

STAFF PAPER

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REGIASB Meeting

Project	Impairment
Paper topic	Criteria for recognition of lifetime expected losses
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Introduction

1. This paper discusses various alternatives to clarify the criteria for recognition of lifetime expected losses under the three bucket model. In doing so we have tried to achieve an appropriate balance between the benefit of the information and the cost and operational complexity involved in obtaining it, consistent with the objective of a dual measurement approach as discussed in Agenda Paper 5A. The staff considered the following combinations that set the boundaries of acceptable alternatives that would meet those objectives and would provide a reasonable amount of clarity:
 - (a) **Combination A**
 - (i) Deterioration criterion – Significant deterioration when considering the term of the asset and the original credit quality; and
 - (ii) Credit quality criterion – Credit quality below “Investment grade”
 - (b) **Combination B**
 - (i) Deterioration criterion – *any* deterioration; and

- (ii) Credit quality criterion – Credit quality below “CCC”.
2. Based on the analysis below, the staff recommend that the three bucket model be clarified by requiring recognition of lifetime expected losses consistent with combination A above, ie if:
 - (a) there has been a deterioration in credit quality since initial recognition that is significant (when considering the term of the asset and the original credit quality); and
 - (b) the credit quality of the asset would not be considered investment grade.

 3. Agenda Paper 5C discusses the information an entity might use to measure credit risk (including other measures of credit risk that an entity may use as a substitute for the cumulative probability of default) and for the purpose of assessing the criteria.

 4. This paper considers the following:
 - (a) Background (paragraphs 7 – 20)
 - (b) Interaction between the deterioration and credit quality criteria (paragraphs 21 – 26)
 - (c) Clarifying the criteria
 - (i) The term structure of credit risk (paragraphs 27 – 34)
 - (ii) The deterioration criterion (paragraphs 35 – 43)
 - (iii) The credit quality criterion (paragraphs 44 – 48)
 - (d) Conclusion and staff recommendation (paragraphs 49 – 54)

 5. The appendices include relevant background information to assist the IASB in discussing the matters above, including:
 - (a) Appendix A – Relationship between changes in credit risk and initial credit risk
 - (b) Appendix B – Background information on the investment grade/non-investment grade distinction

- (c) Appendix C – PD and credit spread statistics and charts
6. Any references to rating grades in this paper are for the purposes of facilitating the discussion

Background

IASB tentative decisions to date¹

7. The IASB has previously tentatively decided that an entity shall measure the impairment allowance for an asset at lifetime expected losses if, at the reporting date, the probability of not collecting all contractual cash flows:
- (a) has increased more than insignificantly since initial recognition (the credit quality criterion); and
 - (b) is at least reasonably possible (the deterioration criterion).
8. The objective of the model is to recognise full lifetime losses when an asset's credit quality deteriorates. However, to alleviate the need to track the credit risk for all financial assets the credit quality criteria was also included. This means that for high quality assets, just by looking at the credit quality of an asset at the reporting date it can be determined whether lifetime expected losses should be recognised (they would have deteriorated by definition) – tracking from origination would only be required for assets initially recognised with low initial credit quality.
9. The IASB tentatively decided that the criteria should be broadly defined because entities manage assets and credit risk in different ways, with different levels of sophistication. In addition, the IASB noted that this would avoid the difficulties that arise in setting bright lines. The IASB tentatively decided to include disclosures to address the lack of comparability that would arise from using broader criteria.

¹ The decisions were taken at a joint meeting of the IASB and the FASB, but the FASB has proceeded to develop an alternative model since then

10. The IASB also tentatively decided that the assessment of the criteria would consider the probability of default (PD), but not the severity of the loss (loss given default).² Further, the IASB intended that the criteria would be assessed based on the lifetime PD (ie the cumulative PD for the term of the asset) and not the 12 month PD.

Summary of views from outreach on the criteria

11. We received support for a model that differentiates assets that have deteriorated from those that have not. However we received a consistent message across all types of participants that the criteria to make that distinction are not clear. In addition, some raised practical concerns about how to apply the criteria to retail loans and wanted to know if an entity can use delinquency information to make the assessment.
12. Some qualified the support for distinguishing deteriorated loans from other loans rather than always recognising lifetime expected losses if the benefits of that distinction do not outweigh its costs and operational complexity.
13. Many noted that the costs would outweigh the benefits if the model resulted in an allowance balance of a similar amount compared to a day 1 lifetime loss model. Many were concerned that that could be the result if the criteria required the recognition of lifetime expected loss based on *any* deterioration.

More than insignificant change in credit risk (credit deterioration)

14. Most respondents were **unclear about how much of a change is ‘more than insignificant’**. Many were concerned that these words could be interpreted as catching essentially any determinable deterioration with the result that assets of high credit risk on origination (ie those below the credit quality criterion) would quickly be transferred to a lifetime loss measure.

² The severity of the loss would be considered in measuring the expected loss allowance.

15. While most agreed that the IASB should ensure that a change in measurement should only arise due to a relevant deterioration there were a wide variety of suggestions about how to change the criteria to achieve this.
16. Others were **unclear about whether the necessary amount of deterioration depended on the credit quality and maturity of the asset**. In particular, questions and concerns were raised about whether the initial credit quality of the asset and/or its maturity affected the amount of credit deterioration that would result in a lifetime loss measure.

At least reasonably possible (credit quality)

17. Most respondents understood that the second criterion is based on the asset's credit risk at the reporting date. However, they **were not clear about what that level of credit risk is**, ie what does 'reasonably possible' mean? Some banks noted that statistically they would conclude that it is always 'reasonably possible' that a loan may default. As a result, there was concern that tracking would be required for all assets so in fact the credit quality criteria would provide little operational relief.
18. Respondents were also **unclear whether the maturity of the asset was considered in assessing credit quality**.
19. Given the uncertainty about the level of credit risk the IASB intended, some respondents suggested that a bright line be introduced. Some suggested that the criterion should be met if the asset has credit risk equivalent to a 12 month PD of 10 per cent (or an equivalent lifetime measure).
20. Some audit firms suggested the IASB use similar words to define the criteria as external credit rating agencies use in defining their credit rating grades. For example, that the assets need to "...face major ongoing uncertainties or exposure to adverse business, financial, or economic conditions, which could lead to the obligor's inadequate capacity to meet its financial commitment on the

obligation” if the criterion is similar to the distinction between an investment grade and a low speculative non-investment grade.³

Interaction between deterioration and credit quality criteria

21. The staff has generated the following combinations of credit quality and deterioration criteria based on the objectives identified in Agenda Paper 5A:

	Smaller deterioration	Larger deterioration
High credit quality/Low credit risk	<p>Very early recognition of lifetime losses</p> <p>The staff reject this approach: benefits of distinguishing deteriorated assets would not exceed the additional costs.</p>	<p>Alleviates need to track high quality assets but requires tracking for other assets. Focuses primarily on deterioration.</p> <p>The timing of recognition for both high quality assets and low quality assets should be earlier than the current incurred loss model.</p> <p>[Combination A]</p>
Low credit quality/high credit risk	<p>Decreases costs - track a smaller population of assets. However, focus is less on the concept of deterioration</p> <p>Timing of recognition of losses earlier than incurred loss model.</p> <p>However, lifetime losses on high quality assets would only be</p>	<p>Close to incurred loss model Very late recognition of lifetime losses</p> <p>Staff reject this as not sufficiently forward looking</p>

³ See S&P (2009), General Criteria: Understanding Standard & Poor’s Rating Definitions, p. 12-13.

	<p>recognised after a large deterioration in credit quality.</p> <p>[Combination B]</p>	
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22. Based on the above the staff believe that the combinations that the IASB could consider would be the recognition of full lifetime losses using the following criteria:
- (a) High credit quality combined with larger deterioration; or
 - (b) Low credit quality combined with smaller deterioration.
23. In the view of the staff, when lifetime losses are recognised based on combining a high credit quality line with a small amount of credit deterioration the outcome would be closest to a day one lifetime loss model. Most assets would be assessed for lifetime expected loss based on the deterioration criteria. A relatively small change in credit quality would cause them to have a lifetime loss allowance recognised. The staff are of the view that the cost and complexity of assessing the need to change the allowance measurement could not be justified given the similarity of information that would result compared with a day 1 lifetime loss model. Therefore the staff reject this combination.
24. At the other end of the spectrum, if lifetime losses were recognised based on combining a low credit quality line with a large amount of credit deterioration the outcomes would be similar to the current incurred loss model. The staff therefore reject that combination as failing to provide sufficiently forward looking information.
25. **The staff preference would be a low credit risk/high credit quality criterion and a larger deterioration criterion.** In the staff’s view this alternative best balances the benefits (the deterioration in credit risk for both low risk and high risk assets will be relevant) and costs (tracking will not be required for low risk assets) of making the distinction. However, this alternative will require the IASB to determine both:
- (a) the level of credit risk required for the credit quality criterion; and

(b) the change in credit risk required for the deterioration criterion.

The deterioration criterion in this case is particularly important as for many assets it will be the main driver of when lifetime losses would be recognised (because assets are more likely to be recognised with an initial credit quality below the credit risk criteria). This alternative will be more costly and complex for preparers to implement, therefore guidance would be needed to explain how much deterioration is enough to warrant lifetime loss recognition.

26. **The staff's second preference would be a high credit risk/low credit quality criterion together with essentially any change in credit risk satisfying the deterioration criterion.** A disadvantage of this approach is that the consequences are very much dependent on the initial credit quality – only a small deterioration in credit quality for assets originally of low quality would result in the recognition of lifetime expected losses, whereas for high quality assets a large deterioration in quality must occur before lifetime expected losses are recognised. The staff are therefore of the view that this approach may not reflect deterioration nor economic losses as well as the combination of higher credit quality and larger deterioration. However, the advantage of this approach is that the IASB would only need to determine the appropriate level of credit risk for the credit quality criterion and the assessment would be simpler for preparers. For high quality assets deterioration could be assessed simply by whether the credit quality criterion has been satisfied. For low quality assets *any* deterioration would result in life time loss recognition.

Clarifying the criteria

27. The below begins by discussing an aspect of credit risk that affects the setting of both criteria; the term structure of credit risk. This is followed by an analysis of how the IASB could clarify the appropriate change in credit risk for the purposes of setting the deterioration criterion for the staff's preferred alternative above. Finally, the staff presents an analysis of clarifications of the credit

quality criterion for both alternatives identified above (ie for the staff's preferred and fall-back alternatives).

Term structure of credit risk

28. One concern that was expressed frequently during the recent outreach was the relevance of the term structure of credit in assessing the need to recognise lifetime expected losses. In particular, respondents noted that the lifetime PD is higher for like credit quality assets the longer their duration. They expressed concern that if the criteria did not acknowledge this it might disadvantage long-term lending.
29. The term structure of credit can be seen in:
 - (a) a credit rating agency's default statistics tables as an increase in the cumulative PD for a given rating as duration increases (see Appendix C)⁴.
 - (b) the increase in the spread between market yields and the risk free yield as duration increases (see Appendix C).
30. In the staff's view, the duration of an asset *should* be considered in assessing both the credit quality and deterioration criteria. This will ensure that the assessment considers the relationship between time and credit risk and how both affect the lifetime PD.
31. Considering the term structure as part of the credit quality criterion will result in the criterion reflecting a credit risk curve, thus improving the comparability of credit risk for assets with different maturities. Not doing so would benefit shorter term assets and disadvantage longer term assets (because a short term asset of the same risk has a lower PD). Also this would ensure that an asset is

⁴ The term structure of credit is a result of the dependency of the PD in a later year on the PD in earlier years. In other words the PD in year 2 is dependent on the asset not defaulting in year 1 (thus the PD in year 2 is a conditional probability).

- compared against the credit risk of an asset of the same term (ie based on whether it is above or below the credit quality curve for a given tenure).
32. Likewise, the term structure is relevant to assess deterioration – otherwise for example, the PD could be treated as having changed merely due to the passage of time. In the staff’s view, the assessment of the criteria should not change solely because the maturity date is closer.
 33. To properly reflect the term structure the deterioration criteria would also need to reflect that a different amount of change is significant for different terms (this is further complicated based on the rate of change in credit risk as credit risk deteriorates as discussed further below).
 34. Further discussion of methods and information to use in the assessment of the criteria (including whether assessing the criteria based on a 12 month PD is appropriate) is included in Agenda Paper 5C.

The deterioration criterion

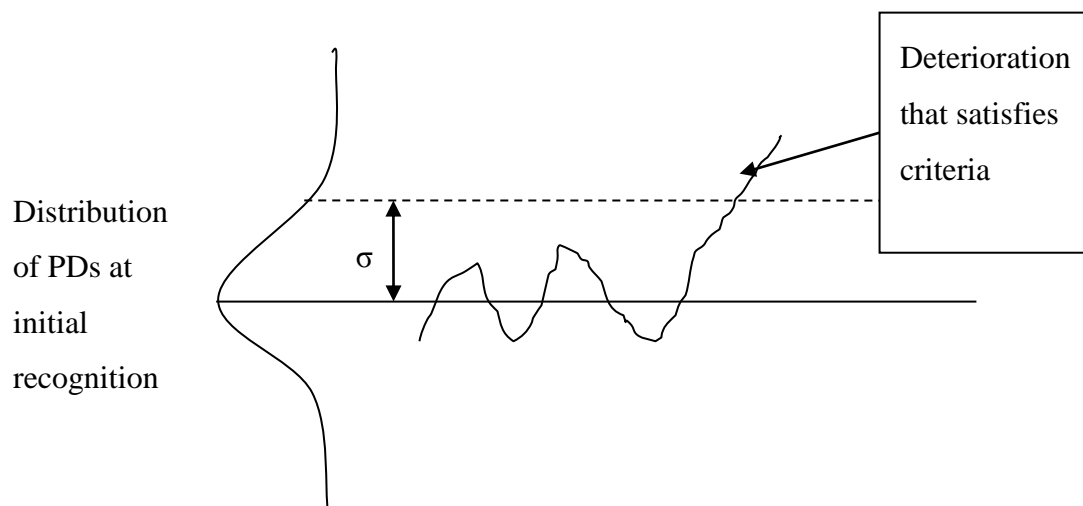
35. The analysis below compares the following alternatives for the deterioration criterion:
 - (a) The amount of deterioration required depends on the initial credit risk. A larger increase in risk is required for high credit risk assets than for low risk assets; or
 - (b) The amount of deterioration required does not depend on the initial credit risk. The same increase in risk (subject to the term of the asset)⁵ is required for all assets (this can be thought of as an addition to initial credit risk (ie +x% - a percentage point increase)).

⁵ However this approach would still reflect the term structure as described in the previous section (ie the amount of the change would be different for assets with different terms).

36. Although being more specific about the amount of deterioration that is relevant (ie defining what 'x' is) would make the requirements easier to understand the staff think that there is an operational implication. The costs of assessing deterioration would increase if defined with more precision - for example if deterioration is defined as a change of 3% in PD then a PD measure is needed to make the assessment. Also, specifying particular PDs would be more complicated if the deterioration criterion was scaled to reflect the initial credit quality of an asset (a matrix of PDs would be required).

Deterioration criterion changes with initial credit risk

37. Some may view the suggestion that a low quality asset only be considered to meet the deterioration criteria when its credit quality changes by more than a high quality asset to be counter intuitive – they think low quality assets should be more readily moved to a lifetime expected loss measure than assets that started out at a better quality. However, in the staffs' view, it is more consistent with credit risk structures and the pricing of instruments to reflect deterioration only when a low quality asset deteriorates more than an asset of better initial credit quality.
38. Appendix A provides further analysis and notes that when originating or purchasing a loan, some fluctuation of the PD would be expected within a range. Furthermore, the range is wider for lower quality assets than for higher quality assets. This implies that a change in credit risk is only significant if the change is beyond the range expected at initial recognition, and that range would increase as the initial credit risk increases. Such an analysis could form a basis for determining when significant deterioration has occurred. This could be illustrated graphically as follows:



39. Based on staffs’ outreach, entities will not necessarily have the data set to establish appropriate ranges, or determine the volatility, to assess deterioration in the detailed manner that the illustration above would suggest. In addition, the outcome of such an analysis would depend on the data set and the rating scale the entity uses (ie the mean and standard deviation would increase if the entity has fewer rating categories). However, the staff are of the view that this analysis shows that it would be appropriate for the deterioration to be assessed taking into account the initial credit quality of an asset. For example, it is expected that lower credit quality assets are priced on the basis that a higher degree of volatility in credit risk is anticipated: as long as the change in credit quality is consistent with that initial expectation an economic loss is not suffered. This view has been expressed by some during outreach in that they have noted that, economically, deterioration is considered to occur at different levels of PD for assets of different types and quality.

Deterioration criterion does not change with initial credit risk

40. Alternatively, the deterioration criterion could be set by reference to a shift in credit risk greater than a particular amount, such as a +x% increase in PD irrespective of initial credit quality (but still adjusted for term). This would mean that if the shift in credit risk is equal to or greater than the amount reflected in the credit quality criterion (discussed below), then the credit quality criterion becomes redundant (ie the criteria could be reduced to a single

criterion. For example if the change required is +5% 12 month PD and the credit quality criterion was equivalent to a 5% 12 month PD (or less), by definition if the PD increased by +5% or more thus meeting the deterioration criteria, the asset would necessarily meet the credit quality criterion too.

41. If the IASB concludes that the criterion should not scale with initial credit quality, then the staff think that the deterioration criterion should be set such that the change in credit risk is greater than the amount of the credit quality threshold for the same term. So if the credit quality threshold equates to a PD of x%, then lifetime losses would be recognised when the PD increases by more than +x%.
42. If the deterioration criterion does not vary with initial credit quality, it would be more responsive to changes in credit quality for high risk assets than for low risk assets (ie a smaller percentage change in PD for low quality assets would satisfy the deterioration criteria). On the other hand a deterioration criterion that varies based on initial credit quality would mean a greater change in credit risk would be required before higher credit risk instruments would be considered to have deteriorated. In the staffs' view, as outlined above the latter reflects the economics of the increased range of acceptable risk for higher risk assets whereas a fixed shift irrespective of initial credit quality would not.
43. Setting the deterioration criterion at a specific +x% change in PD could be viewed positively because the deterioration criterion is clear. Some involved in outreach have said that we need to specify a particular PD. However, as noted above this approach may increase the cost of making the assessment because of the precision of the criteria (ie a very precise analysis is required to make the assessment). If it is linked to PDs specifically this entrenches the need to be able to calculate PDs in order to operationalise the model. This would be magnified if the amount of deterioration is smaller because an entity would have to assess changes in credit risk in smaller increments. Some respondents have suggested a higher threshold such as a change greater than 5% for a 12 month PD for all assets because credit risk is monitored with greater attention to changes in credit risk for higher risk assets. However such a high threshold

would result in higher quality assets being treated more favourably than lower quality assets because high quality assets would have to deteriorate a very large amount before a lifetime measure is required.⁶

Clarifying the credit quality criterion

44. Paragraphs 21 – 26 set out the considerations in achieving an appropriate balance between the two criteria, including the operational concerns of setting the credit quality line too high or too low. Thus the purpose of the credit quality criteria is to reduce the operational burden and make the model cost-effective without adversely affecting the outcome of the measurement of expected losses.
45. In the staff's view, the IASB's intention was not to require lifetime expected losses for assets if credit risk is de minimis. Rather, the credit quality criterion was used to limit tracking of credit risk and assessment of the deterioration criterion for assets whose credit risk is high enough that adverse economic conditions and changing business or financial circumstances could lead to the inability to fully recover cash flows in the medium to short term. In the staff's view this translates broadly to a credit quality criterion using the investment grade/non-investment grade market convention (see Appendix B).
46. Given the staff recommendation for the deterioration criterion, **the staff recommends setting the credit quality criteria using the investment grade/non-investment grade distinction (see Appendix B)**. In the staff's view this would achieve an appropriate balance between the benefits of distinguishing between financial assets based on deterioration in credit quality and the costs of making that distinction as measured by the population that would be required to meet the deterioration criterion.

⁶ For example, using S&Ps 1 year default rate table, a AAA asset would have to deteriorate to B grade if the criteria is set at 5%.

47. Thus, an investment grade loan would have to deteriorate below investment grade for the recognition of lifetime expected losses and assets originated below investment grade would be assessed based on the deterioration criterion alone.
48. If the IASB is unable to conclude what the amount of change for the deterioration criterion should be, is concerned with the clarity with which this can be articulated (and thus concludes that the deterioration criterion should be based on *any* deterioration in credit quality), or is concerned with the tracking costs for preparers, then a higher level of credit risk should be used to ensure the balance as discussed in paragraphs 21 – 26 is maintained. Some participants in the recent outreach suggested using a “CCC” rating grade for the credit quality criterion together with a smaller deterioration criterion. Doing so would limit the relevance of the deterioration criterion to a smaller population of assets for many entities.

Conclusion and staff recommendation

49. Combining the above analysis of the alternatives for each criterion with the discussion of the balance between the two in paragraphs 21 – 26 results in the following combinations:
- (a) **Combination A**
 - (i) **Deterioration criterion – Significant deterioration** when considering the term of the asset and the original credit quality; and
 - (ii) **Credit quality criterion – Credit quality below “Investment grade”**
 - (b) **Combination B**
 - (i) **Deterioration criterion – *any* deterioration** in credit risk; and
 - (ii) **Credit quality criterion – Credit quality below “CCC”.**

50. Setting the credit quality criterion lower than investment grade (such as “BB” or “B” level) should be offset with a smaller deterioration requirement. Likewise, setting the line above a “CCC” credit quality should be offset with a larger deterioration requirement. In between those two combinations would be a single criterion set between investment grade and “CCC” that defines both the credit quality and amount of deterioration as discussed in paragraph 40.
51. In the staff’s view:
- (a) **Combination A better reflects the underlying economic deterioration in credit quality and thus is more consistent with the objective to reflect that deterioration by ensuring the timely recognition of lifetime expected losses.** In taking this approach the IASB would clarify, in the three bucket model, that the term and initial credit quality should be considered in the assessment of whether a change in credit quality is significant and that not all deterioration is relevant. It would also clarify the credit quality criterion. Unless the IASB wants to define the amount of deterioration that is relevant descriptive language would be required to articulate the deterioration criterion. This will result in a subjective assessment of deterioration – entities will need to determine if significant deterioration has occurred. However the assessment of credit quality is inherently subjective regardless of how precisely the criteria are defined. Agenda Paper 5C refers to information such as changes in pricing and changes in ratings to illustrate the concept.
 - (b) Combination B is easier to articulate and implement and would be a simple and pragmatic solution because it would not require the IASB to define the deterioration criteria further. However this combination will result in the recognition of lifetime expected losses on good quality assets after a large deterioration, and after a minimal deterioration for low quality assets. Such an outcome does not reflect the economic relationship between credit risk and pricing well.

- (c) Other alternatives in between Combinations A and B will require an amount of deterioration to be specified between ‘any’ deterioration and ‘significant’ deterioration. It is difficult to justify the selection of a particular amount of deterioration as the ‘right’ amount. This alternative would seem to require the criterion to be set as a precise PD to address concerns about how much deterioration is necessary to meet the criterion. However, because the measurement of credit risk is inherently subjective, such clarity in the definition of the criterion may not result in comparability or consistency of the assessment between entities (or even within an entity) and requires precision to make the assessment.
52. Based on the above, the staff recommends clarifying the three bucket model, consistent with Combination A above, if:
- (a) there has been a deterioration in credit quality since initial recognition that is significant (when considering the term of the asset and the original credit quality); and
 - (b) the credit quality of the asset would not be considered investment grade.
53. The assessment of credit risk and measurement of expected losses is inherently subjective, therefore specifying further what is significant would be arbitrary and may inadvertently prevent entities from being able to make a sensible assessment based on the information they have available and their own credit risk knowledge if the criteria are too prescriptive. In addition, the staff do not think that the IASB can specify when factors such as qualitative changes will cause a significant deterioration in credit risk - in such cases it is unavoidable that a more holistic assessment of credit quality is needed.
54. Agenda Paper 5C discusses how an entity might measure credit risk (including other measures of credit risk that an entity may use as a substitute for the cumulative probability of default), and the information that could be used, for the purpose of assessing the criteria.

Question for the IASB

Does the IASB agree with the staff recommendation for clarifying lifetime expected losses under the three bucket model should be required if:

- (a) there has been a deterioration in credit quality that is significant (when considering the term of the asset and the original credit quality); and
- (b) the credit quality of the asset would not be considered investment grade.

Appendix A - Relationship between changes in credit risk and initial credit risk

- A1. As can be seen in the charts in Appendix C, credit risk grows at an exponential rate as an asset deteriorates in credit quality. Using a logarithmic scale⁷, Chart D shows the rate of change for 1 year PD is fairly constant through the rating categories.
- A2. This is a result of the greater uncertainty and risk of lower quality assets compared to high quality assets. This greater uncertainty results in a wider distribution of PDs for high risk assets. In other words, not only is the credit risk at inception higher for low quality assets, but as credit risk increases, both the mean and the distribution of the PD increases. This means that greater volatility in PDs is anticipated the higher the initial credit risk of an asset.
- A3. This relationship is typically reflected by external credit rating agencies in the increasing range of credit risk that credit ratings occupy as they go from high quality to lower quality and in the increased distribution of probabilities in their transition matrices⁸.
- A4. The relationship is also illustrated in structural models of credit risk. Under such models, the ratio between the value of assets and liabilities, the volatility of those assets and the risk free rate are the input factors.⁹
- A5. The combination of the effect of maturity and the effect of volatility results in a higher rate of change in PD for shorter maturities than longer maturities¹⁰. In

⁷ A logarithmic scale displays the values on the axis using intervals corresponding to orders of magnitude, rather than a standard linear scale. Thus an exponential function appears linear and a linear function appears logarithmic.

⁸ Of course, ratings can be defined in a way that results in a more linear relationship with PDs because the definition of ratings is inherently arbitrary. Some internal ratings may be defined in a way that results in a linear relationship with PD that does not reflect the above analysis. Theoretically, the distribution of probabilities should be exponential under the assumption of a Poisson process that models defaults as survival probabilities.

⁹ This reasoning can be traced back to Merton 1974. If you assume that default will occur at time T if the value of assets falls below the value of the liabilities, then the credit risk can be analogised to the price of a put option using an option pricing technique. The key determinants of an option price are the ratio of the market value of the asset and the strike price (the value of liabilities in terms of measuring credit risk), the time value of money and volatility of the market value of the assets.

other words the rate of growth changes depending on time and initial credit quality. This can be observed in the S&P cumulative PD curve chart in Appendix C with a log scale (the distance between the different credit grades is greater for the shorter maturities than the longer maturities).

¹⁰ This can be explained through the interaction of the term structure of the risk free rate and the term structure of volatility.

Appendix B – “Investment grade”

- A6. This appendix discusses the distinction between investment grade and non-investment grade as background information to the support the IASB in its analysis of the criteria for the recognition of lifetime expected losses.
- A7. Moody’s notes that the distinction has its roots in both regulatory and market convention. The market convention is a result of portfolio governance requirements imposed on investment managers, while the regulatory usage began in the 1930’s to discourage or prohibit regulated entities from holding investment grade securities.

*Official usage of bond ratings appears to have begun with a regulation issued by the US Comptroller of the Currency on September 11, 1931. It specified that bonds rated Baa/BBB or higher may be carried at cost, but defaulted bonds and those of lower ratings had to be marked to market.*¹¹

- A8. Similar usage evolved in prudential insurance regulations (although much later), perhaps to converge with banking practices.
- A9. The rating agencies do not use the term investment grade in their internal rating systems, indeed the ratings agencies are quick to disown the distinction. Fitch Ratings notes:

The terms "investment grade" and "speculative grade" have established themselves over time as shorthand to describe the categories 'AAA' to 'BBB' (investment grade) and 'BB' to 'D' (speculative grade). The terms "investment grade" and "speculative grade" are market conventions, and do not imply any recommendation or endorsement of a specific security for investment purposes. "Investment grade" categories indicate relatively low to moderate credit risk, while ratings in the "speculative"

¹¹ *Tracing the Origins of “Investment Grade”*, Moody’s, 2004

categories either signal a higher level of credit risk or that a default has already occurred.

- A10. The staff notes that the distinction persists in regulations and as a market convention.
- A11. In terms of defining investment grade for use as a criteria, the ratings agencies use the following definitions:
- (a) Standard and Poor’s: Obligors rated 'BB', 'B', 'CCC', and 'CC' are regarded as having significant speculative characteristics. 'BB' indicates the least degree of speculation and 'CC' the highest. While such obligors will likely have some quality and protective characteristics, these may be outweighed by large uncertainties or major exposures to adverse conditions.
 - (b) Moody’s: Ratings reflect both on the likelihood of a default on contractually promised payments and the expected financial loss suffered in the event of default.
 - (c) Fitch Ratings: "Investment grade" categories indicate relatively low to moderate credit risk, while ratings in the "speculative" categories either signal a higher level of credit risk or that a default has already occurred.

	S&P	Moody’s	Fitch
BBB/Baa	“exhibits adequate protection parameters. However, adverse economic conditions or changing circumstances are more likely to lead to a weakened capacity of the obligor to meet its financial commitment on the obligation.”	“...subject to moderate credit risk and as such may possess certain speculative characteristics.”	“expectations of default risk are currently low. The capacity for payment of financial commitments is considered adequate but adverse business or economic conditions are more likely to impair this capacity.”

<p>BB/Ba</p>	<p>“less vulnerable to nonpayment than other speculative issues. However, it faces major ongoing uncertainties or exposure to adverse business, financial, or economic conditions which could lead to the obligor's inadequate capacity to meet its financial commitment on the obligation.”</p>	<p>“speculative and are subject to substantial credit risk.”</p>	<p>“an elevated vulnerability to default risk, particularly in the event of adverse changes in business or economic conditions over time; however, business or financial flexibility exists which supports the servicing of financial commitments.”</p>
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Appendix C – Cumulative default rate data and charts

S&P Data and Charts (source: Standard and Poors *2011 Annual Global Corporate Default Study And Rating Transitions*)

Chart A

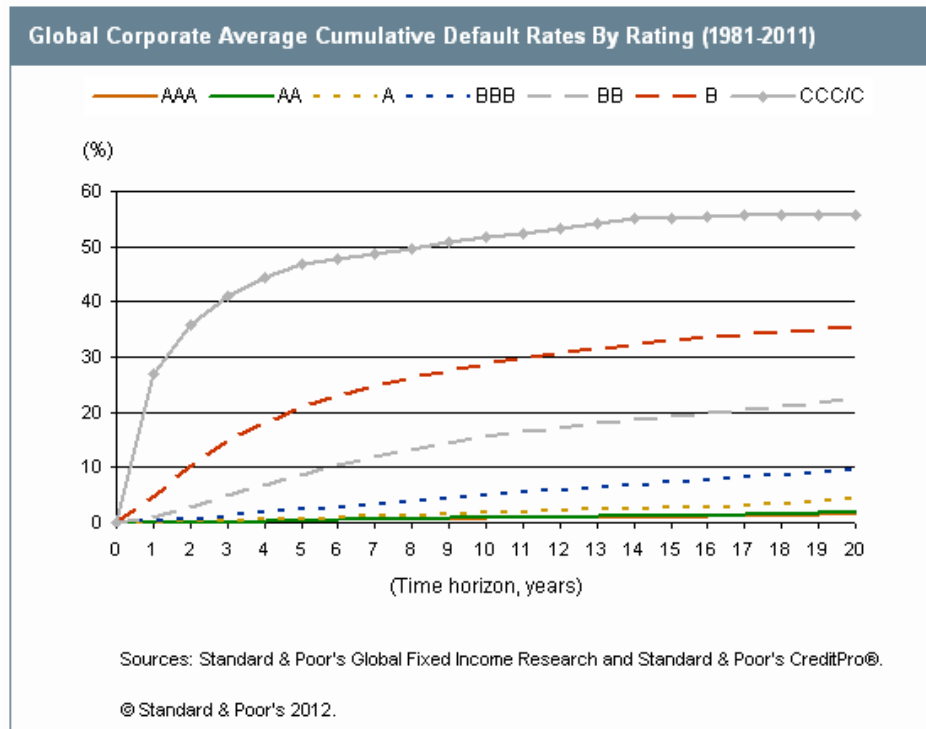


Chart B

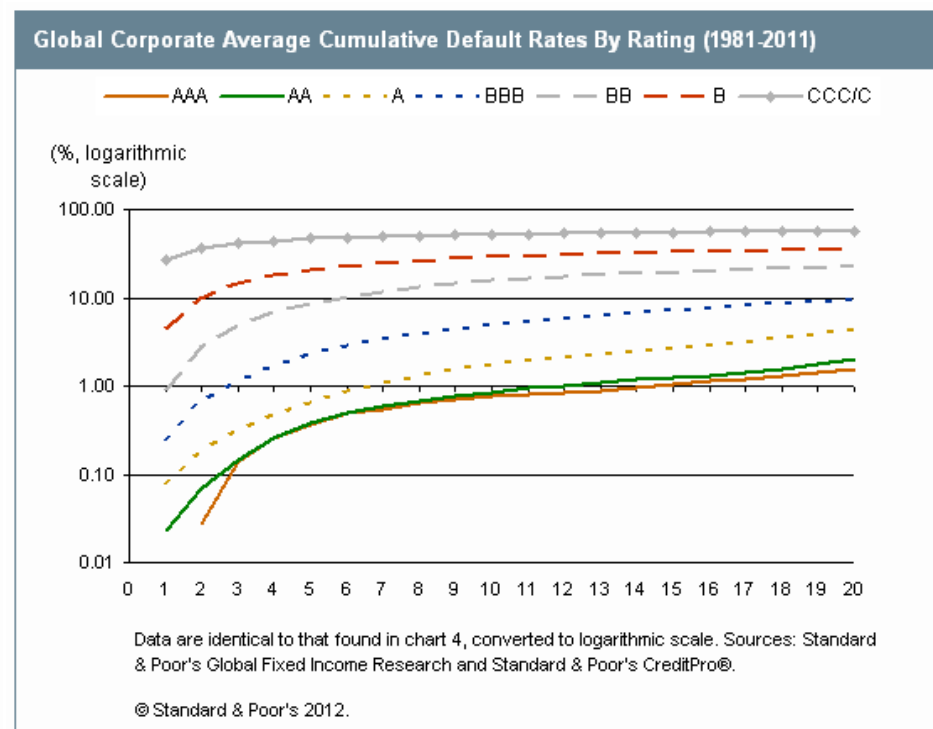


Chart C - S&P 1Y PD

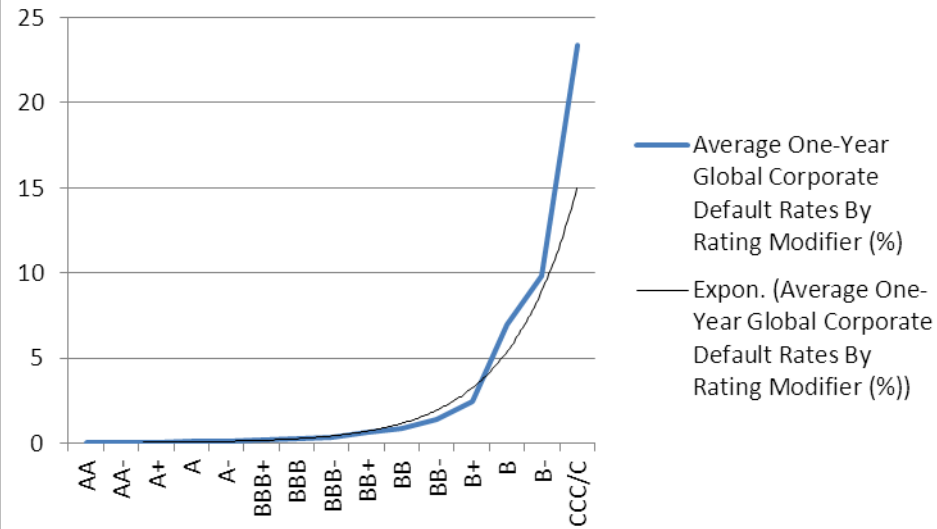
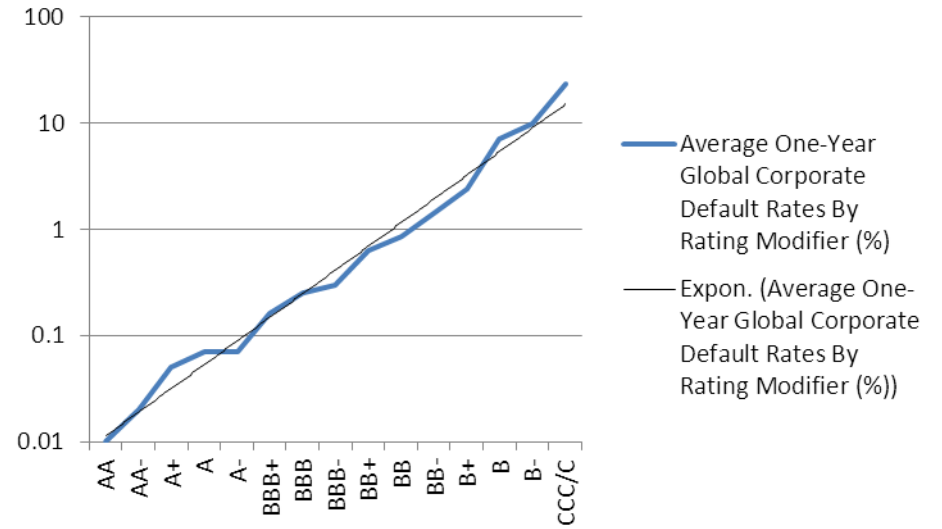


Chart D - S&P 1Y PD (Log scale)



Global Corporate Average Cumulative Default Rates (1981-2011)

		--Time horizon (years)--														
(%)	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
AAA	0.00	0.03	0.14	0.25	0.37	0.49	0.55	0.64	0.71	0.78	0.81	0.85	0.89	0.97	1.06	
AA	0.02	0.07	0.14	0.26	0.37	0.49	0.60	0.69	0.77	0.86	0.94	1.01	1.09	1.17	1.23	
A	0.08	0.18	0.32	0.48	0.66	0.86	1.10	1.31	1.53	1.77	1.97	2.14	2.30	2.45	2.66	
BBB	0.24	0.67	1.13	1.71	2.30	2.88	3.38	3.88	4.38	4.88	5.41	5.85	6.30	6.76	7.22	
BB	0.90	2.70	4.80	6.80	8.61	10.34	11.85	13.21	14.49	15.59	16.49	17.29	17.97	18.55	19.24	
B	4.48	9.95	14.57	18.15	20.83	23.00	24.76	26.19	27.46	28.70	29.77	30.65	31.47	32.22	33.01	
CCC/C	26.82	35.84	41.14	44.27	46.72	47.82	48.79	49.66	50.77	51.65	52.42	53.28	54.24	55.13	55.13	

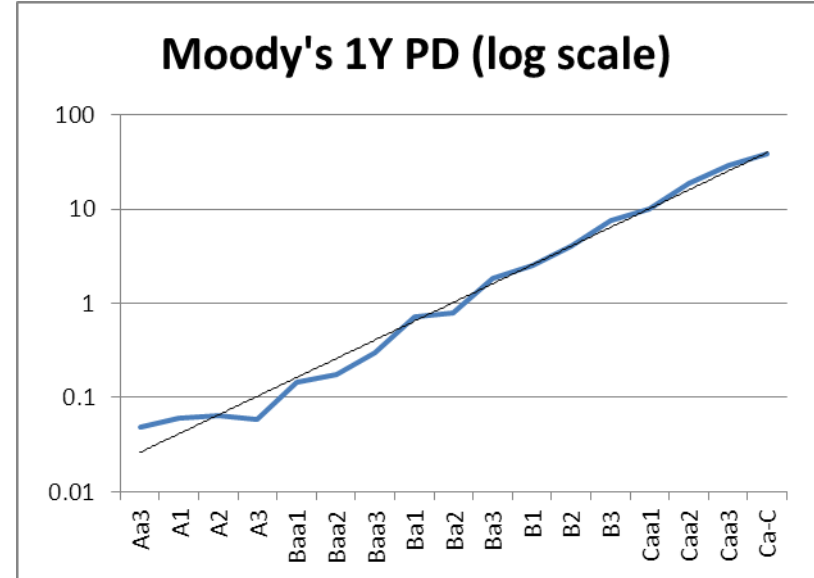
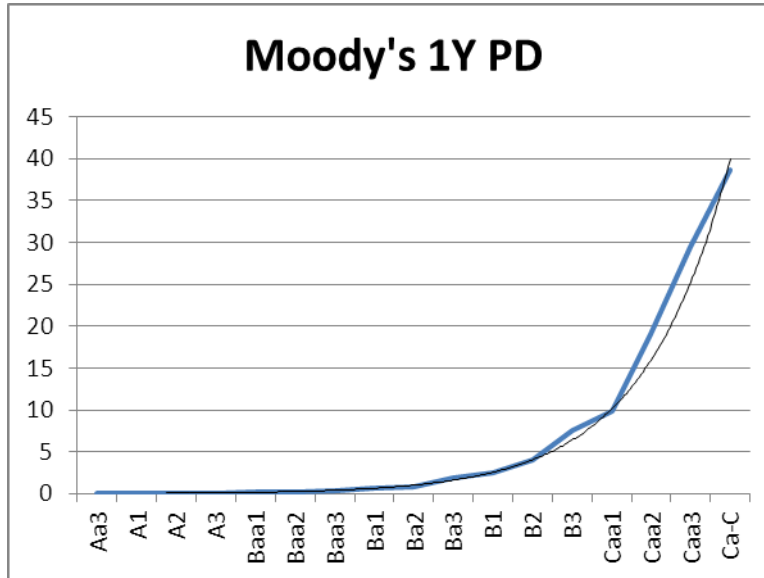
One-year Global Corporate Average Transition Rates (1981-2011) (%)

From/to	AAA	AA	A	BBB	BB	B	CCC/C	D	NR
AAA	87.19	8.69	0.54	0.05	0.08	0.03	0.05	0	3.37
AA	0.56	86.32	8.3	0.54	0.06	0.08	0.02	0.02	4.09
A	0.04	1.91	87.27	5.44	0.38	0.16	0.02	0.08	4.72
BBB	0.01	0.12	3.64	84.87	3.91	0.64	0.15	0.24	6.42
BB	0.02	0.04	0.16	5.24	75.87	7.19	0.75	0.9	9.84
B	0	0.04	0.13	0.22	5.57	73.42	4.42	4.48	11.72
CCC/C	0	0	0.17	0.26	0.78	13.67	43.93	26.82	14.37

Moody's Data¹²

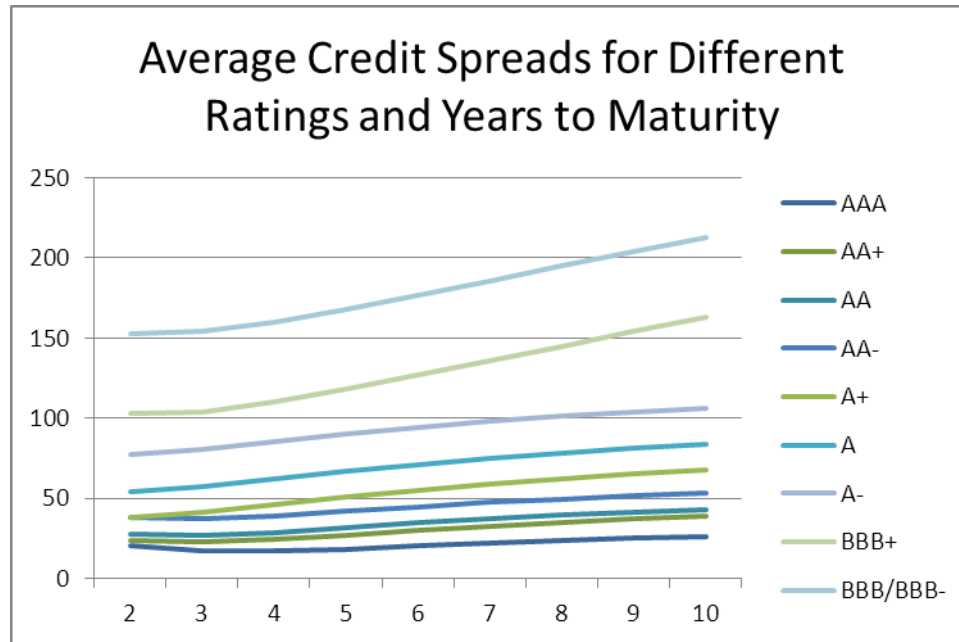
Average Cumulative Issuer-Weighted Global Default Rates by Alphanumeric Rating, 1983-2010*

Aaa	0
Aa1	0
Aa2	0
Aa3	0.048
A1	0.061
A2	0.065
A3	0.058
Baa1	0.146
Baa2	0.176
Baa3	0.302
Ba1	0.709
Ba2	0.8
Ba3	1.826
B1	2.512
B2	3.986
B3	7.584
Caa1	9.94
Caa2	19.045
Caa3	29.542
Ca-C	38.739



¹² Moody's Investor Service 2011 Special Comment: Corporate Default and Recovery Rates, EXHIBIT 36

Credit spread term structure¹³



¹³ Source: ECB Working paper series NO. 397 / OCTOBER 2004 *Determinants of Euro Term Structure of Credit Spreads*, Table 7