and the possibility that no credit loss occurs; and

    (b) incorporates information about forecasts of future economic conditions.

18. The submitters note that when calculating expected credit losses, an entity may consider a variety of forecasts and needs to determine how to incorporate that information into its measurement of expected credit losses. Both submitters note that there seems to be potential for diversity in practice over whether, and how, to incorporate multiple economic forecasts or scenarios, particularly in respect of banks' retail portfolios.

19. Both submitters observe that an economist (either in-house or external to the entity) will typically forecast a single central economic scenario, based on the economist's best estimate or most likely outcome. One of the submitters notes that an economist could be asked to provide a range of plausible forward-looking

scenarios, and their associated likelihoods, that underpin their forecast of the single central economic scenario. As a simplified example, an economist could predict that future unemployment is most likely to be 5 per cent over the next year, but could plausibly be 4 per cent (with a 20 per cent likelihood), 5 per cent (with a 50 per cent likelihood) or 6 per cent (with a 30 per cent likelihood).

20. One submitter questions the practicality of obtaining such information, especially because of the element of judgement and experience involved in forecasting a single central economic scenario. However, this submitter notes that, as an alternative approach, an entity may also obtain economic forecasts from several different, but all credible and respected, economists. These economists' views of the single central economic scenario are likely to be different. This submitter observes that some entities are proposing to use a consensus estimate of the various forecasts they obtain from different economists. In practice there are different approaches to determining a consensus estimate, with some using a single most likely scenario and others taking an average of each economist's single central economic scenario (ie best estimate), which is different from the range of estimates with associated likelihoods discussed in paragraph 19 above. The submitter observes that this single consensus economic scenario is likely to already be used for risk management, budgeting and other forecasting purposes.

21. Between them, the submitters ask the following questions:

    (a) When measuring expected credit losses can entities use one single forward-looking economic scenario, or do they need to incorporate more than one forward-looking economic scenario, and if so, how? (Question 1)

    (b) How should an entity take into account forward-looking economic scenarios when determining whether there has been a significant increase in credit risk? (Question 2)

Question 1: When measuring expected credit losses can entities use one single forward-looking economic scenario, or do they need to incorporate more than one forward-looking economic scenario and, if so, how?

22. The submitters have put forward two different examples, using different sources of information, to illustrate:

    (a) the issue of whether single or multiple forward-looking economic scenarios should be used; and

    (b) different potential ways of incorporating forward-looking economic information into the measurement of expected credit losses.

23. In the first example, the submitter considers whether an entity should use an economist's single central scenario or a range of plausible forward-looking economic scenarios and their relative likelihoods:

> The submitter notes that they are aware of two broad alternatives when incorporating forward-looking economic information in the measurement of expected credit losses:
>
> (a) An economist's single central forward-looking economic scenario is used in the calculation of expected credit losses or model overlay (Approach 1).
>
> (b) A credit loss is calculated for each plausible forward-looking economic scenario produced by the economist that underpins the central scenario in Approach 1. The overall expected credit loss is the weighted average of those credit losses weighted by the likelihood of occurrence of each of the plausible forward-looking economic scenarios used (Approach 2).
>
> To illustrate the difference between the two approaches using the simplified example in paragraph 19 above, assume that expected credit losses based on:
>
> (a) 4 per cent future unemployment (which has a 20 per cent likelihood of occurrence) is determined to be CU30[2];
>
> (b) 5 per cent future unemployment (which has a 50 per cent likelihood of occurrence) is CU70;

[2] In this paper, currency amounts are denominated in 'currency units' (CU).

(c) 6 per cent unemployment (which has a 30 per cent likelihood of occurrence) is CU170.

If the single central forward-looking scenario was based on the most likely outcome of 5 per cent unemployment, expected credit losses would be CU70 using Approach 1. (Alternatively, under Approach 1, a single scenario could be determined in a different way, for example a probability-weighted forecast scenario of 5.1 per cent unemployment ((4% × 0.2) + (5% × 0.5) + (6% × 0.3)).)

However, using multiple forward-looking economic scenarios as suggested in Approach 2, expected credit losses would be calculated based on a probability-weighted basis of the credit losses that arise using each of the three different scenarios, weighted by the likelihood of occurrence of each of the scenarios. On this basis expected credit losses would be CU92 ((CU30 × 0.2) + (CU70 × 0.5) + (CU170 × 0.3)).

24. In the second example, the submitter suggests that it would not be practicable to go beyond an economist's single central scenario and obtain other plausible scenarios that they could consider for incorporating into the expected credit loss calculation. The submitter asks to what extent, and how, different views from different economists should be taken into account and provides the following example and alternatives to illustrate the issue:

An entity has a mortgage portfolio that is sensitive to changes in interest rates. The entity obtains independent forecasts of forward-looking interest rates, which are each economist's single most likely scenario. The forecasts are widely accepted and used by other preparers of financial statements for determining forward-looking information. The forecasts indicate that 7 economists predict a 25 base points increase in rates and 3 economists forecast a 100 base points increase in rates.

The submitter suggests that there are four alternative methods for calculating expected credit losses and asks which are acceptable in accordance with IFRS 9:

(a) Method 1: perform a single calculation assuming a 25 base points rate increase, because this is the most likely outcome.

(b) Method 2: perform a single calculation assuming a 47.5 base points rate increase, because this is the weighted average of the possible outcomes ((25 x 0.70) + (100 x 0.3)).

(c) Method 3: run two calculations with the first using 25 base points and the second using 100 base points as the inputs and then weight the outcomes based on their probabilities of 70 per cent for the first scenario and 30 per cent for the second scenario. (However the entity may use its judgement, depending upon the reasonable and supportable information available, to weight the relative probabilities of the two scenarios differently.)

(d) Method 4: perform a single calculation assuming a 25 base points rate increase, because this is the most likely outcome (ie Method 1 above) but add on an 'overlay' adjustment to take into account the credible minority view of a 100 base points rate increase, which is not incorporated into the consensus forecast. This method is considered by some to be a pragmatic way of determining a proxy for Method 3 above.

The submitter notes that each of the alternatives would produce a different amount of expected credit losses. The impact of changes in economic conditions could be severe in lower-probability scenarios. For instance, a 25 base points increase may be likely to have a limited impact on borrowers, but a 100 base points increase may push a large number of borrowers into default, because they cannot absorb higher borrowing costs of that magnitude. This means that Methods 3 or 4 will usually result in substantially higher expected credit losses than Methods 1 or 2, because Methods 3 and 4 take into account the relatively higher probabilities of default associated with the minority view of the higher forecast increase in interest rates.

25. The key questions raised by the submitters can be summarised as follows:

(a) whether single or multiple forward-looking economic scenarios are required to be used in the measurement of expected credit losses (Question 1(a)); and

(b) if necessary, how to incorporate multiple forward-looking economic scenarios into the calculation of expected credit losses (Question 1(b)); and

(c) what are appropriate sources of information for forward-looking economic scenarios? (Question 1(c)).

Question 1(a): Single or multiple forward-looking economic scenarios

26. Both submitters ask whether an entity can use a single forward-looking economic scenario and be compliant with IFRS 9's requirement to measure expected credit

losses that reflect an unbiased and probability-weighted amount that is determined by evaluating a range of outcomes.

27. One submitter notes that in their view when entities use a probability of default approach, those probabilities of default include a probability-weighting of more than one scenario: that is, the probability of a credit loss occurring and of no credit loss occurring. Accordingly, probabilities of default currently used by entities for risk management purposes, which may be largely based on historical information, already inherently include these two scenarios. One view is that a historical probability of default need only be adjusted to reflect a single estimate of forward-looking information, because that probability of default would reflect the probability of a credit loss occurring and the probability of no credit loss occurring and reflects forward looking information.

28. However, an alternate view noted by the submitters is that more than one forward-looking economic scenario is required in the measurement of expected credit losses, for the following reasons:

    (a) incorporating a single scenario does not provide the detail needed to reflect the effect of multiple scenarios on the measurement of expected credit losses;

    (b) when the probability of default and the credit loss for a range of different forward-looking scenarios is *non-linear*, the expected credit losses derived from using a single scenario will not be the same as the expected credit losses determined by taking into account a range of different forward-looking scenarios;

    (c) ignoring the minority views may not always be appropriate. For example, before the 2008 financial crisis, in some jurisdictions a small minority of economists foresaw the possibility of a housing crash, but their views were largely disregarded; and

    (d) paragraph 5.5.17(c) of IFRS 9 refers to information about *forecasts* of future economic conditions, which implies that more than one forecast is required to be considered.

29. Both examples provided by the submitters (see paragraphs 23 and 24) highlight the impact of non-linear relationships between probabilities of default and/or credit losses and different forward-looking economic scenarios, as noted in paragraph 28(b).

30. The submitters suggest that using more than one forward-looking economic scenario would be more likely to produce an *unbiased* estimate of expected credit losses.

Question 1(b): How to incorporate multiple forward-looking economic scenarios

31. The submitters note that if an entity is required to consider multiple scenarios, the question arises of how to incorporate that range in the measurement of expected credit losses.

32. As noted in the submitters' illustrative examples, they have identified the following four potential methods for incorporating multiple forward-looking scenarios in the measurement of expected credit losses. These are that expected credit losses could be calculated by:

    (a) Method 1: using a single forward-looking economic scenario that represents the most likely scenario from all the scenarios considered;

    (b) Method 2: using a single forward-looking economic scenario that represents the weighted-average of all the scenarios considered, weighted by likelihood of occurrence for each scenario;

    (c) Method 3: taking the weighted average of the credit loss determined for each of the scenarios, weighted by the likelihood of occurrence of each scenario; and

    (d) Method 4: using the scenario that is the most likely scenario (as in Method 1) and then applying an 'overlay' adjustment to that expected credit loss to reflect the less likely scenarios.

33. The submitters note that Methods 1 and 2 do not reflect circumstances in which the probability of default and/or credit loss does not respond in a linear manner to changes in variables, as noted in paragraphs 28(b) and 29. One submitter notes

that this suggests that the use of Methods 3 and 4 may be more appropriate. One submitter asks whether only Method 3 would be compliant with the requirements in IFRS 9.

Question 1(c): Sources of information to determine forward-looking economic scenarios

34. As highlighted by the submitters, forward-looking economic scenarios could be obtained by various means. For example, as noted in paragraphs 19 and 20, multiple forward-looking economic scenarios could be obtained by:

    (a) a single economist providing a range of plausible forward-looking economic scenarios and their associated likelihoods that underpins their single central economic scenario; and/or

    (b) several economists each providing their own single central economic scenario.

35. One submitter also asks whether an entity could use its own in-house economics department to determine a range of forward-looking information instead of using the views of several external economists.

Question 2: How should an entity take into account forward-looking economic scenarios when determining whether there has been a significant increase in credit risk?

36. This question is about how the use of different forecasts of forward-looking economic scenarios may affect the determination of whether there has been a significant increase in credit risk of a financial asset or group of financial assets since initial recognition.

37. One submitter notes that paragraph 5.5.9 of IFRS 9 requires that when making an assessment of a significant increase in credit risk since initial recognition, an entity should use the change in the risk of a default occurring over the expected life of the financial instrument. Furthermore, paragraph 5.5.11 of IFRS 9 requires the use of reasonable and supportable forward-looking information, if it is available without undue cost and effort. The submitter notes that it is possible, that under some contemplated future economic scenarios (both those considered at

initial recognition and at the reporting date), the financial asset may be considered to have increased significantly in credit risk, while under others it may not.

38. The submitter suggests three potential approaches:

(a) Significant increases in credit risk are assessed using the change in the risk of a default since initial recognition based on a single forward-looking economic scenario (ie 5 per cent future unemployment using the submitter's example in paragraph 23). This is consistent with Method 1 in paragraph 32 for the measurement of expected credit losses.

(b) Significant increases in credit risk are assessed based on the change in the probability-weighted risk of default for the multiple forward-looking economic scenarios since initial recognition. This would be calculated by determining the probability of default for each of the scenarios individually (ie for each of 4 per cent, 5 per cent and 6 per cent unemployment, using the example in paragraph 23) and averaging those probabilities of default weighted by the likelihood of occurrence of each of the scenarios used and using that probability weighted outcome to assess the change in credit risk. This is similar to Method 3 in paragraph 32 for the measurement of expected credit losses, in that in Method 3 expected credit losses is also a weighted average number, weighted by the likelihood of occurrence of each scenario.

(c) Significant increases in credit risk are assessed individually for each of the forward-looking economic scenarios (ie for each of 4 per cent, 5 per cent and 6 per cent future unemployment), by, for example, comparing the probability of default for each scenario in turn with the probability of default at initial recognition. The entity allocates a proportion of the portfolio as having increased significantly in credit risk based on the likelihood of occurrence of the different scenarios that would give rise to a significant increase in credit risk. So, taking the same example, suppose that it was determined that 6 per cent future unemployment would give rise to a significant increase in credit risk

given the link with the risk of default for the financial instruments being considered, but 4 per cent or 5 per cent unemployment would not; 30 per cent of the portfolio of financial assets (representing the likelihood of 6 per cent future unemployment) would be allocated as having increased significantly in credit risk.

39. The submitter notes that the different approaches could result in a different determination of whether there has been a significant increase in credit risk. The submitter asks whether any of the approaches above are incompatible with the requirements of IFRS 9.

Review of accounting requirements

40. In this section, we first look at the requirements for the measurement of expected credit losses (in response to Question 1) and then those for determining significant increases in credit risk (in response to Question 2). Finally, for completeness, we look at the related disclosure requirements.

Measurement of expected credit losses

41. As noted in paragraph 25, the submitters ask:

    (a) whether single or multiple forward-looking economic scenarios are required to be used in the measurement of expected credit losses (Question 1(a)); and

    (b) if necessary, how to incorporate multiple forward-looking economic scenarios into the calculation of expected credit losses (Question 1(b)); and

    (c) what are appropriate sources of information for forward-looking economic scenarios? (Question 1(c)).

42. The first two issues are discussed below.

43. In respect of Question 1(c), we note that determining what is an appropriate source of information is a matter of judgement and will depend upon the reasonable and supportable information that is relevant and reasonably available

without undue cost or effort. IFRS 9 does not prescribe particular sources of information. Reasonable and supportable forward-looking information was discussed at the ITG meeting in September 2015, as noted in paragraph 6. Consequently, we do not consider this aspect further in this Agenda Paper.

Single or multiple forward-looking economic scenarios (Question 1(a))

44. As noted in paragraph 4, one of the key requirements in paragraph 5.5.17 of IFRS 9 is that expected credit losses should reflect an *unbiased* and *probability-weighted* amount that is determined by evaluating a *range of possible outcomes*.

45. Paragraph BC5.263 of IFRS 9 explains that the term 'expected', as in *expected* credit losses, is a technical term that refers to the probability-weighted mean of a distribution and should not be confused with a most likely outcome or an entity's best estimate of the ultimate outcome.

46. Consistently with this, paragraph BC5.264(a) of IFRS 9 notes that an entity will be required to consider *multiple scenarios and possible outcomes and their probability of occurrence*. However, as noted in paragraph 9 above, an entity:

    (a) need not necessarily identify every possible scenario;

    (b) can use a representative sample of the complete distribution for determining expected value, when there are many possible outcomes;

    (c) shall reflect the possibility that a credit loss occurs and the possibility that no credit loss occurs, even if the most likely outcome is no credit loss; and

    (d) should not estimate a worst-case scenario nor the best-case scenario.

47. We observe that if the probability of default arising from considering a range of different forward-looking economic scenarios is non-linear, the impact of not considering multiple scenarios on the calculation of expected credit losses could have a material effect. For example, as noted in paragraph 23, using the submitter's simple example of a range of forward-looking unemployment scenarios, taking into account all three scenarios gives rise to a much larger expected credit loss (CU92) than that calculated using a single central forward-looking scenario (CU70).

48. As previously noted in paragraph 27, one view is that a probability of default that is largely based on historical information need only be adjusted to reflect a single estimate of forward-looking information, because that probability of default would reflect the probability of a credit loss occurring and the probability of no credit loss occurring and therefore capture more than one scenario. Some therefore express the view that this could meet the requirement in paragraph 5.5.18 of IFRS 9 (reproduced in paragraph 9). We observe that incorporating a single forward-looking economic scenario *may* meet the objective of an unbiased measure of expected credit losses, if it is representative of a range of forward-looking economic scenarios, for example, because of linear relationships. However, as shown in the example in paragraph 23, this will not be the case if the relationship between scenarios and the resulting credit losses is not linear. In such circumstances it would be necessary to consider more than one forward-looking economic scenario to arrive at an unbiased probability-weighted measure.

49. Consequently, we note that using a single forward-looking economic scenario in the measurement of expected credit losses, instead of several different forward-looking economic scenarios, may not meet the objectives in the Standard for an *unbiased* and probability-weighted measure under all circumstances. The approach that will meet the measurement objectives in IFRS 9 will depend upon the nature of the relationships between the different scenarios and the risk of default and the associated credit losses as noted in paragraph 47.

50. In cases such as those outlined in paragraph 34(b) of this paper, in which an entity considers several forecasts provided by different economists with each providing their own *single central economic scenario*, we note that the same observations apply. Multiple forward looking forecasts from several economists, with each providing their own single central economic scenario, still need to be a representative sample of the complete distribution when there are many possible outcomes, as noted in paragraph 46(b) in order to arrive at an unbiased and probability weighted measure of expected credit losses, ie just averaging *multiple central estimates* does not in itself ensure the objectives of IFRS 9 are satisfied. All of the above is of course subject to relevant, reasonable and supportable

forward-looking economic information being reasonably available without undue cost or effort. [3]

51. Finally, as highlighted in paragraphs B5.5.50 and B5.5.54 of IFRS 9, 'expected credit losses reflect an entity's *own* expectations of credit losses' and 'the degree of *judgement* that is required to estimate expected credit losses depends upon the availability of detailed information' (emphasis added). Furthermore, we note that the Standard does not prescribe one approach to measuring expected credit losses (see paragraph 12 above) and, as the IASB noted in paragraph BC5.157 of IFRS 9, 'the appropriate approach will vary for different levels of sophistication of entities, the financial instrument and the availability of data'. This highlights the importance of disclosures in this area, as discussed in paragraph 63. However, when determining whether it is necessary to use a single forward-looking economic scenario or more than one forward-looking scenario, it is important to remember the objective in IFRS 9 of determining an *unbiased* and probability-weighted measure of expected credit losses, as noted in paragraphs 48-49.

How to incorporate multiple forward-looking economic scenarios (Question 1(b))

52. As noted in paragraph 12, an entity may apply various approaches when measuring expected credit losses. However the approach used must meet the objective in IFRS 9 for an unbiased and *probability-weighted* measure of expected credit loss. Consequently, when more than one forward-looking economic scenario is used, the credit loss determined for each scenario should reflect its probability-weighting (or an approximation to it). Accordingly, Methods 3 and 4 outlined in paragraph 32 could meet the objectives of IFRS 9 to calculate an unbiased and probability-weighted amount of expected credit losses. In the case

[3] As noted in paragraph B5.5.51 of IFRS 9, 'an entity may use various sources of data, that may be both internal (entity-specific) and external'.

of Method 4 the overlay would need to be included in a manner that is consistent with this measurement objective.[4]

Determining significant increases in credit risk

53. The submitter asks how an entity should take into account forward-looking economic scenarios when determining whether there has been a significant increase in credit risk since initial recognition (see paragraphs 36-39). The key issues arising are:

    (a) Should an entity consider more than one forward-looking economic scenario when assessing significant increases in credit risk?

    (b) How should forward-looking economic scenarios be incorporated into the assessment of significant increases in credit risk?

Should an entity consider more than one forward-looking economic scenario when assessing significant increases in credit risk?

54. Paragraph B5.5.15 of IFRS 9 states that when determining whether the recognition of lifetime expected credit losses is required, an entity shall consider reasonable and supportable information that is available without undue cost or effort that may affect the credit risk on a financial instrument in accordance with paragraph 5.5.17(c). Paragraph 5.5.17(c) of IFRS 9 sets out the principles for measuring expected credit losses in a way that reflects reasonable and supportable information. In order to achieve consistency between measurement of expected credit losses and the assessment of significant increases in credit risk, we note that the same reasonable and supportable forward-looking information should be taken into consideration for both. Accordingly, if more than one forward-looking economic scenario is needed to determine an unbiased measure of expected credit

[4] As noted in the Meeting Summary of the ITG's discussion on forward-looking information in September 2015 (Agenda Paper 4), care needs to be taken when using overlays to avoid double-counting the impact of future events. See http://www.ifrs.org/Meetings/MeetingDocs/Other%20Meeting/2015/September/ITG-meeting-summary-16-September-2015.pdf.

loss, the same scenarios (ie more than one) should be considered when assessing significant increases in credit risk.

How should forward-looking economic scenarios be incorporated into the assessment of significant increases in credit risk?

55. The submitter suggests three potential approaches for incorporating forward-looking economic information when determining whether there has been a significant increase in credit risk, as summarised in paragraph 38:

(a) consider the change in the risk of a default since initial recognition based on a single forward-looking economic scenario (Approach (a)) ;

(b) consider the change in the probability-weighted risk of default for the multiple forward-looking economic scenarios since initial recognition. This would be calculated by determining the probability of default for each of the scenarios individually (ie for each of 4 per cent, 5 per cent and 6 per cent unemployment, using the example in paragraph 23), averaging those probabilities of default weighted by the likelihood of occurrence of each of the scenarios used and using that probability weighted outcome to assess the change in credit risk. (Approach (b));

(c) assess whether each of the different forward-looking scenarios would give rise to a significant increase in credit risk when taken on its own, by comparing the probability of default for each scenario in turn with the probability of default at initial recognition. The entity then allocates a proportion of the portfolio as having increased significantly in credit risk based on the likelihood of occurrence of the different forward-looking economic scenarios that would give rise to a significant increase in credit risk. (Approach (c)).

Approach (a)

56. As discussed in paragraph 54 above, if more than one forward-looking economic scenario is needed to determine an unbiased measure of expected credit loss, more than one forward-looking economic scenario should be considered when assessing significant increases in credit risk. Consequently, in such circumstances, using a

single forward-looking scenario to determine significant increases in credit risk as suggested in paragraph 55(a) would not be appropriate.

Approach (b)

57. Using the approach suggested in paragraph 55(b) above, the probability of default is determined for each scenario. In order to assess whether there has been a significant increase in credit risk for the portfolio, the probability of default for each of the scenarios is combined into a single weighted average number and compared with the probability of default at initial recognition (similarly probability-weighted if relevant) to assess whether there has been a significant increase in credit risk. We observe that such an approach is consistent with the objectives of the Standard, because the assessment takes into account the range of forward-looking economic scenario and their likelihoods.

58. However the quantitative probability of default approach described in paragraph 55(b) above is not necessarily the only approach that may be consistent with the objectives of the Standard. As noted in paragraph B5.5.12 of IFRS 9, an entity may apply various approaches when assessing whether the credit risk on a financial instrument has increased significantly since initial recognition. This could include qualitative, statistical and/or non-statistical quantitative approaches, as highlighted in paragraph B5.5.18 (see paragraph 13) as long as those approaches are consistent with the objectives of the Standard.

Approach (c)

59. To illustrate Approach (c), using the example in paragraph 38(c), if it was determined that a forward-looking economic scenario of 6 per cent future unemployment would give rise to an increase in credit risk, but the other forward-looking economic scenarios (of 4 per cent and 5 per cent, in this example) would not; 30 per cent of the portfolio of financial assets (representing the estimated likelihood of 5 per cent future unemployment) would be considered to have significantly increased in credit risk.

60. We observe that the range of possible forward-looking economic scenarios outlined in the examples is mutually exclusive; that is, if one scenario occurs, the others cannot. Accordingly, a forward-looking economic scenario cannot apply to

part of an asset or part of a portfolio of financial assets with shared credit risk characteristics, while other scenarios apply to different parts of an asset or different parts of such a portfolio of financial assets. Consequently, for a portfolio of financial assets that have shared credit risk characteristics, the same forward-looking economic scenarios being considered are relevant to all of the assets within the portfolio. Accordingly, the relevant forward-looking economic scenarios and their relative likelihoods must be considered together when assessing financial instruments for increases in credit risk.

61. It therefore follows that it is also not appropriate to allocate a proportion of the portfolio as having significantly increased in credit risk solely on the basis of the likelihood of the occurrence of each scenario as suggested under Approach (c).

62. However, it is possible that an entity is aware of differences in sensitivities of credit risk due to a change in a particular parameter, for example unemployment as in the example discussed above, but is unable to group financial instruments on the basis of such sensitivity as outlined in paragraph B5.5.6 of IFRS 9 (see paragraph 14 above). In such instances an entity should *first* determine the relevant forward-looking economic scenarios and their relative likelihoods and use that as the basis for the analysis across the portfolio. Based on this determination, an entity then determines the effect on the credit risk of the portfolio which, in the case of circumstances such as that described in paragraph B5.5.6, can include determining the appropriate percentage of the portfolio of financial assets for which it deems that there has been a significant increase in credit risk. Such a portion may be ascertained based on, for example, historical experience that a 1 per cent increase in unemployment, say, is likely to result in a significant increase in credit risk for a certain proportion of its portfolio[5].

Disclosures (IFRS 7)

63. As noted in paragraph 15, paragraph 35G(b) of IFRS 7 specifically requires disclosure about how forward-looking information has been incorporated into the

[5] See paragraph IE39 of Illustrative Example 6 of IFRS 9 for an illustration of this approach.

determination of expected credit losses, including the use of macroeconomic information. Accordingly, where material, we would expect such disclosure to include an explanation about whether and how the entity has incorporated more than one forward-looking economic scenario in the assessment of significant increases in credit risk and the measurement of expected credit losses.

Question for ITG members
What are your views on the issues discussed in this paper?