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Mapping of Standard & Poor's Ratings Services' credit assessments under the Standardised Approach

1. Executive summary

1. This report describes the mapping exercise carried out by the Joint Committee to determine the 'mapping'¹ of the credit assessments of Standard & Poor's Ratings Services (S&P's).
2. The methodology applied to produce the mapping is the one specified in the Implementing Technical Standards on the mapping of ECAIs' credit assessments under Article 136(1) and (3) of Regulation (EU) No 575/2013 (Capital Requirements Regulation – CRR). These ITS employ a combination of the provisions laid down in Article 136(2) of Regulation (EU) No 575/2013.
3. The mapping neither constitutes the one which ESMA shall report on in accordance with Article 21(4b) of Regulation (EC) No 1060/2009 (Credit Rating Agencies Regulation - CRA) with the objective of allowing investors to easily compare all credit ratings that exist with regard to a specific rated entity² nor should be understood as a comparison of the rating methodologies of S&P's with those of other ECAIs. This mapping should however be interpreted as the correspondence of the rating categories of S&P's with a regulatory scale which has been defined for prudential purposes. This implies that an appropriate degree of prudence may have been applied wherever not sufficient evidence has been found with regard to the degree of risk underlying the credit assessments.
4. The resulting mapping tables have been specified in Annex III of the Implementing Technical Standards on the mapping of ECAIs' credit assessments under Article 136(1) and (3) of Regulation (EU) No 575/2013. Figure 1 below shows the result for the main ratings scale of S&P's, the Long-term issuer ratings scale.

¹ According to Article 136(1), the 'mapping' is the correspondence between the credit assessments of and ECAI and the credit quality steps set out in Regulation (EU) No 575/2013 (Capital Requirements Regulation – CRR).

² In this regard please consider http://www.esma.europa.eu/system/files/esma__2015-1473_report_on_the_possibility_of_establishing_one_or_more_mapping....pdf.

Figure 1: Mapping of S&P's Long-term issuer credit ratings scale

Credit assessment	Credit quality step
AAA	1
AA	1
A	2
BBB	3
BB	4
B	5
CCC	6
CC	6
R	6
SD/D	6

2. Introduction

5. This report describes the mapping exercise carried out by the Joint Committee (JC) to determine the ‘mapping’ of the credit assessments of Standard & Poor’s Ratings Services (S&P’s).
6. S&P’s Ratings is a credit rating agency that has been registered with ESMA in 31 October 2011 and therefore meets the conditions to be an eligible credit assessment institution (ECAI)³. S&P’s is an international credit rating agency that has been assigning credit ratings since 1916. The credit rating activities of S&P’s are conducted globally through various affiliated entities that operate in accordance with policies and procedures and criteria that are generally globally applicable. S&P’s shares a globally integrated operating structure.
7. The methodology applied to produce the mapping is the one specified in the Implementing Technical Standards on the mapping of ECAIs’ credit assessments under Article 136(1) and (3) of Regulation (EU) No 575/2013 (Capital Requirements Regulation – CRR). These ITS employ a combination of the provisions laid down in Article 136(2) of Regulation (EU) No 575/2013. The information base used to produce the mapping is the same that has been employed when performing the first mapping proposal which was disclosed during the consultation period to these ITS. Two sources of information have been used. On the one hand, the quantitative and qualitative information available in ESMA Central Repository (CEREP⁴) has been used to obtain an overview of the main characteristics of this ECAI and to calculate the default rates of its credit assessments. On the other hand, specific information has also been directly requested to the ECAI for the purpose of the mapping, especially the list of relevant credit assessments and detailed information regarding the default definition.
8. The following sections describe the rationale underlying the mapping exercise carried out by the Joint Committee (JC) to determine the applicable mapping. Section 3 describes the relevant ratings scales of S&P’s for the purpose of the mapping. Section 4 contains the methodology applied to derive the mapping of S&P’s main ratings scale whereas Sections 5 and 6 refer to the mapping of its remaining relevant ratings scales. The mapping tables are shown in Appendix 4 of this document and have been specified in Annex III of the Implementing Technical Standards on the mapping of ECAIs’ credit assessments under Article 136(1) and (3) of Regulation (EU) No 575/2013.

³ It is important to note that the mapping does not contain any assessment of the registration process of S&P’s carried out by ESMA.

⁴ CEREP is the central repository owned by ESMA to which all registered/certified CRAs have to report their credit assessments. <http://cerep.esma.europa.eu/cerep-web/>.

3. S&P credit ratings and rating scales

9. S&P's produces a variety of credit ratings. Column 2 of Figure 2 in Appendix 1 shows the relevant credit ratings that may be used by institutions for the calculation of risk weights under the Standardised Approach (SA)⁵:

- **Long-term issuer credit ratings⁶.** A S&P's issuer credit rating is a forward-looking opinion about an obligor's overall creditworthiness. This opinion focuses on the obligor's capacity and willingness to meet its financial commitments as they come due. It does not apply to any specific financial obligation, as it does not take into account the nature of and provisions of the obligation, its standing in bankruptcy or liquidation, statutory preferences, or the legality and enforceability of the obligation.
- **Short-term issuer credit ratings⁴.** Similar to Long-term issuer credit ratings, but are generally assigned to those obligations considered short-term in the relevant market. Short-term ratings are also used to indicate the creditworthiness of an obligor with respect to put features on long-term obligations.
- **Long-term issue credit ratings.** A S&P's issue credit rating is a forward-looking opinion about the creditworthiness of an obligor with respect to a specific financial obligation, a specific class of financial obligations, or a specific financial program (including ratings on medium-term note programs and commercial paper programs). It takes into consideration the creditworthiness of guarantors, insurers, or other forms of credit enhancement on the obligation and takes into account the currency in which the obligation is denominated. The opinion reflects S&P's view of the obligor's capacity and willingness to meet its financial commitments as they come due, and may assess terms, such as collateral security and subordination, which could affect ultimate payment in the event of default.
- **Short-term issue credit ratings.** Similar to Long-term issue credit ratings, but are generally assigned to those obligations considered short-term in the relevant market. Short-term ratings are also used to indicate the creditworthiness of an obligor with respect to put features on long-term obligations.
- **Insurer financial strength ratings (FSR).** S&P's insurer financial strength rating is a forward-looking opinion about the financial security characteristics of an insurance organization with respect to its ability to pay under its insurance policies and contracts in accordance with their terms. Insurer financial strength ratings are also assigned to health

⁵ As explained in recital 4 of the ITS, Article 4(1) CRA allows the use of the credit assessments for the determination of the risk-weighted exposure amounts as specified in Article 113(1) CRR as long as they meet the definition of credit rating in Article 3(1)(a) CRA.

⁶ S&P's issuer credit ratings make a distinction between foreign currency ratings and local currency ratings. An issuer's foreign currency rating will differ from its local currency rating when the obligor has a different capacity to meet its obligations denominated in its local currency, vs. obligations denominated in a foreign currency.

maintenance organizations and similar health plans with respect to their ability to pay under their policies and contracts in accordance with their terms.

- **Fund credit quality ratings.** Fund credit quality ratings, identified by the 'f' suffix, are assigned to fixed-income funds and other actively managed funds that exhibit variable net asset values. These ratings are forward-looking opinions about the overall credit quality of a fund's portfolio. The ratings reflect the level of protection against losses from credit defaults and are based on an analysis of the credit quality of the portfolio investments and the likelihood of counterparty defaults.
- **Mid Market Evaluation ratings.** A S&P's Mid Market Evaluation (MME) rating is a forward-looking opinion about the creditworthiness of a mid-market company relative to other mid-market companies. It assesses a mid-market company's relative capacity and willingness to meet its financial obligations as they come due. S&P assigns the MME rating at an obligor level, but can assign it at a debt instrument level as well.

10.S&P's assigns these credit ratings to different rating scales as illustrated in column 3 of Figure 2 in Appendix 1. Therefore, a specific mapping has been prepared for the following rating scales:

- **Long-term issuer credit ratings scale.** The specification of this rating scale is described in Figure 3 of Appendix 1.
- **Long-term issue credit ratings scale.** The specification of this rating scale is described in Figure 4 of Appendix 1.
- **Short-term issuer credit ratings scale.** The specification of this rating scale is described in Figure 5 of Appendix 1.
- **Short-term issue credit ratings scale.** The specification of this rating scale is described in Figure 6 of Appendix 1.
- **Insurer financial strength ratings scale.** The specification of this rating scale is described in Figure 7 of Appendix 1.
- **Fund credit quality ratings scale.** The specification of this rating scale is described in Figure 8 of Appendix 1.
- **Mid Market Evaluation ratings scale.** The specification of this rating scale is described in Figure 9: Mid Market Evaluation rating scale of Appendix 1.

11.The mapping of the Long-term issuer credit ratings scale is explained in Section 4 and it has been derived in accordance with the quantitative factors, qualitative factors and benchmarks specified in the ITS.

12. The mapping of the Short-term issuer credit ratings scale is explained in Section 5 and it has been indirectly derived from the mapping of the Long-term issuer credit ratings scale and the internal relationship established by S&P's between these two scales, as specified in Article 13 of the ITS. This internal relationship is shown in Figure 10 of Appendix 1.

13. The indirect mapping approach described in the previous paragraph has also been applied in the case of the other long-term and short-term rating scales, as explained in Section 6. In these cases, however, the relationship with the Long-term issuer credit ratings scale (or Short-term issuer credit ratings scale) has been assessed, for the purpose of the mapping, by the JC based on the comparison of the meaning and relative position of the rating categories.

4. Mapping of S&P's Long-term issuer credit ratings scale

14. The mapping of the Long-term issuer credit ratings scale has consisted of two differentiated stages where the quantitative and qualitative factors as well as the benchmarks specified in Article 136(2) CRR have been taken into account.

15. In the first stage, the quantitative factors referred to in Article 1 of the ITS have been taken into account to differentiate between the levels of risk of each rating category:

- The *long run default rate* of a rating category has been used to arrive at an initial mapping proposal by comparing its value with the benchmark specified in point (a) of Article 14 of the ITS.
- The *short run default rates* of a rating category have been compared with the benchmarks specified in point (b) of Article 14 of the ITS, which represent the maximum expected deviation of a default rate from its long-term value within a CQS.

16. In a second stage, the qualitative factors proposed in Article 7 of the ITS have been considered to challenge the result of the previous stage, especially in those ratings categories where less default data has been available.

4.1. Initial mapping based on the quantitative factors

4.1.1. Calculation of the short-run and long-run default rates

17. The short run and long run default rates of each rating category have been calculated with the pools of items rated from 1 January 2000 to 1 July 2010, based on the information contained in CEREP and according to the provisions laid down in the ITS. The following aspects should be highlighted:

- For AAA and AA rating categories, the number of credit ratings cannot be considered to be sufficient for the calculation of the short and long run default rates specified in Articles 3 – 5 of the ITS. Therefore the allocation of the CQS has been made in accordance with Article 6 of the ITS, as shown in Figure 18 of Appendix 3. In these cases, the long run default rate

benchmark associated with the equivalent category in the international rating scale is a key qualitative factor that has been used for the mapping proposal.

- For R, SD and D rating categories, no calculation of default rates has been made since they already reflect a ‘default’ situation.
- For the remaining rating categories, the number of credit ratings can be considered to be sufficient and therefore the calculation has followed the rules established in Articles 3 to 5 of the ITS. The result of the calculation of the short run and long run default rates for each rating category is shown in Figure 11 to Figure 13 of Appendix 3.

18. Withdrawn ratings have been weighted by 50% as indicated in Article 4(3) of the ITS.

19. The default definition applied by S&P’s, described in Appendix 2, has been used for the calculation of default rates.

4.1.2. Mapping proposal based on the long run default rate

20. As illustrated in the second column of Figure 20 in Appendix 4, the rating categories of the Long-term issuer credit rating scale of S&P’s have been initially allocated to each CQS based on the comparison of the long run default rates (see Figure 13 in Appendix 3) and the long run default rate benchmark intervals established in point (a) of Article 14 of the ITS.

21. In the case of rating categories AAA and AA, where the number of credit ratings cannot be considered to be sufficient, this comparison has been made according to Article 6 of the ITS. The result, as shown in Figure 18 of Appendix 3, is not clear. When the analysis is done for the 2006h1 – 2010h2 period, the 22 defaults observed in these categories suggest a mapping to CQS2. However, the analysis of the 2001h1 – 2005h2 period reveals that no defaults were observed during those years and that CQS 1 should be proposed instead. Therefore, the conclusion is not clear and should be based on the qualitative factors.

4.1.3. Reviewed mapping based on the short run default rates

22. As shown in Figure 14 to Figure 17 **Error! Reference source not found.** in Appendix 3, the short run default rates of rating categories A to B have been compared with the short run default rate benchmark values established in point (b) of Article 14 of the ITS⁷.

23. The objective is to assess, for each rating category, whether the short-run default rates have deviated from their corresponding benchmark values and whether any observed deviation has been caused by a weakening of the assessment standards. Therefore short run default rates experienced within a rating category have been confronted with the short run benchmarks “monitoring” and “trigger” levels specified in Annex I of the ITS: to perform this analysis

⁷ For AAA and AA rating categories, the number of credit ratings cannot be considered to be sufficient and therefore no calculation of the short run default rate has been made. In the case of rating categories CCC to C, the review of the short run default rates is not necessary since they have been mapped to CQS 6.

confidence intervals for the short run default rates have been calculated. The result of this comparison can be found in the third column of Figure 20 in Appendix 4:

- **A:** no short run default rate has breached the monitoring level during the observation period. Therefore no material and systematic breach of the monitoring/trigger levels has been observed and the initial mapping based on the long run default rate is confirmed at this stage.
- **BBB, BB and B:** the short run default rates have breached the monitoring level of default rates for several consecutive years in the early 2000s. Only in the case of category BBB, the lower limit of the 95% confidence intervals also reached the monitoring level twice at the beginning of the observation period, leading therefore to a material breach. However, this material breach cannot be considered as systematic and therefore the initial mapping based on the long run default rate is confirmed at this stage.

4.2. Final mapping after review of the qualitative factors

24.The qualitative factors specified in Article 7 ITS have been used to challenge the mapping proposed by the default rate calculation. Qualitative factors acquire more importance in the rating categories where quantitative evidence is not sufficient to test the default behavior⁸, as it is the case of AAA and AA rating categories.

25.The **definition of default** applied by S&P's and used for the calculation of the quantitative factors has been analysed:

- The types of default events considered are shown in Appendix 2 and correspond to the ones specified in Article 4(4) of the ITS. Selective default category (SD) is consistent with letters (a), (b), (c) and (d) of the benchmark definition, while Default category (D) is consistent with letter (c) of the benchmark definition.
- The information provided by S&P's reveals that the share of bankruptcy-related events is below 50%.

Therefore, no specific adjustment has been proposed based on this factor.

26.Regarding **the meaning and relative position of the credit assessments**, they are aligned with the initial mapping proposal resulting from the quantitative factors, if available. As for the other rating categories:

- In the case of the AAA and AA, where the quantitative evidence has been less conclusive, this factor suggests that both rating categories should be assigned CQS 1 according to the reference definitions established in Annex II of the ITS. Since the adjacent rating category

⁸ The default behavior of a rating category is considered to be properly tested if the quantitative factors for that rating category are calculated under Articles 3 – 5 of the ITS.

(A) has been mapped on the basis of quantitative information to CQS 2, it can be concluded that the proposed mapping for AAA and AA rating categories is CQS 1.

- In the case of R and SD/D rating categories, their meaning is consistent with the one of CQS 6 stated in Annex II of the ITS.

27.Regarding the **time horizon** reflected by the rating category, S&P's rating methodology focuses on the long-term, especially in the high-quality categories. This is confirmed by the stability of the rated items in these categories by the end of the 1-year and 3-year time horizons shown in Figure 19 of Appendix 3, with values close to 85% and 65% respectively over the 2000 – 2013 period. Therefore, the mapping proposal of AAA and AA to CQS 1 is reinforced.

28.Finally, it should be highlighted the use of the long run default rate benchmark associated with the equivalent category in the international rating scale as the **estimate of the long run default rate** for the calculation of the quantitative factor of AAA and AA rating categories under Article 6 of the ITS.

5. Mapping of S&P's Short-Term issuer credit rating scale

29.S&P's also produces short-term credit ratings and assigns them to the Short-term issuer credit ratings scale (see Figure 5 in Appendix 1). Given that the default information referred to these rating categories cannot be comparable with the 3-year time horizon that characterizes the benchmarks established in the ITS, the internal relationship established by S&P's between these two rating scales (described in Figure 10 of Appendix 1) has been used to derive the mapping of the Short-term issuer rating scale. This should ensure the consistency of the mappings proposed for S&P's.

30.More specifically, as each short-term issuer rating can be associated with a range of long-term issuer ratings, the CQS assigned to the short-term credit rating category has been determined based on the most frequent CQS assigned to the related long-term credit rating categories. In case of draw, the most conservative CQS has been considered. If the most frequent step is identified as CQS 5 or 6, CQS 4 is allocated, as the risk weights assigned to CQS 4 to 6 are all equal to 150% according to Article 131 CRR.

31.The result is shown in Figure 21 of Appendix 4:

- **A-1+.** This rating category indicates a strong capacity to meet its financial commitment on the obligation is extremely strong. It is internally mapped to long-term categories AAA to AA-, which are mapped to CQS 1. Therefore, CQS 1 is the proposed mapping.
- **A-1.** This rating category indicates a strong capacity to meet its financial commitment on the obligation is strong. It is internally mapped to the long-term category A+ and A, which are mapped to CQS 2. Therefore, CQS 2 is the proposed mapping.

- **A-2.** This rating category indicates a satisfactory capacity to repay short-term debt obligations. It is internally mapped to long-term categories A to BBB, which are mapped to CQS 2 and 3. Since the long-term categories are mapped to CQS 2 and 3 in an equal number of cases, the most conservative CQS has been considered. Therefore, CQS 3 is the proposed mapping.
- **A-3.** This rating category indicates a weakened capacity to repay short-term debt obligations. It is internally mapped to long-term categories BBB to BB+, which are mapped to CQS 3 and 4, but mostly CQS 3. Therefore, CQS 3 is the proposed mapping.
- **B.** This rating category is regarded as vulnerable. It is internally mapped to long-term categories BB+ to CC, which are mapped to CQS 4 to 6. Since the risk weights assigned to CQS 4 to 6 are all equal to 150% according to Article 131 CRR, the mapping proposed for the B rating category is CQS 4.
- **C.** This rating category is regarded as vulnerable and dependent upon favourable conditions, consistent with the meaning and relative position representative of CQS 5 and 6. In addition, it is internally mapped to long-term categories CC to B, which are mostly mapped to CQS 5. Since the risk weights assigned to CQS 4 to 6 are all equal to 150% according to Article 131 CRR, the mapping proposed for the C rating category is CQS 4.
- **R.** This category refers to issuers who that are under regulatory supervision owing to its financial condition and the regulators may have the power to favour one class of obligations over others or pay some obligations and not others. This category is consistent with category R of the Long-term issuer credit rating scale corresponding to CQS 6. Since the risk weights assigned to CQS 4 to 6 are all equal to 150% according to Article 131 CRR, the mapping proposed for the C rating category is CQS 4.
- **D.** A short-term obligation rated 'D' is in payment default, consistent with the meaning and relative position representative of CQS 6. In addition, it is internally mapped to long-term categories D and SD, which are mapped to CQS 6. Since the risk weights assigned to CQS 4 to 6 are equal to 150% according to Article 131 CRR, the mapping proposed for the D/SD rating category is CQS 4.

6. Mapping of other S&P's credit rating scales

32.As mentioned in Section 3, S&P's produces a number of additional credit ratings that are assigned to different credit rating scales.

33.Based on the methodology described in the previous section, the mapping of each rating scale has been derived from the relationship established by the JC with the relevant Long-term or Short-term issuer credit ratings scale. More specifically, as each rating can be associated with one or a range of long-term (or short-term) rating categories, its CQS has been determined based on the most frequent CQS assigned to the related rating categories. In case of draw, the most conservative CQS has been considered.

34.The results are shown in Figure 22 to Figure 26 of Appendix 4:

- **Long term issue credit ratings scale** (see Figure 4 in Appendix 1). The rating categories can be considered comparable to those of the Long-term issuer credit ratings scale. Therefore the mapping of each rating category has been derived from its meaning and relative position and the mapping of the corresponding categories of the Long-term issuer rating scale. The result of the mapping of this scale is shown in Figure 22 of Appendix 4.
- **Short-term issue credit rating scale** (see Figure 6 in Appendix 1). The rating categories can be considered comparable to those of the Short-term issuer credit ratings scale. Therefore the mapping of each rating category has been derived by the JC from its meaning and relative position and the mapping of the corresponding categories of the Short-term issuer rating scale. The result of the mapping of this scale is shown in Figure 23 of Appendix 4.
- **Insurer financial strength ratings scale** (see Figure 7 in Appendix 1). The rating categories can be considered comparable to those of the Long-term issuer credit rating scale. Even though the definitions of the rating categories refer to insurance companies, the mapping has been derived from the meaning and relative position of the rating categories and the mapping of the corresponding categories of the Long-term issuer rating scale. The result of the mapping of this scale is shown in Figure 24 of Appendix 4.
- **Fund credit quality ratings scale** (see Figure 8 in Appendix 1). Given that investments in any of these funds cannot default (because they cannot be considered as credit obligations), this rating scale is only partly comparable to the Long term issuer credit rating scale. However, a mapping has been derived from the meaning and relative position of the rating categories and the mapping of the corresponding categories of the Long-term issuer credit rating scale. The result of the mapping of this scale is shown in Figure 25 of Appendix 4.
- **Mid Market Evaluation rating scale** (see Figure 9 in Appendix 1). The rating categories can be considered comparable to those of the Long-term issuer credit rating scale. Therefore

the mapping of each rating category has been derived by the JC from its meaning and relative position and the mapping of the corresponding categories of the Long-term issuer credit rating scale. The result of the mapping of this scale is shown in Figure 26 of Appendix 4.

Appendix 1: Credit ratings and rating scales

Figure 2: S&P's relevant credit ratings and rating scales

SA exposure classes	Name of credit rating	Credit rating scale
Long-term ratings		
Central governments/ Central banks	Long-term issuer credit ratings	Long-term issuer credit ratings scale
	Long-term issue credit ratings	Long-term issue credit ratings scale
Regional and local governments and PSEs	Long-term issuer credit rating	Long-term issuer credit ratings scale
	Long-term issue credit ratings	Long-term issue credit ratings scale
Institutions	Long-term issuer credit rating	Long-term issuer credit ratings scale
	Long-term issue credit ratings	Long-term issue credit ratings scale
Corporates	Long-term issuer credit rating	Long-term issuer credit ratings scale
	Long-term issue credit ratings	Long-term issue credit ratings scale
	Insurer financial strength ratings (FSR)	Insurer financial strength ratings scale
	Mid market evaluation ratings (MME)	Mid market evaluation ratings scale
Covered bonds	Long-term issue credit ratings	Long-term issue credit ratings scale
CIUs	Fund credit quality rating	Fund credit quality ratings scale
Short-term ratings		

SA exposure classes	Name of credit rating	Credit rating scale
Central governments/ Central banks	Short-term issuer credit ratings	Short-term issuer credit ratings scale
	Short-term issue credit ratings	Short-term issue credit ratings scale
Institutions	Short-term issuer credit ratings	Short-term issuer credit ratings scale
	Short-term issue credit ratings	Short-term issue credit ratings scale
Corporates	Short-term issuer credit ratings	Short-term issuer credit ratings scale
	Short-term issue credit ratings	Short-term issue credit ratings scale

Source: S&P

Figure 3: Long-term issuer credit ratings scale

Credit assessment	Meaning of the credit assessment
AAA	An obligor rated 'AAA' has extremely strong capacity to meet its financial commitments. 'AAA' is the highest issuer credit rating assigned by S&P's.
AA	An obligor rated 'AA' has very strong capacity to meet its financial commitments. It differs from the highest-rated obligors only to a small degree.
A	An obligor rated 'A' has strong capacity to meet its financial commitments but is somewhat more susceptible to the adverse effects of changes in circumstances and economic conditions than obligors in higher-rated categories.
BBB	An obligor rated 'BBB' has adequate capacity to meet its financial commitments. However, adverse economic conditions or changing circumstances are more likely to lead to a weakened capacity of the obligor to meet its financial commitments.
BB	An obligor rated 'BB' is less vulnerable in the near term than other lower-rated obligors. However, it faces major ongoing uncertainties and exposure to adverse business, financial, or economic conditions which could lead to the obligor's inadequate capacity to meet its financial commitments.
B	An obligor rated 'B' is more vulnerable than the obligors rated 'BB', but the obligor currently has the capacity to meet its financial commitments. Adverse business, financial, or economic conditions will likely impair the obligor's capacity or willingness to meet its financial commitments.
CCC	An obligor rated 'CCC' is currently vulnerable, and is dependent upon favourable business, financial, and economic conditions to meet its financial commitments.
CC	An obligor rated 'CC' is currently highly vulnerable. The 'CC' rating is used when a default has not yet occurred, but S&P's expects default to be a virtual certainty, regardless of the anticipated time to default.

R An obligor rated 'R' is under regulatory supervision owing to its financial condition. During the pendency of the regulatory supervision the regulators may have the power to favour one class of obligations over others or pay some obligations and not others.

SD/D An obligor rated 'SD' (selective default) or 'D' is in default on one or more of its financial obligations including rated and unrated financial obligations but excluding hybrid instruments classified as regulatory capital or in non-payment according to terms. An obligor is considered in default unless S&P's believes that such payments will be made within five business days of the due date in the absence of a stated grace period, or within the earlier of the stated grace period or 30 calendar days. A 'D' rating is assigned when S&P's believes that the default will be a general default and that the obligor will fail to pay all or substantially all of its obligations as they come due. An 'SD' rating is assigned when S&P's believes that the obligor has selectively defaulted on a specific issue or class of obligations but it will continue to meet its payment obligations on other issues or classes of obligations in a timely manner. An obligor's rating is lowered to 'D' or 'SD' if it is conducting a distressed exchange offer.

Source: S&P

Figure 4: Long-term issue credit ratings scale

Credit assessment	Meaning of the credit assessment
AAA	An obligation rated 'AAA' has the highest rating assigned by S&P's. The obligor's capacity to meet its financial commitment on the obligation is extremely strong.
AA	An obligation rated 'AA' differs from the highest-rated obligations only to a small degree. The obligor's capacity to meet its financial commitment on the obligation is very strong.
A	An obligation rated 'A' is somewhat more susceptible to the adverse effects of changes in circumstances and economic conditions than obligations in higher-rated categories. However, the obligor's capacity to meet its financial commitment on the obligation is still strong.
BBB	An obligation rated 'BBB' 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.
BB	An obligation rated 'BB' is less vulnerable to non-payment 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.
B	An obligation rated 'B' is more vulnerable to non-payment than obligations rated 'BB', but the obligor currently has the capacity to meet its financial commitment on the obligation. Adverse business, financial, or economic conditions will likely impair the obligor's capacity or willingness to meet its financial commitment on the obligation.
CCC	An obligation rated 'CCC' is currently vulnerable to non-payment, and is dependent upon favourable business, financial, and economic conditions for the obligor to meet its financial commitment on the obligation. In the event of adverse business, financial, or economic conditions the obligor is not likely to have the capacity to meet its financial commitment on the obligation.
CC	An obligation rated 'CC' is currently highly vulnerable to non-payment. The 'CC' rating is used when a default has not yet occurred, but S&P's expects default to be a virtual certainty, regardless of the anticipated time to default.

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- C An obligation rated 'C' is currently highly vulnerable to non-payment, and the obligation is expected to have lower relative seniority or lower ultimate recovery compared to obligations that are rated higher.
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- D An obligation rated 'D' is in default or in breach of an imputed promise. For non-hybrid capital instruments, the 'D' rating category is used when payments on an obligation are not made on the date due, unless S&P's believes that such payments will be made within five business days in the absence of a stated grace period or within the earlier of the stated grace period or 30 calendar days. The 'D' rating also will be used upon the filing of a bankruptcy petition or the taking of similar action and where default on an obligation is a virtual certainty, for example due to automatic stay provisions. An obligation's rating is lowered to 'D' if it is subject to a distressed exchange offer.
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Source: S&P

Figure 5: Short-term issuer credit ratings scale

Credit assessment	Meaning of the credit assessment
A-1	An obligor rated 'A-1' has strong capacity to meet its financial commitments. It is rated in the highest category by S&P's. Within this category, certain obligors are designated with a plus sign (+). This indicates that the obligor's capacity to meet its financial commitments is extremely strong.
A-2	An obligor rated 'A-2' has satisfactory capacity to meet its financial commitments. However, it is somewhat more susceptible to the adverse effects of changes in circumstances and economic conditions than obligors in the highest rating category.
A-3	An obligor rated 'A-3' has adequate capacity to meet its financial obligations. However, adverse economic conditions or changing circumstances are more likely to lead to a weakened capacity of the obligor to meet its financial commitments.
B	An obligor rated 'B' is regarded as vulnerable and has significant speculative characteristics. The obligor currently has the capacity to meet its financial commitments; however, it faces major ongoing uncertainties which could lead to the obligor's inadequate capacity to meet its financial commitments.
C	An obligor rated 'C' is currently vulnerable to non-payment that would result in a 'SD' or 'D' issuer rating, and is dependent upon favourable business, financial, and economic conditions for it to meet its financial commitments.
R	An obligor rated 'R' is under regulatory supervision owing to its financial condition. During the pendency of the regulatory supervision the regulators may have the power to favour one class of obligations over others or pay some obligations and not others.
SD/D	An obligor rated 'SD' (selective default) or 'D' has failed to pay one or more of its financial obligations (rated or unrated), excluding hybrid instruments classified as regulatory capital or in non-payment according to terms, when it came due. An obligor is considered in default unless S&P's believes that such payments will be made within any stated grace period. However, any stated grace period longer than five business days will be treated as five business days. A 'D' rating is assigned when S&P's believes that the default will be a general default and that the obligor will fail to pay all or substantially all of its obligations as they come due. An 'SD' rating is assigned when S&P's believes that the obligor has selectively defaulted on a specific issue or class of obligations, excluding hybrid instruments



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classified as regulatory capital, but it will continue to meet its payment obligations on other issues or classes of obligations in a timely manner. An obligor's rating is lowered to 'D' or 'SD' if it is conducting a distressed exchange offer.

Source: S&P

Figure 6: Short-term issue credit ratings scale

Credit assessment	Meaning of the credit assessment
A-1	A short-term obligation rated 'A-1' is rated in the highest category by S&P's. The obligor's capacity to meet its financial commitment on the obligation is strong. Within this category, certain obligations are designated with a plus sign (+). This indicates that the obligor's capacity to meet its financial commitment on these obligations is extremely strong.
A-2	A short-term obligation rated 'A-2' is somewhat more susceptible to the adverse effects of changes in circumstances and economic conditions than obligations in higher rating categories. However, the obligor's capacity to meet its financial commitment on the obligation is satisfactory.
A-3	A short-term obligation rated 'A-3' 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.
B	A short-term obligation rated 'B' is regarded as vulnerable and has significant speculative characteristics. The obligor currently has the capacity to meet its financial commitments; however, it faces major ongoing uncertainties which could lead to the obligor's inadequate capacity to meet its financial commitments.
C	A short-term obligation rated 'C' is currently vulnerable to non-payment and is dependent upon favourable business, financial, and economic conditions for the obligor to meet its financial commitment on the obligation.
D	A short-term obligation rated 'D' is in default or in breach of an imputed promise. For non-hybrid capital instruments, the 'D' rating category is used when payments on an obligation are not made on the date due, unless S&P's believes that such payments will be made within any stated grace period. However, any stated grace period longer than five business days will be treated as five business days. The 'D' rating also will be used upon the filing of a bankruptcy petition or the taking of a similar action and where default on an obligation is a virtual certainty, for example due to automatic stay provisions. An obligation's rating is lowered to 'D' if it is subject to a distressed exchange offer.

Source: S&P

Figure 7: Insurer financial strength ratings scale

Credit assessment	Meaning of the credit assessment
AAA	An insurer rated 'AAA' has extremely strong financial security characteristics. 'AAA' is the highest insurer financial strength rating assigned by S&P's.
AA	An insurer rated 'AA' has very strong financial security characteristics, differing only slightly from those rated higher.
A	An insurer rated 'A' has strong financial security characteristics, but is somewhat more likely to be affected by adverse business conditions than are insurers with higher ratings.
BBB	An insurer rated 'BBB' has good financial security characteristics, but is more likely to be affected by adverse business conditions than are higher-rated insurers.
BB	An insurer rated 'BB' has marginal financial security characteristics. Positive attributes exist, but adverse business conditions could lead to insufficient ability to meet financial commitments.
B	An insurer rated 'B' has weak financial security characteristics. Adverse business conditions will likely impair its ability to meet financial commitments.
CCC	An insurer rated 'CCC' has very weak financial security characteristics, and is dependent on favorable business conditions to meet financial commitments.
CC	An insurer rated 'CC' has extremely weak financial security characteristics and is likely not to meet some of its financial commitments.
SD/D	An insurer rated 'SD' (selective default) or 'D' is in default on one or more of its insurance policy obligations but is not under regulatory supervision that would involve a rating of 'R'. The 'D' rating also will be used upon the filing of a bankruptcy petition or the taking of similar action if payments on a policy obligation are at risk. A 'D' rating is assigned when S&P's believes that the default will be a general default and that the obligor will fail to pay substantially all of its obligations in full in accordance with the policy terms. An 'SD'

rating is assigned when S&P's believes that the insurer has selectively defaulted on a specific class of policies but it will continue to meet its payment obligations on other classes of obligations. A selective default includes the completion of a distressed exchange offer. Claim denials due to lack of coverage or other legally permitted defences are not considered defaults.

R

An insurer rated 'R' is under regulatory supervision owing to its financial condition. During the pendency of the regulatory supervision, the regulators may have the power to favour one class of obligations over others or pay some obligations and not others. The rating does not apply to insurers subject only to nonfinancial actions such as market conduct violations.

Source: S&P

Figure 8: Fund credit quality ratings scale

Credit assessment	Meaning of the credit assessment
AAAf	The fund's portfolio holdings provide extremely strong protection against losses from credit defaults.
AAf	The fund's portfolio holdings provide very strong protection against losses from credit defaults.
Af	The fund's portfolio holdings provide strong protection against losses from credit defaults.
BBBf	The fund's portfolio holdings provide adequate protection against losses from credit defaults.
BBf	The fund's portfolio holdings provide uncertain protection against losses from credit defaults.
Bf	The fund's portfolio holdings exhibit vulnerability to losses from credit defaults.
CCCF	The fund's portfolio holdings make it extremely vulnerable to losses from credit defaults.

Source: S&P

Figure 9: Mid Market Evaluation rating scale

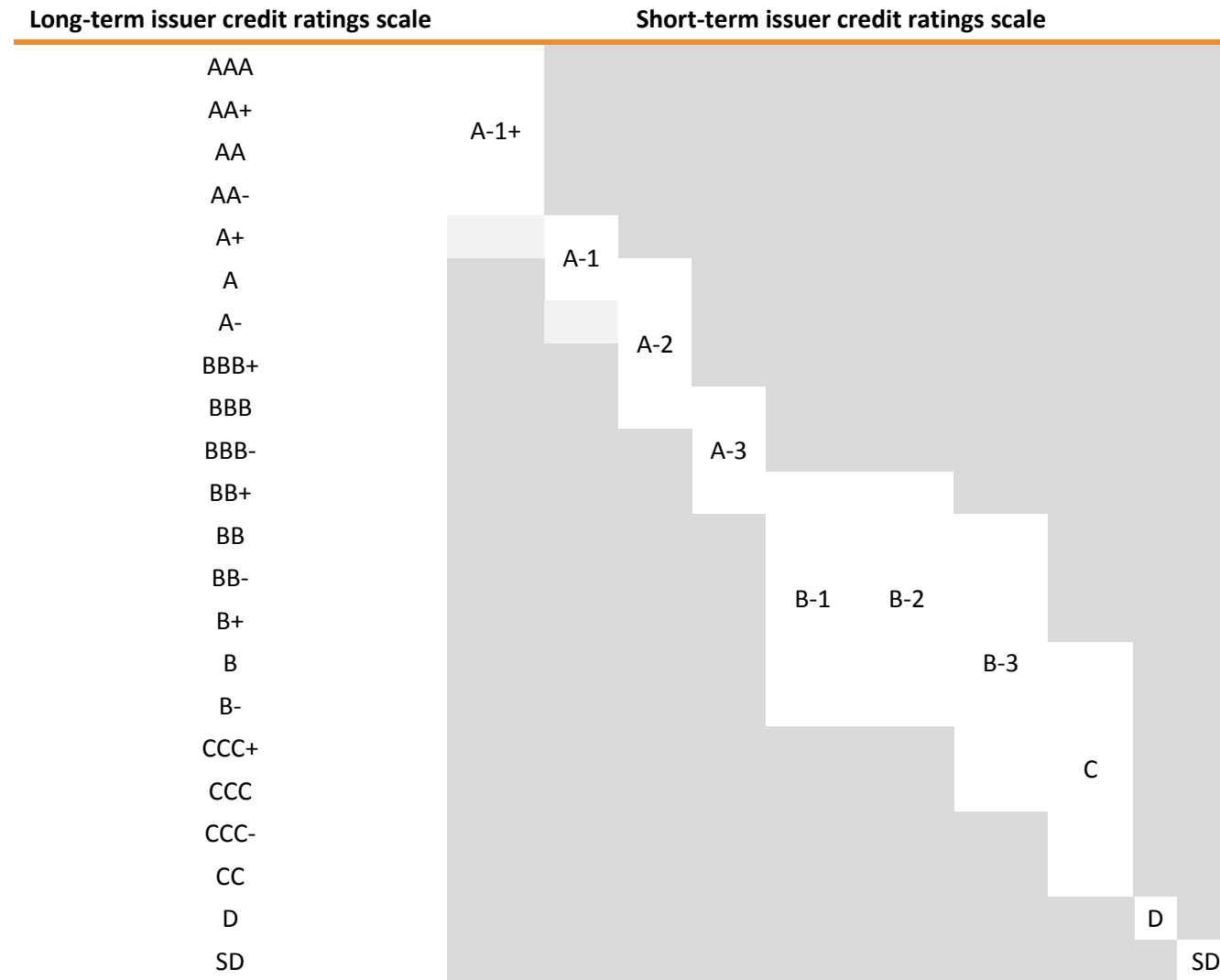
Credit assessment	Meaning of the credit assessment
MM1	The company has a very strong capacity to meet financial commitments relative to other mid-market companies. Companies rated at this level are less susceptible to the adverse effects of changes in circumstances and economic conditions than other mid-market companies.
MM2	The company has a strong capacity to meet its financial commitments relative to other mid-market companies. However, the company is somewhat more susceptible to the adverse effects of changes in circumstances and economic conditions than companies in the higher category.
MM3	The company has a good capacity to meet its financial commitments relative to other mid-market companies. However, adverse economic conditions or changing circumstances are more likely to lead to a weakened capacity of the company to meet its financial commitments.
MM4	The company has an adequate capacity to meet its financial commitments relative to other mid-market companies. However, it is more exposed to adverse economic conditions or changing circumstances than companies with a higher MME rating.
MM5	The company has reasonably adequate capacity to meet its financial commitments relative to other mid-market companies. It faces ongoing uncertainties or exposure to adverse business, financial, or economic conditions, which could result in an inadequate capacity on the part of the company to meet its financial commitments.
MM6	The company has a weak capacity to meet financial commitments, although it is less vulnerable relative to other mid-market companies with a lower MME rating. Adverse business, financial, or economic conditions are likely to impair the entity's capacity or willingness to meet its financial commitments.
MM7	The company is currently vulnerable to defaulting and is dependent upon favorable business and financial conditions to meet financial commitments. In the event of adverse business, financial, or economic conditions, the obligor is not likely to have the

capacity to meet its financial commitments.

MM8	The company is currently highly vulnerable to defaulting and is dependent upon favorable business and financial conditions to meet financial commitments. We expect default to be a virtual certainty, either through a missed payment, a distressed exchange, or similar debt restructuring, or a bankruptcy filing.
MMD	The company has either failed to pay one or more of its financial obligations when due, or it has been placed into bankruptcy, or it has completed a distressed exchange or similar debt restructuring.

Source: S&P

Figure 10: Internal relationship between S&P's long-term and short-term issuer ratings scales



Source: S&P

Appendix 2: Definition of default

S&P's Ratings distinguishes between two different default situations: normal default and selective default, and they are assigned whenever the obligor has failed to pay one or more of its financial obligations (rated or unrated) when it came due. In addition, the obligors under regulatory supervision are also included in the default category.

Selective default ratings ('SD') are assigned when S&P's believes that the obligor has selectively defaulted on a specific issue or class of obligations but it will continue to meet its payment obligations on other issues or classes of obligations in a timely manner. A selective default includes:

- when payments on an obligation are not made on the date due even if the applicable grace period has not expired, unless S&P's believes that such payments will be made during such grace period
- filing of a bankruptcy petition or the taking of similar action if payments on an obligation are jeopardized
- the completion of a distressed exchange offer, whereby one or more financial obligation is either repurchased for an amount of cash or replaced by other instruments having a total value that is less than par.

Default ratings ('D') is assigned when S&P's believes that the default will be a general default and that the obligor will fail to pay all or substantially all of its obligations as they come due.

Regulatory supervision ratings ('R') is assigned when S&P's believes that an obligor is under regulatory supervision owing to its financial condition. During the pendency of the regulatory supervision the regulators may have the power to favour one class of obligations over others or pay some obligations and not others.

Source: S&P

Appendix 3: Default rates of each rating category

Figure 11: Number of rated items

Date	AAA	AA	A	BBB	BB	B	CCC-C	R,SD,D
01/01/2000	199	803	1519	1629	1020	962	131	n.a.
01/07/2000	194	783	1502	1558	970	885	134	n.a.
01/01/2001	183	804	1494	1593	951	859	148	n.a.
01/07/2001	193	796	1541	1651	991	783	155	n.a.
01/01/2002	183	770	1564	1701	952	703	223	n.a.
01/07/2002	164	705	1551	1758	941	678	180	n.a.
01/01/2003	131	635	1563	1687	948	713	180	n.a.
01/07/2003	126	564	1516	1537	843	684	151	n.a.
01/01/2004	120	548	1527	1559	834	711	122	n.a.
01/07/2004	116	535	1510	1553	848	773	111	n.a.
01/01/2005	116	538	1534	1529	878	786	92	n.a.
01/07/2005	90	568	1575	1469	894	804	95	n.a.
01/01/2006	88	576	1612	1486	857	881	89	n.a.
01/07/2006	90	605	1656	1461	836	942	88	n.a.
01/01/2007	100	643	1623	1456	864	968	91	n.a.
01/07/2007	101	655	1602	1449	870	1060	77	n.a.
01/01/2008	125	680	1568	1445	875	1061	82	n.a.
01/07/2008	78	717	1579	1481	822	1013	94	n.a.
01/01/2009	74	621	1616	1447	780	934	151	n.a.
01/07/2009	67	501	1602	1441	750	818	204	n.a.
01/01/2010	65	486	1609	1426	733	860	184	n.a.
01/07/2010	52	457	1637	1443	766	947	140	n.a.

Source: Joint Committee calculations based on CEREP data

Figure 12: Number of defaulted rated items

Date	AAA	AA	A	BBB	BB	B	CCC-C	R,SD,D
01/01/2000	0	0	15	43	104	277	63	n.a.
01/07/2000	0	0	11	54	109	260	70	n.a.
01/01/2001	0	0	10	51	107	244	72	n.a.
01/07/2001	0	0	6	35	101	216	65	n.a.
01/01/2002	0	0	3	37	53	145	110	n.a.
01/07/2002	0	0	1	27	27	102	73	n.a.
01/01/2003	0	0	1	5	25	70	73	n.a.
01/07/2003	0	0	1	3	18	46	56	n.a.
01/01/2004	0	0	0	1	17	34	36	n.a.
01/07/2004	0	0	0	1	8	35	31	n.a.
01/01/2005	0	0	0	2	8	34	20	n.a.
01/07/2005	0	0	0	4	8	38	27	n.a.
01/01/2006	0	2	5	8	14	62	25	n.a.
01/07/2006	1	2	11	15	32	119	36	n.a.
01/01/2007	1	4	7	20	51	153	42	n.a.
01/07/2007	2	4	7	22	48	208	36	n.a.
01/01/2008	2	3	9	19	38	238	46	n.a.
01/07/2008	0	1	8	19	28	235	57	n.a.
01/01/2009	0	0	2	17	14	177	102	n.a.
01/07/2009	0	0	1	4	15	78	96	n.a.
01/01/2010	0	0	0	2	9	63	65	n.a.
01/07/2010	0	0	0	3	5	80	54	n.a.

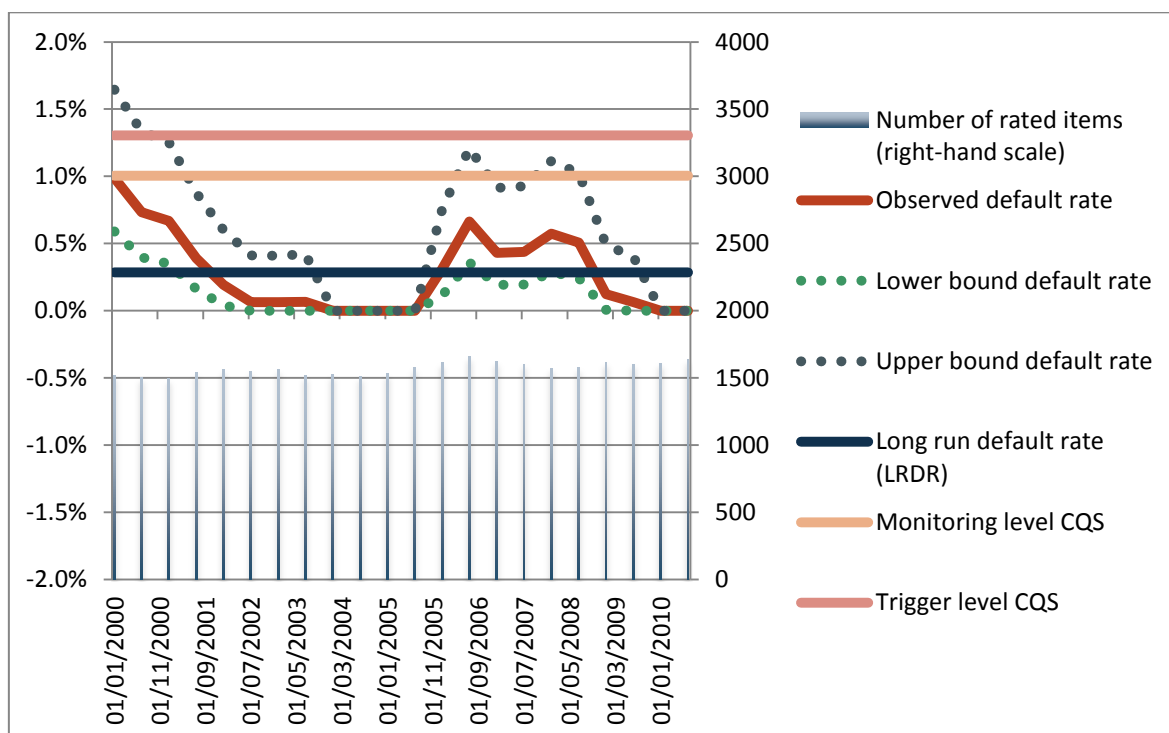
Source: Joint Committee calculations based on CEREP data

Figure 13: Short-run and long-run observed default rates

Date	AAA	AA	A	BBB	BB	B	CCC-C	R,SD,D
01/01/2000	n.a.	n.a.	0.99	2.64	10.20	28.79	48.09	n.a.
01/07/2000	n.a.	n.a.	0.73	3.47	11.24	29.38	52.24	n.a.
01/01/2001	n.a.	n.a.	0.67	3.20	11.25	28.41	48.65	n.a.
01/07/2001	n.a.	n.a.	0.39	2.12	10.19	27.59	41.94	n.a.
01/01/2002	n.a.	n.a.	0.19	2.18	5.57	20.63	49.33	n.a.
01/07/2002	n.a.	n.a.	0.06	1.54	2.87	15.04	40.56	n.a.
01/01/2003	n.a.	n.a.	0.06	0.30	2.64	9.82	40.56	n.a.
01/07/2003	n.a.	n.a.	0.07	0.20	2.14	6.73	37.09	n.a.
01/01/2004	n.a.	n.a.	0.00	0.06	2.04	4.78	29.51	n.a.
01/07/2004	n.a.	n.a.	0.00	0.06	0.94	4.53	27.93	n.a.
01/01/2005	n.a.	n.a.	0.00	0.13	0.91	4.33	21.74	n.a.
01/07/2005	n.a.	n.a.	0.00	0.27	0.89	4.73	28.42	n.a.
01/01/2006	n.a.	n.a.	0.31	0.54	1.63	7.04	28.09	n.a.
01/07/2006	n.a.	n.a.	0.66	1.03	3.83	12.63	40.91	n.a.
01/01/2007	n.a.	n.a.	0.43	1.37	5.90	15.81	46.15	n.a.
01/07/2007	n.a.	n.a.	0.44	1.52	5.52	19.62	46.75	n.a.
01/01/2008	n.a.	n.a.	0.57	1.31	4.34	22.43	56.10	n.a.
01/07/2008	n.a.	n.a.	0.51	1.28	3.41	23.20	60.64	n.a.
01/01/2009	n.a.	n.a.	0.12	1.17	1.79	18.95	67.55	n.a.
01/07/2009	n.a.	n.a.	0.06	0.28	2.00	9.54	47.06	n.a.
01/01/2010	n.a.	n.a.	0.00	0.14	1.23	7.33	35.33	n.a.
01/07/2010	n.a.	n.a.	0.00	0.21	0.65	8.45	38.57	n.a.
Weighted Average	n.a.	n.a.	0.28	1.16	4.36	15.48	42.95	n.a.

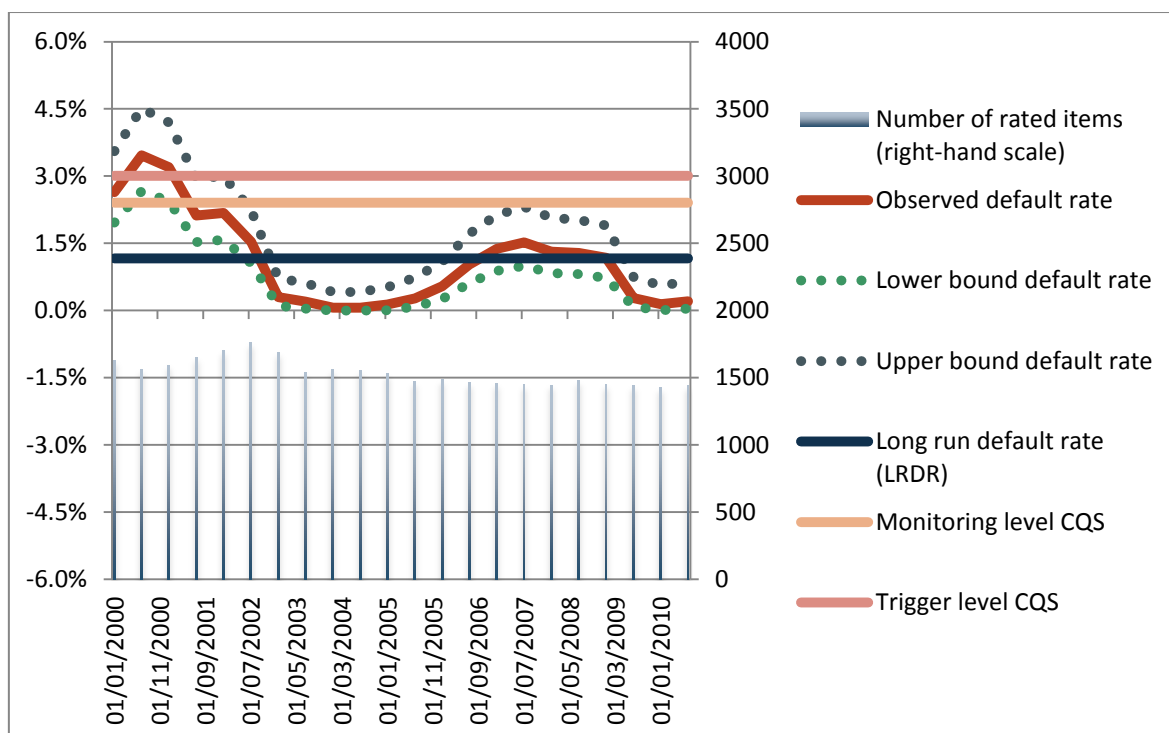
Source: Joint Committee calculations based on CERP data

Figure 14: Short-run and long-run observed default rates of A rating category



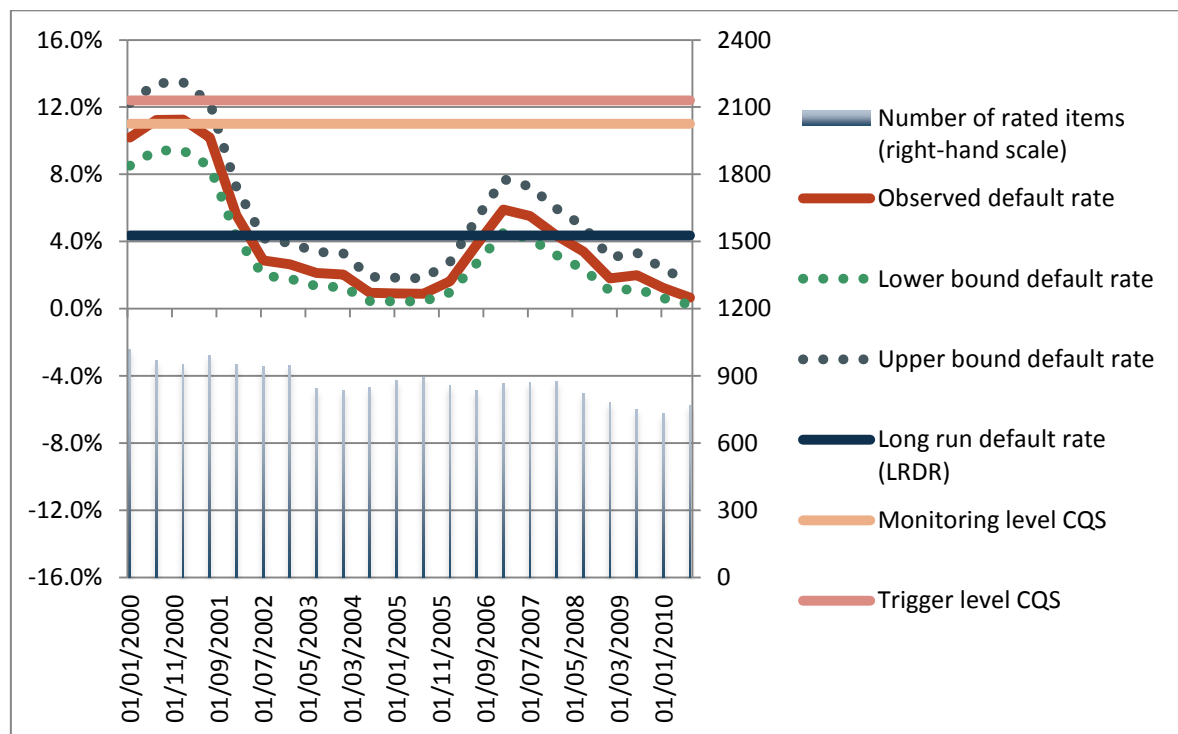
Source: Joint Committee calculations based on CERP data

Figure 15: Short-run and long-run observed default rates of BBB rating category



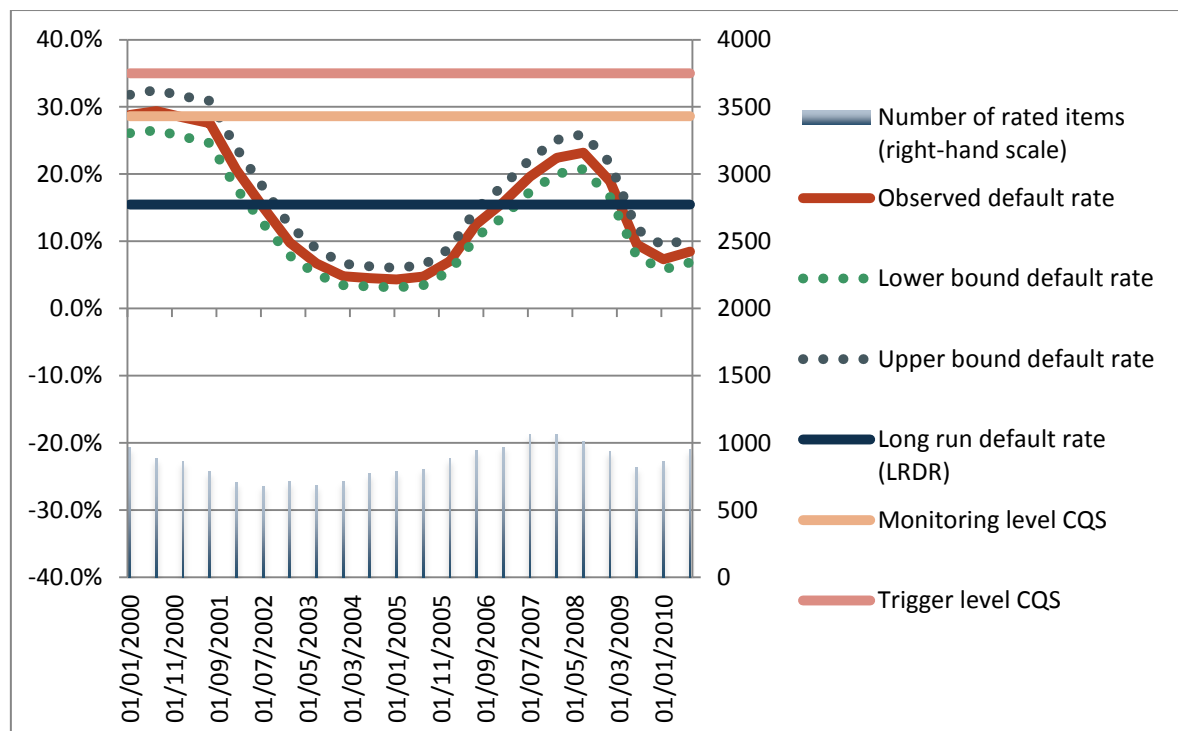
Source: Joint Committee calculations based on CERP data

Figure 16: Short-run and long-run observed default rates of BB rating category



Source: Joint Committee calculations based on CERP data

Figure 17: Short-run and long-run observed default rates of B rating category



Source: Joint Committee calculations based on CERP data

Figure 18: Mapping proposal for rating categories with a non-sufficient number of credit ratings

2001 - 2005	AAA/AA
CQS of equivalent international rating category	CQS 1
N. observed defaulted items	0
Minimum N. rated items	496
Observed N. rated items	7885
Mapping proposal	CQS1

2006 - 2010	AAA/AA
CQS of equivalent international rating category	CQS 1
N. observed defaulted items	22
Minimum N. rated items	n.a.
Observed N. rated items	6,781
Mapping proposal	CQS2

Source: Joint Committee calculations based on CERP data

Figure 19: Transition matrix

3-year transition matrices, 10-year average (2000 - 2013)

Rating end period	AAA	AA	A	BBB	BB	B	CCC-C	R,SD,D
Rating start period								
AAA	56.0	34.9	6.4	1.0	0.2	0.2	1.1	0.2
AA	0.9	67.6	27.5	3.1	0.6	0.2	0.1	0.0
A	0.0	4.7	80.3	13.0	1.3	0.4	0.1	0.1
BBB	0.0	0.3	10.7	77.5	8.3	2.3	0.4	0.5
BB	0.0	0.1	0.8	15.6	62.9	16.9	2.1	1.6
B	0.0	0.0	0.2	1.4	18.7	67.9	9.2	2.7
CCC-C	0.0	0.0	0.1	0.9	5.3	49.6	33.9	10.1

Source: Joint Committee analysis based on CEREP data. Only items rated both at the beginning and at the end of the time horizon have been considered in the calculation.

1-year transition matrices, 12-year average (2000 - 2013)

Rating end period	AAA	AA	A	BBB	BB	B	CCC-C	R,SD,D
Rating start period								
AAA	82.3	16.5	0.8	0.1	0.1	0.2	0.1	0.0
AA	0.4	86.8	11.9	0.8	0.0	0.0	0.0	0.0
A	0.0	2.0	92.0	5.5	0.4	0.1	0.1	0.1
BBB	0.0	0.1	3.8	91.3	4.0	0.6	0.2	0.2
BB	0.0	0.1	0.1	5.7	84.6	8.1	0.8	0.6
B	0.0	0.0	0.1	0.2	6.8	84.7	6.2	2.1
CCC-C	0.0	0.0	0.2	0.1	0.7	22.6	66.0	10.5

Source: Joint Committee analysis based on CEREP data. Only items rated both at the beginning and at the end of the time horizon have been considered in the calculation.

Appendix 4: Mappings of each rating scale

Figure 20: Mapping of S&P's Long-term issuer credit ratings scale

Credit assessment	Initial mapping based on LR DR (CQS)	Review based on SR DR (CQS)	Final review based on qualitative factors (CQS)	Main reason for the mapping
AAA	n.a.	n.a.	1	Quantitative evidence is not clear. The meaning, relative position and time horizon of the rating category are representative of the final CQS.
AA	n.a.	n.a.	1	
A	2	2	2	The quantitative factors are representative of the final CQS.
BBB	3	3	3	The quantitative factors are representative of the final CQS.
BB	4	4	4	The quantitative factors are representative of the final CQS.
B	5	5	5	The quantitative factors are representative of the final CQS.
CCC	6	6	6	The quantitative factors are representative of the final CQS.
CC	6	6	6	The quantitative factors are representative of the final CQS.
R	n.a.	n.a.	6	The meaning and relative position of the rating category is representative of the final CQS.
SD/D	n.a.	n.a.	6	The meaning and relative position of the rating category is representative of the final CQS.

Figure 21: Mapping of S&P's Short-term issuer credit ratings scale

Credit assessment	Corresponding Long-term issuer credit ratings scale assessment (established by S&P)	Range of CQS of corresponding Long-term issuer credit ratings scale	Final review based on qualitative factors (CQS)	Main reason for the mapping
A-1+	AAA/AA	1	1	The final CQS has been determined based on the most frequent step associated with the corresponding long-term credit rating category.
A-1	A	2	2	The final CQS has been determined based on the most frequent step associated with the corresponding long-term credit rating category.
A-2	A/BBB	2 - 3	3	The final CQS has been determined based on the most frequent step associated with the corresponding long-term credit rating category. As there is a draw between CQS 2 and 3, the most conservative CQS has been considered.
A-3	BBB/BB+	3 - 4	3	The final CQS has been determined based on the most frequent step associated with the corresponding long-term credit rating category.
B	BB+/CCC	4 - 6	4	The final CQS has been determined based on the range of steps associated with the corresponding long-term credit rating category. The risk weights assigned to CQS 4 to 6 are all 150%, therefore CQS 4.
C	B/CC	5 - 6	4	The final CQS has been determined based on the range of steps associated with the corresponding long-term credit rating category. The risk weights assigned to CQS 4 to 6 are all 150%, therefore CQS 4.
R	R	6	4	The final CQS has been determined based on the range of steps associated with the corresponding long-term credit rating category. The risk weights assigned to CQS 4 to 6 are all 150%, therefore CQS 4.
SD/D	SD/D	6	4	The final CQS has been determined based on the range of steps associated with the corresponding long-term credit rating category. The risk weights assigned to CQS 4

to 6 are all 150%, therefore CQS 4.

Figure 22: Mapping of S&P's Long-term issue credit ratings scale

Credit assessment	Corresponding Long-term issuer credit ratings scale assessment (assessed by JC)	Range of CQS of corresponding Long-term issuer credit ratings scale	Final review based on qualitative factors (CQS)	Main reason for the mapping
AAA	AAA	1	1	The final CQS has been determined based on the most frequent step associated with the corresponding long-term credit rating category.
AA	AA	1	1	
A	A	2	2	
BBB	BBB	3	3	
BB	BB	4	4	
B	B	5	5	
CCC	CCC	6	6	
CC	CC	6	6	
C	CC	6	6	
D	SD/D	6	6	

Figure 23: Mapping of S&P's Short-term issue credit ratings scale

Credit assessment	Corresponding Short-term issuer credit ratings scale assessment (assessed by JC)	Range of CQS of corresponding Short-term issuer credit ratings scale	Final review <i>based on qualitative factors</i> (CQS)	Main reason for the mapping
A-1+	A-1+	1	1	The final CQS has been determined based on the most frequent step associated with the corresponding short-term credit rating category.
A-1	A-1	2	2	
A-2	A-2	3	3	
A-3	A-3	3	3	
B	B	4	4	
C	C	4	4	
D	R, SD/D	4	4	

Figure 24: Mapping of S&P's Insurer financial strength ratings scale

Credit assessment	Corresponding Long-term issuer credit ratings scale assessment (assessed by JC)	Range of CQS of corresponding Long-term issuer credit ratings scale	Final review based on qualitative factors (CQS)	Main reason for the mapping
AAA	AAA	1	1	The final CQS has been determined based on the most frequent step associated with the corresponding long-term credit rating category.
AA	AA	1	1	
A	A	2	2	
BBB	BBB	3	3	
BB	BB	4	4	
B	B	5	5	
CCC	CCC	6	6	
CC	CC	6	6	
SD/D	SD/D	6	6	
R	R	6	6	

Figure 25: Mapping of S&P's Fund credit quality ratings scale

Credit assessment	Corresponding Long-term issuer credit ratings scale assessment (assessed by JC)	Range of CQS of corresponding Long-term issuer credit ratings scale	Final review based on qualitative factors (CQS)	Main reason for the mapping
AAAf	AAA	1	1	The final CQS has been determined based on the most frequent step associated with the corresponding long-term credit rating category.
AAf	AA	1	1	
Af	A	2	2	
BBBf	BBB	3	3	
BBf	BB	4	4	
Bf	B	5	5	
CCCf	CCC/CC	6	6	

Figure 26: Mapping of S&P's Mid Market Evaluation rating scale

Credit assessment	Corresponding Long-term issuer credit ratings scale assessment (assessed by JC)	Range of CQS of corresponding Long-term issuer credit ratings scale	Final review <i>based on qualitative factors</i> (CQS)	Main reason for the mapping
MM1	AAA/AA/A	2	2	The final CQS has been determined based on the most frequent step associated with the corresponding long-term credit rating category.
MM2	BBB	3	3	
MM3	BB	4	4	
MM4	BB	4	4	
MM5	B	5	5	
MM6	B	5	5	
MM7	CCC	6	6	
MM8	CC	6	6	
MMD	SD/D	6	6	