STAFF PAPER

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REG IASB Meeting

Project	Financial Instruments: Impairment		
Paper topic	Responsiveness of the general model		
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Introduction

Purpose of the paper

1. The general impairment model proposed in the March 2013 Exposure Draft (ED) *Expected Credit Losses* (the 'proposed model') uses different measurements objectives for expected credit losses (ECL) for financial instruments that have significantly increased in credit risk since initial recognition and those that have not. A key objective of that model was to recognise lifetime expected credit losses on all financial instruments that had increased significantly in credit risk.

2. This paper addresses the concern raised by some that in practice, as articulated in the ED the proposed model may not fully capture the effect of significant increases in credit risk on a timely basis. This concerns arises because of the information used to apply the model. In particular, when credit risk systems are heavily dependent on delinquency information a significant increases in credit risk may not be evident at the individual financial instrument level before financial instruments become delinquent – thus there may be a delay between recognising significant increases in credit risk and when it has actually occurred. Any delay is minimised when credit risk systems capture a comprehensive range of credit risk information that is forward-looking and is updated on a timely basis at the individual instrument level. The delay is most appar-

ent for portfolios that are managed on the basis of delinquencies with payment obligations that are 'back ended'.

Scope

3. This paper does not address whether an entity should assess changes in credit risk by considering the increases in risk:

   (a) over the life of the loan[1];

   (b) or just over the next 12 months.

   This topic was raised in particular within the context of loans with payment obligations that are 'back ended. This will be discussed at a later meeting.

Summary

4. The objective of the proposed model was to capture lifetime ECL on all financial instruments that have significantly increased in credit risk since initial recognition. When determining whether the recognition of lifetime ECL is required, an entity needs to consider the best information available that might affect the credit risk of the financial instrument. Typically, information that is more forward-looking than past-due information will be available, and that information should be used, together with delinquency information.

5. However, many respondents and field participants noted that they don't have updated information on retail products *at an individual exposure level* prior to delinquency. These respondents understood our proposals to mean they could assess a significant increase in credit risk by only applying the 30 days past due rebuttable presumption for retail products even where forward looking factors are available, if those forward looking factors cannot be applied at an individual exposure level. However, a significant increase in credit risk gen-

[1] In this paper the term 'loan' is used as shorthand. The analysis would in fact apply to all financial instruments within the scope of the impairment model for which lifetime ECL are recognised when there is significant increase in credit risk since initial recognition.

erally occurs before loans become delinquent. This is because delinquency is a lagging indicator. This application therefore risks underestimating the extent to which a significant increase in credit risk has occurred.

6. Increases in credit risk can occur due to the crystallisation of initial expectations or as a result of a worsening of expectations. This paper considers the timeliness of identifying increased credit risk separately for these issues:

   (a) Issue A—Capturing significant increases in credit risk if portfolio default expectations materialise as initially expected, before a loan becomes delinquent. See paragraphs 24 - 38.

   (b) Issue B—Capturing significant increases in credit risk arising because of *changes* in credit risk factors (including forward-looking factors) from initial expectations, before a loan becomes delinquent. See paragraphs 39 – 52.

Alternatives considered and staff recommendation

7. The staff considered the following Alternatives in relation to this issue (see paragraph 58):

   (a) Alternative A – Clarify the proposals on significant increases in credit risk in the ED

   (b) Alternative B: Clarify the proposals on significant increases in credit risk in the ED and prescribe methods to address Issue A and Issue B

   (c) Alternative C: Clarify the proposals on significant increases in credit risk in the ED and include Illustrative Examples to reflect the intention of the proposals

   The staff recommends Alternative C (see paragraph 58(c)).

Background

8. This section provides the relevant proposals, the reason for the proposals and the related question asked in the ED:

> [Par 5] The impairment model requires entities to measure the expected credit losses for a financial instrument at an amount equal to lifetime expected credit losses if the credit risk on that financial instrument has increased significantly since initial recognition.
>
> [Par. B20] When determining whether the recognition of lifetime expected credit losses is required, an entity shall consider the best information available that might affect the credit risk of the financial instrument. … Consideration of the following may assist the entity when making that determination:
>
> (p) past-due information as set out in paragraph 9.
>
> [Par. 9] Typically, information that is more forward looking than past-due information will be available that shall be used to determine whether there has been a significant increase in credit risk at the reporting date. However, there is a rebuttable presumption that [there has been a significant increase in credit risk at the reporting date]… when contractual payments are more than 30 days past due.
>
> [BC 75] Ideally, and consistently with the forward-looking nature of expected credit losses, an entity should use forward-looking information, such as the price for credit risk, probability of default occurring and internal or external credit ratings, when assessing whether it should recognise lifetime expected credit losses. However, many entities manage credit risk on the basis of information about past-due status and have a limited ability to assess credit quality on an instrument-by-instrument basis in more detail. Thus, the

> IASB decided that an entity may consider information about past-due status, together with other, more forward looking information, in its assessment of the deterioration in credit quality, if appropriate. To supplement and to ensure that the criterion does not revert to an incurred loss notion, the IASB decided to include a rebuttable presumption that the criterion for the recognition of lifetime expected credit losses shall be met if an asset is more than 30 days past due and no other borrower-specific information that is forward-looking is available.

9. The IASB asked respondents the following question in the ED:

> Question 5(b): Do the proposals provide sufficient guidance on when to recognise lifetime ECL? If not, what additional guidance would you suggest?

Feedback from comment letters and fieldwork

Feedback from comment letters

10. Some respondents to the ED commented about how 'responsive' to changes in macroeconomic conditions they thought the model:

    (a) *would be*, taking into consideration the different levels of system sophistication (ie their interpretation of the proposals and how they would be applied); and

    (b) *should be* (ie their view on whether and how the requirements should be made more responsive).

Based on this, respondents suggested clarifications to the proposals.

How responsive the model would be

11. On the one hand, some respondents (including some preparers) thought the proposed model would not be responsive enough. Some were of the view that if an entity's credit risk management is less sophisticated, it would not be possible to identify increases in credit risk on individual financial instruments on a timely basis due to changes in economic conditions. A significant increase in credit risk would only be identified on an individual instrument level when the loan became delinquent. Related to this some raised concerns that the inability to identify increased credit risk at an individual financial instrument level would be used as an 'excuse' or justification that lifetime ECL need not or even must not be recognised. Others, for example the Basel Committee of Banking Supervision (who provided comments that have been prepared by the Committee's Accounting Expert Group), were concerned that the model would not result in allowances for ECL building up sufficiently before a payment default occurs. They state "determination of when to transfer loans from stage 1 to stage 2 … must consider all information reflecting the build-up of credit risk in a banking portfolio." They further state that this assessment should not only include consideration of deterioration of the specific borrower's credit quality but also "institution-specific factors…. and macroeconomic risk or risk drivers outside of the borrower's control (such as market interest rates, housing prices, or unemployment)". They also urge the Board to clarify the Board's intent regarding the past due criterion. "Otherwise there is a potential for this concept to be interpreted similarly to the discovery of a loss event in the incurred loss model, which delays loss recognition. We are concerned that institutions will resort to using "30days past due" as the primary indicator, without due consideration of whether other credit risk indicators are present"[2].

12. Conversely, other respondents were concerned that the proposed model would be *too* responsive and that changes in macroeconomic indicators alone could cause lifetime ECL to be recognised for a segment, or even a whole portfolio,

[2] See Comment letter from Basel Committee on Banking Supervision (BCBS).

of instruments even if there was no expectation that credit risk had actually significantly increased for that whole segment or portfolio. They were concerned this would result in an overstatement of lifetime ECL and that it would result in the allowances exaggerating cyclicality.

How responsive the model should be

13. Within the context of a deterioration model, respondents agreed that significant increases in credit risk should ideally be captured on a timely basis on individual financial instruments. However, there were different views on what to do when an entity does not have the information or sophistication to detect significant increases in credit risk on an individual instrument on a timely basis (eg before a loan becomes delinquent).

14. In particular, respondents had different views on how macroeconomic factors should influence the assessment of credit risk. Some felt that the final requirements should be specific about capturing *all* increases in credit risk, even when not individually identifiable. For example, the Basel Committee on Banking Supervision states "Pools of instruments with similar risk characteristics should be transferred to lifetime loss measurement if credit risk has increased significantly. This determination would consider historical experience and forward-looking macroeconomic factors and should take place even though objective evidence of a significant credit risk increase is not yet observable on an individual asset level". Others stated that in particular, if an entity does not have sophisticated systems in place something additional should be done to make sure that all significant increases in credit risk are identified on a timely basis. Some suggested a management overlay to address the gap between the occurrence and identification of significant increases in credit risk.

15. Other respondents were of the view that the proposed model should not be *too* responsive to changes in macroeconomic indicators alone. They commented that this would cause undue volatility in loss allowances, feared that whole portfolios would need to move to lifetime ECL even when the whole portfolio

has not increased significantly in credit risk, would give rise to significant systems costs and they questioned whether it would provide useful information because it would not be closely linked to the credit risk of the entity's individual financial instruments.

Feedback from fieldwork

16. Many participants in our fieldwork said it was difficult to link macroeconomic data to a significant increase in credit risk for specific individual retail exposures. Because those participants could not identify which specific exposures have increased significantly in credit risk, they were concerned that applying a portfolio approach would result in them having to move entire portfolios to a lifetime ECL measure causing them to overstate the effect of increased credit risk. These participants therefore generally adjusted the 12-month allowance for the changes in macroeconomic conditions and moved loans to lifetime ECL only on the basis of delinquency information or sometimes based on other borrower-specific information such as restructurings.

17. To address the timing issue the fieldwork participants raised similar suggestions to address these issues as respondents in the comment letters (see paragraphs 14 - 15).

Issue for discussion

18. The objective of the proposed model was to recognise lifetime ECLs on all financial instruments that have significantly increased in credit risk since initial recognition. The IASB did however acknowledge that the availability of data needed to be considered – in particular at a minimum the ED included a presumption of a significant increase in credit risk when a financial instrument was 30 days past due. However, based on feedback from respondents, the staff are concerned that in practice the impairment model as articulated in the ED may not capture significant increases in credit risk since initial recognition on a timely basis when such increases are not evident at the individual exposure

level. This is particularly the case for retail loans when credit risk is not reassessed on an on-going basis at an individual exposure level before loans become delinquent.

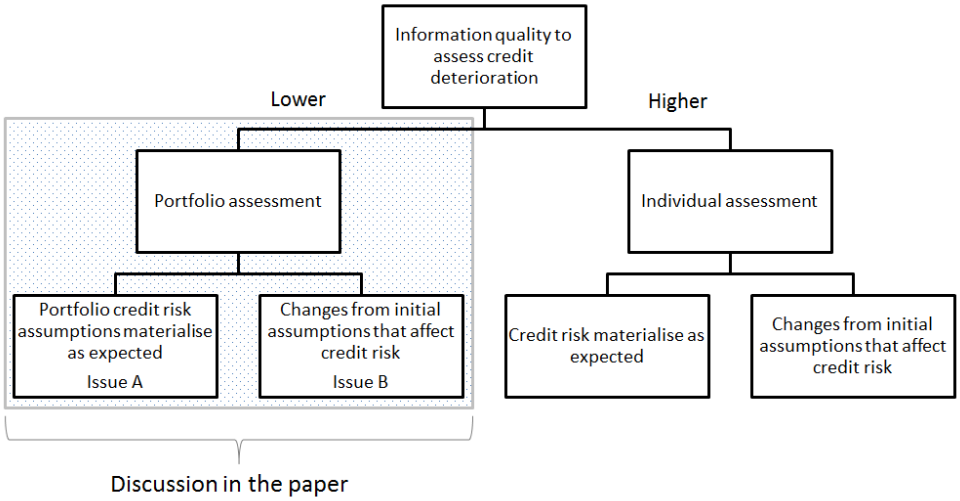
19. However, for many portfolios significant increases in credit risk can occur well before delinquency or restructuring occur. In the staff's view, relying solely on past due status (or other non-forward-looking borrower-specific factors such as restructuring) and restricting the identification of increases in credit risk to an analysis at an individual facility level is contrary to the principles of the ED. It fails to capture lifetime ECL on items that have experienced a significant increase in credit risk on a timely basis.

20. The timeliness of capturing significant increases in credit risk primarily depends on whether the entity has the information available and can identify increases in a timely manner before loans become delinquent. So the extent to which efforts need to be made to identify significant increases in credit risk in addition to that identified at an individual financial instrument level in order to capture all significant increases in credit risk will vary by entity and product.

21. There are clearly different levels of sophistication in this respect and differences in the availability of data. At one end of the spectrum are entities and/or portfolios for which an entity is able to capture all significant increases in credit risk on a timely basis for individual financial instruments, including as a result of current and future expected macroeconomic conditions. This would be for example for portfolios where non-borrower-specific and borrower-specific information (including forward-looking information) is updated on a timely basis allowing a timely assessment about which financial instruments are affected by a significant increase in credit risk. At the other end of the spectrum are entities or portfolios for which entities do not have information to identify the signals of a significant increase in credit risk or where they cannot link these signals to an individual borrower level before a loan becomes delinquent (or other lagging borrower-specific factors occur such as a restructuring). When this lagging data is used in isolation to assess changes in credit risk the population for which lifetime ECL is calculated would be inadequate

to truly capture on a timely basis all financial instruments that have experienced a significant increase in credit risk.

22. This paper focuses therefore primarily on situations in which the information captured by credit risk management systems in itself does not enable significant increases in credit risk to be captured at an individual instrument level on a timely basis. This population can be reflected as shown below.



23. In considering the approaches, the staff sought input from some constituents. The feedback obtained is included in the analysis below.

Issue A: Portfolio default expectations materialise as initially expected

24. Issue A considers situations in which a significant increase in credit risk/default expectations arise on a portfolio basis *as initially expected* but cannot be identified at an individual loan level before a loan becomes delinquent. In contrast to Issue B, the concern is not to capture changes in the credit risk of financial instruments caused by unexpected *changes* in factors and conditions relevant to credit risk after initial recognition. Instead, Issue A considers the significant increases in credit risk that was initially expected at a portfolio level (and priced in at a portfolio level) but that cannot be identified at an individual instrument level on a timely basis because credit information about the borrowers is limited. This is perhaps best illustrated using a simple example as set out below.

Example 1

Company A originates 100 loans with a 5-year term in Region ABC. The loans are bullet loans with no significant payments due until maturity. At origination the loans are homogeneous—nothing differentiates them from a risk perspective. Assume for simplicity that

(1) only the unemployment rate is a relevant credit risk factor;

(2) a loan increases significantly in credit risk if the borrower loses his job even though the borrower can still service any of his loans for some time from his savings; and

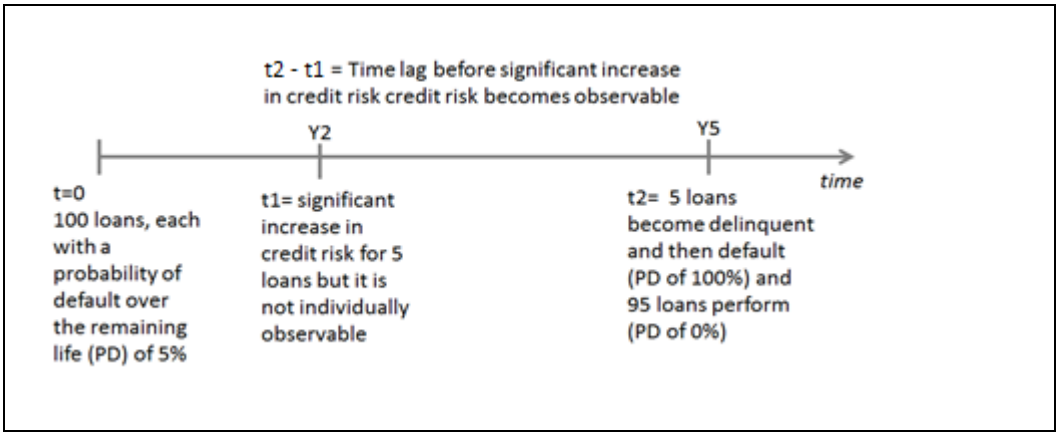
(3) the current unemployment rate in Region ABC is expected to remain constant over the next 5 years.

On the basis of current and forecast unemployment rates, the entity prices each loan based on its portfolio assessment. From a portfolio perspective it estimates that 5 out of the 100 loans will default at the end of the 5th year. Because nothing differentiates the loans from a risk perspective at origination, the entity estimates that each loan has a 5 per cent probability of default during its life. Assume the entity's expectations materialise as expected (so there is no variation from initial expectations).

If the entity managed the loans on an individual basis and always had up-to-date information about individual borrowers' employment status (ie had perfect information), information would materialise over time that would identify the 5 borrowers that have lost their job (for example, 5 borrowers lose their jobs 2 years into the loan). In other words, the entity would be able to identify the 5 loans that have increased significantly in credit risk (as initially expected) in Year 2 and would recognise lifetime ECL on them.

However, if the entity managed the loans on a portfolio basis and has no information about individual borrowers' employment status, it would not be able to identify this significant increase in credit risk before a loan becomes delinquent. It would only identify a significant increase in credit risk when the loans become delinquent at maturity (Year 5) instead of being able to identify them in Year 2 when the job loss occurs. Until maturity no lifetime ECL would be recognised and the portfolio would still seem homogeneous even though in reality it is not. The following graph illustrates this situation[3]:

[3] For the purpose of simplification it is assumed that only 5 obligors lose their jobs and default. In reality the analysis would be more complex if, for example, the credit risk factor is such that more



25. If an entity had credit risk information (including forward looking information) that is updated on a timely basis and is based on a comprehensive set of information about the credit risk of the individual financial instrument, this increase in credit risk would be captured on a timely basis and an additional portfolio-based assessment would not be necessary. However, where the credit risk information is less timely, actual significant increases in credit risk occur that are not being faithfully represented.

26. In practice, issues about the timeliness of recognition of increases in credit risk are particularly relevant for product types for which reliance is placed on delinquency to identify increased credit risk and for which a long period of time elapses between the significant increases in credit risk and when delinquency arises (such as for non-amortising or bullet loans with insignificant payment obligations prior to maturity for which there could be a significant delay in the recognition of lifetime ECL relative to when the significant increases in credit risk actually occurs if delinquency forms the sole basis of the analysis). Some have in fact suggested that if we want to focus on solutions for Issue A the scope of any solution would be best restricted to this population.

27. The question arises whether there is a way to try to improve the timeliness of the identification of such increases in credit risk if it isn't being captured on a timely basis directly by credit risk information. The staff thinks that in princi-

obligors may show a significant increase in credit risk than ultimately default (ie if some of those obligors subsequently improve in credit quality again).

ple statistical methods could be used to estimate an undetected significant increases in credit risk before a loan becomes delinquent. For example, on the basis of its historical and current (including forward-looking) information, an entity could estimate the proportion of the performing book that experiences a significant increase in credit risk and expected timing. So using example 1, an estimate could be made of how quickly job losses occur.

28. However, the process would be challenging and critical to the success of approaches that look beyond information at an individual credit exposure level is the ability to identify

    (a) the key drivers of significant increases in credit risk;

    (b) the period when a significant increase in credit risk occurs; and

    (a) the extent of undetected significant increases in credit risk in the portfolio (ie what proportion of the portfolio is affected).

29. To estimate the increased significant credit risk an entity would need to understand the drivers of that risk historically and to build from that information. However, often, translating and linking key credit risk factors and assumptions (for example GDP, interest rates or unemployment rates and assumptions) to specific borrowers is difficult. This is because at origination they are viewed as being homogeneous and over time the entity does not have access to information that distinguishes the borrowers from a credit risk perspective before they are delinquent. This means that it may also be difficult to apply a statistical approach which needs to start with historical information to identify the proportion of the portfolio that might be affected by increases in credit risk over time that were initially expected.

30. In addition estimating when increased credit risk occurs would be difficult. The period over which a significant increase in credit risk arises may be difficult to observe and/or to confirm, because the information available is inadequate and the entity does not have sufficiently sophisticated systems. Entities that rely only on delinquency would be unable to estimate the time lag between a relevant credit risk factor (eg unemployment) and delinquency. If

they were able to make such estimates, they would probably use more leading indicators than merely delinquency and Issue A would not arise.

31. Thus, there is a concern about feasibility, that diverse methods will be used and that they will lack empirical rigour. This will have a very real effect on the accuracy of the timing of recognition of lifetime ECL. For example, if the entity's estimate of the period between a significant increase in credit risk and a delinquency is too short (eg an entity assumes that a delinquency occurring at year 5 is preceded by a significant increase in credit risk occurring (for example the job loss in example 1) 2 years prior to delinquency, but in fact the significant increases in credit risk occurs 3 years prior to delinquency), the approach is not responsive enough to capture significant increases in credit risk on a timely basis. In other words, the entity recognises lifetime ECL on the basis that a significant increase in credit risk occurs 2 years instead of 3 years prior to delinquency. As a result, the allowance balance may be understated.

32. Although the approach described here is different to the incurred but not reported (IBNR) approach in IAS 39,[4] it may be prone to similar application challenges due to the estimations involved and also similar issues of inconsistency in application. Thus, during outreach it was suggested that such an approach may not be the best way to measure the additional lifetime ECL but may nevertheless be a good way to explain the issue to emphasise why just an individual delinquency based assessment can be inadequate.

33. While using statistical approaches are likely to require significant judgement, it is arguably preferable to relying solely on information such as delinquencies to capture significant increases in credit risk, because of that approach's delayed recognition of lifetime ECL. This is particularly the case for portfolios with backended payment profiles (such as when payments are skewed toward

[4] The IBNR approach in IAS 39 captures the incurred loss on the entire portfolio by considering the average amount of time from the point at which a loss event is incurred to the point at which it is identified. In contrast, this approach aims to capture the proportion of the portfolio that has increased significantly in credit risk but where the significant increase in risk has not been identified yet on an individual obligor level—this requires assessing the average time period significant increase in credit risk becomes known.

the maturity date) because problems with the timeliness of identifying significant increases in credit risk would be most pronounced.

34. From our outreach, we understand that entities may not have —at least for some of their portfolios—access to information to identify 'expected' significant increases in credit risk on a timely basis and prior to delinquencies arising.

35. Some questioned whether they could leverage their Basel data to identify the time lag between when a significant increase in credit risk occurs and when it is identified. Currently, all modelling and back testing for regulatory and credit risk management purposes is calibrated to data based on default rather than increases in credit risk. An approach that requires identification of the period between which (i) a significant increase in credit risk occurs and (ii) when a significant increase in credit risk becomes observable is thus not considered to be consistent with credit risk management systems. Availability of data would thus be a real issue.

36. During our outreach the concern was raised that generally the 12-month allowance already recognises the initial ECLs and the question was raised whether Issue A needed to be addressed. However, staff notes that the 12-month allowance would be low for instruments such as those with back-ended payment profiles such as non-amortising loans with little or no interest charges in the first few years of the instrument's life. Because of the 12month PD focus in the proposed model for stage 1 the responsiveness of the assessment of increased risk is critical in this case. The staff acknowledges that this would not however be a significant issue when the time lag between a significant increase in credit risk and default is short as the difference between a 12month expected loss and lifetime expected loss would be insignificant.

37. Because of the interaction between capturing intial expectations in the 12month allowance and Issue A some think that if Issue A is addressed, the 12-month allowance may not be needed. Others think that Issue A should only be addressed in those circumstances where the 12month loss allowance does not adequately capture the initial loss expectations (eg for financial assets with

back ended payments) and note the benefits of the relative simplicity of the 12-month ECL calculation.

38. Finally, some banks raised the concern that it is unclear how this approach interacts with Issue B. These banks think that there is an interaction between the sub-portfolios that Issue A is seeking to identify and those that Issue B is seeking to identify, but because individual items are not identified the impact of that interaction will be difficult to quantify. They suggest that it may be more practical for Issue A and Issue B to be captured collectively. This approach would essentially have an objective of capturing all financial instruments that have significantly increased in credit risk, taking into account both initial expectations and changes in expectations since initial recognition.

Issue B—Changes in factors that affect credit risk (including forward-looking factors)

39. Issue B considers situations in which credit risk increases significantly because of *changes* in reasonably available credit factors (including forward-looking information), but when the increases in credit risk is not observable at an individual loan level before the loans become delinquent.[5] If an entity has credit risk information that is updated on a timely basis and is based on a comprehensive set of information about the credit risk of the individual financial instrument. This significant increase in credit risk would be captured on a timely basis and an additional portfolio-based assessment would not be necessary.

40. For entities that capture changes in credit risk for individual financial instruments on a less timely basis the model would not faithfully represent the significant increases in credit risk in the loan book if increases are assessed solely on the basis of identifying specific deteriorated loans. For example, the gross

[5] While Issue A aims to capture on a timely basis the credit risk/ default expectations that was intitally expected on a portfolio basis (and priced in on a portfolio level), Issue B aims to capture timely changes in the credit risk of financial instruments caused by *changes* in factors and conditions relevant to credit risk *after* initial recognition.

domestic product (GDP), unemployment rate and house prices may be considered to affect defaults on mortgage loans. These credit risk factors can be considered to be reasonably available without undue cost or effort. Thus, changes in these macroeconomic credit risk factors after initial recognition should be considered when assessing whether there has been a significant increase in credit risk since initial recognition. However, because retail loans are typically managed on a portfolio basis before they become delinquent, entities may have little information with which to identify individual retail exposures that have increased significantly in credit risk because of changes in current and future macroeconomic factors. The following examples illustrate this:

Example 2: Significant increases in credit risk for mortgage loans, due to falling house prices

Bank B has issued a series of long-term residential mortgage loans with an average loan to value (LTV) of 80% in Region X. The mortgage loans are non-recourse beyond the property, have a minimal interest payment obligation prior to maturity and are non-amortising in the first 5 years. At the end of the second reporting period, the economic conditions deteriorate significantly in Region X and the value of properties in State Y (which is part of Region X) start to fall. Bank B estimates that housing prices will not recover in the short term because of the wider economic situation in Region X. Bank B does not observe any delinquency or default related to the respective mortgage loans in State Y but observes that the mortgages' LTVs have increased significantly from 80% to 100%.

If Bank B managed all loans in Region X on a portfolio basis and would recognise lifetime expected credit losses only when specific mortgage exposures become more than 30 days past due, Bank B would not recognise lifetime expected credit losses at the end of Period 2 for any of its loans.

However, if Bank B uses past-due status information as the only borrower-specific information *and* in addition considers other forward-looking information that is available without undue cost or effort to assess whether lifetime expected credit losses should be recognised, Bank B would recognise lifetime expected credit losses sooner. In such a situation, Bank B would assess the impact of falling house prices on its loans. Historically, falling house prices have been an indicator of future defaults on mortgages. Thus, as a result of the falling house prices in State Y, Bank B deter-

mines that the credit risk over the life of the loans in State Y have increased significantly since initial recognition and recognises lifetime expected credit losses at the end of the second reporting period for those loans.[6]

Example 3: Significant increases in credit risk for mortgage loans because of increase in interest rates

Bank C issues a series of residential variable rate interest mortgage loans with an average LTV of 80% and an interest margin of 250 bps. At the end of reporting period interest rates are expected to rise significantly during the term of those loans.

If Bank C assesses credit risk by means of past-due status and recognises a lifetime expected credit loss allowance only for loans that have a past-due status of more than 30 days past due, it does not recognise a significant increase in credit risk in its portfolio right away. However, if Bank C uses past-due status information as the only borrower-specific information *and* in addition considers other forward-looking information that is available without undue cost or effort, Bank C would recognise lifetime expected credit losses right away taking into consideration the future pressure on servicing when interest payment obligations rise. That is because historically, a rise in interest rates has been a lead indicator for future defaults on variable rate mortgage loans. On the basis of past behavioural data, Bank C expects that more mortgage borrowers will default at some point in the future as a consequence of those interest projections. Thus, despite there not yet being any delinquencies related to the mortgage loans, the credit risk of mortgage loans within the portfolio has increased significantly but Bank C cannot identify which specific loans are affected. Issue B considers this issue and how entities could assess significant increases in credit risk in such situations to ensure changes in credit risk are fully considered.

[6] In practice Bank B may further divide State Y into further sub-portfolios for example based on past code or bands of LTV and determine that only particular sub-portfolios have significantly increased in credit risk.

41. To better reflect the true extent of the significant increases in credit risk, an entity could estimate (starting with historical data updated for current information including the effect of reasonable and supportable forward-looking information) the proportion of the portfolio that has experienced a significant increase in credit risk since initial recognition but that is not yet delinquent. It recognises lifetime ECL on that proportion of its performing book and a 12-month allowance (updated for current information including forward-looking information) for the rest of it. (We refer to this below as the 'top down approach'). A simple example of this is as follows:

> **Example 4**
>
> Interest rates increase by 2 per cent. On the basis of historical information, the entity estimates that the change in interest rates will result in a significant increase in credit risk for x per cent of the portfolio. The entity recognises lifetime loss on x per cent of the portfolio and 12-month allowance on the remaining portfolio (100 per cent-x per cent) based on the notional value of the portfolio.

42. The most difficult aspect is determining the portion (ie the percentage) of the portfolio that shall be considered to have deteriorated significantly in credit risk. One approach would be to consider the marginal impact of the macroeconomic changes on the expected increase in delinquencies or default rate.

43. The advantage of the top down approach is that it would make it objective and individual loans would not need to be identified. However, if the entity does not have the sophistication to determine the proportion of the portfolio that has increased significantly in credit risk, this determination becomes highly judgemental and arbitrary, because any portion could be chosen.

44. One concern raised by some during our outreach about the practicability of this approach was that it could create a tracking problem. In subsequent periods, as increased credit risk of specific loans is actually identified, there would need to be an adjustment to the lifetime loss allowance to avoid double counting. However, this was not noted as a significant concern.

45. Another concern raised during our outreach was how the increases in credit risk relates to the proportion of the loans that would be treated as having significantly deteriorated (ie how to make the determination of the portion of the portfolio that has increased significantly in credit risk as suggested in paragraph 42). The concern raised was that the approach could result in having to divide the portfolio into segments to a much more detailed level, effectively turning the approach into a bottom-up approach (see below—Additional consideration, paragraphs 47 - 48), to determine the proportion of loans with lifetime ECL.

46. Finally, the concern was raised by some that conceptually the top down approach is not compatible with the proposals because it modifies the unit of account from an individual loan basis to a portfolio basis in a way that seems impossible to reconcile and to explain.

Additional consideration relating to Issue A and Issue B

47. In some cases using segmentation of portfolios may assist in determining significant increases in credit risk. For example, individual exposures could be grouped into subportfolios on the basis of common borrower-specific characteristics (eg geographical location or postcodes, headroom/access affordability at origination, behavioural scoring etc) (a so-called bottom up approach) and then the effects of macroeconomic indicators (eg house price indices/levels, unemployment rates, GDP) affecting the probability of default could be considered for the sub portfolios.[7]

48. Depending on the information the entity has to segregate the portfolio, it could address Issue A and Issue B either only for a portion of the notional of the portfolio (ie combining a bottom up with a top down approach) or by recognising lifetime ECL for a particular subportfolio if it still has shared risk characteristics that affect all those loans homogeneously and all are considered to have significantly increased in credit risk (applying a bottom up approach on-

[7] As another aspect of segmentation, additional segmentation (cross-segmentation) may be necessary to avoid moving newly originated loans to lifetime ECLs when they are adequately priced for credit risk.

ly). This concept is described further below using situations akin to those set out in examples 2 and 3.

Example 5[8]

The entity segregates its loans into two sub-portfolios: high-loan-to-value (LTV) loans and other loans. Interest rates increase by 2 per cent. According to the entity's forecasting analysis, the increase in interest rates by 2 per cent significantly increases the probability of default for high-LTV loans but does not affect other loans. The entity recognises lifetime ECL on the high-LTV subportfolio for all loans that are not newly originated, even though these loans are not delinquent yet. All other loans remain at 12-month allowance (with appropriate re-estimation of 12-month allowance).

Example 6[9]

Interest rates increase by 2 per cent. According to the entity's forecasting analysis, the increase of interest rates by 2 per cent significantly increases the average PD of loans in a specific rating category (eg loan grade X). The entity recognises lifetime ECL on all loans of this specific rating category that are not newly originated.

49. The advantage of further segmentation is that the more detailed the segmentation, the higher the level of accuracy in

    (a) assessing whether there is a significant increase in credit risk since initial recognition; and

    (b) estimating/measuring ECLs.

50. However, a concern raised in practice is that the more detailed the segmentation, the more difficult it will be to obtain sufficient data to model the ECL in a statistically robust manner for the population of loans on which lifetime ECLs are recognised.

[8] This example assumes that the higher default expectations are priced into the new loans.

[9] This example assumes that the higher default expectations are priced into the new loans. The example is also based on an increase in interest rates that has occurred. The same process would apply if an incrase in interst rates were to be forecast.

51. Conversely, the larger the segments, the higher the level of inaccuracy when assessing significant increases in credit risk and when measuring ECLs. The inaccuracy is particularly pronounced for portfolios with greater heterogeneity (increases in credit risk may be masked or overemphasised). However, the larger the segments, the more data is available to model the ECLs in a statistically robust manner for the population of loans on which lifetime ECLs are recognised.

52. As a result, in practice entities are most likely to strike a balance between the ability to segment at a detailed level and the availability of data to model ECL.

Staff analysis and recommendation

53. Issue A and Issue B are closely related. Issue A deals with the situation in which a lifetime loss allowance needs to be recognised in line with initial expectations. Issue B is essentially an extension of Issue A. Issue B reflects a significant change in credit risk that is incremental (positively or negatively) to initial expectations and thus incremental to the lifetime allowance that would be established by virtue of Issue A.

54. In addition, Issue A and Issue B are closely related because good information will result in success in (and inadequate information will result in a failure to) recognise changes in credit risk whether that was caused by initial expectations that materialise as expected (Issue A) or due to changes in expectations after initial recognition (Issue B). As a result, the staff believes that it is best if the analysis focuses on how to address both Issues A and B in combination.

55. As a practical matter staff believe that Issue B is a concept more closely aligned with credit risk concepts and thus is more capable of being implemented. The staff also note that arguably the key concern this project seeks to address is timely recognition of changes in credit expectations, ie risks not priced for. Of the two issues, the staff believe that it is most important that Issue B is addressed for all types of loans. The staff agrees with the initial feed-

back received that Issue A is primarily a problem for financial instruments such as those with back-ended payment patterns (see paragraph 36).

56. The methods discussed in this paper would make the model more responsive compared to assessing increases in credit risk on a delinquency-only factor (or using factors such as restructuring) at an individual instrument level. They would also enable financial instruments that have increased significantly in credit risk to be included more comprehensively in the lifetime ECL measurement. The approaches would also avoid having to apply lifetime ECL to the entire portfolio if only a portion of the portfolio has increased significantly in credit risk.

57. Finally, the level of detail and accuracy of the analysis would be very different depending on the information available and the sophistication of the entity. This would lead to different outcomes and reduce comparability—ie the less detailed the approach, the greater the differences in outcome compared to a loan-level analysis based on good quality updated obligor-level information. The staff note however that the concept of comparability is somewhat elusive in any ECL model anyway. However, the staff think it is very important to retain a link with credit risk management concepts and to maintain the concept that application be based on information that is reasonably available without undue cost or effort to ensure the model remains operational.

58. The staff think that the Board could consider at least the following alternatives when considering whether the model adequately captures significant increases in credit risk :

(a) Alternative A – Clarify the proposals on significant increases in credit risk in the ED:

Clarify that the objective is to recognise lifetime ECLs on *all* financial instruments for which there has been a significant increase in credit risk and that information that is forward-looking and reasonably available needs to be considered. In other words, if forward-looking information is reasonably available, an entity cannot rely merely on delinquency information when assessing significant increases in credit risk and

emphasise that the model is not limited to identifying significant increases in credit risk where it is evident at an individual instrument level. Disclosure is required if the assessment is based on non-forward-looking information such as delinquency or restructuring.

(b) Alternative B: Clarify the proposals on significant increases in credit risk in the ED and prescribe methods to address Issue A and Issue B

Clarify that the objective is to recognise lifetime ECLs on *all* financial instruments for which there has been a significant increase in credit risk—whether on an individual or portfolio basis and that all reasonably available information including that which is forward looking needs to be considered. Clarify that the objective is to capture lifetime ECL to reflect all significant increases in credit risk. This would therefore include increases that are not identified on an individual exposure level before delinquency or other non-forward-looking borrower-specific information (for example restructuring). Alternative B would prescribe methods or techniques to address the lack of individual exposure information.

(c) Alternative C: Clarify the proposals on significant increases in credit risk in the ED and include Illustrative Examples to reflect the intention of the proposals

Clarify that the objective is to recognise lifetime ECLs on *all* financial instruments for which there has been a significant increase in credit risk—whether on an individual or portfolio basis and that all reasonably available information including that which is forward looking needs to be considered. Thus the final Standard would remain principle-based. The final Standard would note that entities have various degrees of sophistication in capturing significant increases in credit risk on a timely basis taking into account current and future macroeconomic conditions. It would emphasis clearly that credit risk can increase significantly before delinquency or other lagging borrower specific factors are observed. For

> portfolios, for which credit risk information is such that significant increases in credit risk cannot be identified on individual items on a timely basis it would be noted that particular attention should be made to ensure that the objective of capturing all significant increases in credit risk is satisfied. The final Standard would include examples of the type of increases in credit risk to be considered (such as examples 2 and 3) and note that portfolios analysis may be required. The staff is of the view that both Issue A and Issue B need to be adressed for loans with back-ended payment profiles and for financial insturments wher a long period of time elapses between significant increases in credit risk and deliquency. For all other loans the staff believes that it is most imporatant that Issue B is addressed. Finally, it would note that estimation techniques can be used to ensure that significant increases in credit risk are properly captured on a timely basis.

59. While Alternative A takes into account that entities are naturally limited in their assessment of significant increases in credit risk, based on the information available and the sophistication of its credit risk systems, it does not introduce concepts of specific estimation techniques to address shortfalls in information. Instead, it relies on the signals about increases in credit risk that the entity can pick up and acknowledges that some entities will lack the forward look in their assessment because the increases cannot be identified on a timely basis. However, it would emphasise that the assessment of increases in credit risk is NOT limited to where it is evident at an individual facility level so would assist in preventing entities from arguing that they are unable or not required to recognise lifetime ECLs on financial instruments in the absence of evidence of significant increases in credit risk at a facility specific level. **At a minimum the staff believe that this clarification is important and would alleviate many of the concerns raised about the responsiveness of the proposed model.**

60. Arguably, at a purely conceptual level, Alternative B is most beneficial from a decision usefulness perspective if the bottom-up approach is prescribed (ie where an entity identifies significant increases in credit risk based on an analy-

sis of the effects of credit relevant factors on particular items in portfolios based on their characteristics). It results in the highest level of accuracy when assessing increases in credit risk compared to the other alternatives. It best reflects the economics of significant increases in credit risk if it cannot be specifically identified at the facility level. However, it risks adding significant operational costs and complexity. Not all entities will have the resources , information and capability to do this for all of their portfolios – and ironically those with the biggest issues in terms of timeliness of identifying significant increases in credit risk would probably have the greatest difficulty applying these approaches. However, some argue that for entities that do not have the systems to capture increases in credit risk at a detailed level should build that capacity. They think that not having detailed systems is a weakness in internal control and provides little information that is useful for helping to make decisions.

61. However, the staff note that any approach described in this paper would require an additional layer of complexity to be introduced beyond simply using information that is easily captured in credit risk systems now, such as delinquency information. In addition, the staff do not consider that prescribing a specific approach is feasible because entities have different levels of sophistication and availability of information. As a result, entities may not be able to apply a detailed approach such as the bottom-up approach (described in paragraphs 47 - 48) as the information is simply not available.

62. Further, requiring a specific detailed approach would contradict the approach taken in the ED and preferred by the IASB to date. Throughout the development of the ED, the IASB took into account different levels of sophistications of entities. The ED reflects this—it proposes that the estimates shall be based on information that is reasonably available without undue cost or effort. In addition, the ED does not prescribe a specific method to assess significant increases in credit risk. Finally, prescribing a particular approach would be contrary to the approach taken in the ED of establishing a measurement objective and allowing entities to decide how best to meet that objective.

63. The clarifications in Alternative C would prevent entities from having an excuse not to recognise lifetime ECL, on the basis that at an individual exposure level a significant increase in credit risk cannot be identified on a timely basis. Although the ED did not require that a significant increase in credit risk had to be identifiable at an individual instrument level, the staff are aware that some have read the words in the ED as limiting their ability to make the assessment at a portfolio level or that they are restricted to using delinquency information. Alternative C makes clear that relying only on delinquency as the factor to assess a significant increase in credit risk is insufficient, even if the assessment becomes judgemental. Alternative C is based on the view that the benefit of making the model more responsive is greater than the cost of the measurement being only an approximation in some cases.

64. Alternative C also takes into account the different levels of sophistication and information available to the entities. It acknowledges that the need (and the extent of the need) to make adjustments to fully reflect increases in credit risk would vary by entity and product and also would enable entities to determine how best to meet the measurement objective (ie what techniques and information to use).

65. However, the disadvantage of Alternative C is that the allowance recognised may differ depending on the approach applied, resulting in a lack of comparability. The staff do not believe this should however be a key consideration given the inherent subjectivity of all ECL measurements.

66. On the basis of the discussion above, the staff recommend Alternative C, because:

    (a) it addresses the concern that the model is not sufficiently responsive, clarifying that the objective of the model is to recognise lifetime ECLs on *all* financial instruments for which there has been a significant increase in credit risk—whether on an individual or portfolio basis — and that all reasonably available information including that which is forward looking needs to be considered, even if the assessment becomes judgemental;

(b) it confirms specifically that particular effort needs to be made to assess changes in credit risk for financial instruments with back-ended payment profiles;

(c) it does not prescribe a specific approach or mandate when estimation techniques are required and takes into account different levels of sophistications and information available to entities; and

(d) providing examples will help reinforce the objective of the model to capture significant increases in credit risk even when not evident at an individual facility level.

Question
Does the IASB agree with the staff recommendation (Alternative C) to clarify the proposals on significant increases in credit risk in the ED and include Illustrative Examples to reflect the intention of the proposals?.