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Amended Draft Mapping of DBRS credit assessments under the Standardised Approach

1. Executive summary

1. This report describes the mapping exercise carried out by the Joint Committee (JC) to propose an amended ‘mapping’¹ report of the credit assessments of DBRS Ratings (DBRS), with respect to the version published on 11 November 2015. The resulting mapping tables have remained unchanged with respect to the afore-mentioned version.
2. The methodology applied to produce the mapping is the one specified in the Commission Implementing Regulation (EU) 2016/1799 of 7 October 2016 (the Implementing Regulation)² laying down implementing technical standards with regard to the mapping of credit assessments of external credit assessment institutions for credit risk in accordance with Articles 136(1) and 136(3) of Regulation (EU) No 575/2013 of the European Parliament and of the Council (Capital Requirements Regulation – CRR). This Implementing Regulation employs a combination of the provisions laid down in Article 136(2) of the CRR.
3. The information base used to produce this mapping report reflects additional quantitative information collected after the submission of the draft Implementing Technical Standards by the JC to the European Commission. Regarding qualitative developments, the qualitative factors described in the Implementing Regulation remain unchanged while two new rating scales have been introduced (the Credit Fund Rating Scale and the Expected Loss Rating Scale), the Claims Paying Ability Rating Scale has been replaced by the Financial Strength Rating Scale and additional credit rating types have been introduced: the long-term and short-term Deposit Ratings and the long-term and short-term Critical Obligation Ratings. However, the Credit Fund Rating Scale and the Expected Loss Rating Scale are not in the scope of the mapping, as these credit assessment types are not considered as valid credit ratings under the Regulation (EC) No 1060/2009 (Credit Rating Agencies Regulation – CRA).

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 OJ L 275, 12.10.2016, p. 3-18

4. 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 entity³ nor should be understood as a comparison of the rating methodologies of DBRS with those of other ECAs. This mapping should however be interpreted as the correspondence of the rating categories of DBRS with a regulatory scale which has been defined for prudential purposes.
5. As described in Recital 12 of the Implementing Regulation, it is necessary to avoid causing undue material disadvantage on those ECAs which, due to their more recent entrance in the market, present limited quantitative information, with the view to balancing prudential with market concerns. Updates to the mapping should be made wherever this becomes necessary to reflect quantitative information collected after the entry into force of the Implementing Regulation.
6. The resulting mapping tables have been specified in Annex III of the revised draft ITS on the mapping of ECAs' 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 DBRS, the Long-term obligations rating scale.

Figure 1: Mapping of DBRS's Long-term obligations rating scale

| Credit assessment | Credit quality step |
|----------------------|---------------------|
| AAA | 1 |
| AA | 1 |
| A | 2 |
| BBB | 3 |
| BB | 4 |
| B | 5 |
| CCC | 6 |
| CC | 6 |
| C | 6 |
| D | 6 |

³ In this regard, please consider https://www.esma.europa.eu/sites/default/files/library/esma_2015-1473_report_on_the_possibility_of_establishing_one_or_more_mapping.pdf.

2. Introduction

7. This report describes the mapping exercise carried out by the JC to propose an amended 'mapping' report of the credit assessments of DBRS Ratings (DBRS), with respect to the version published on 11 November 2015.
8. DBRS has been registered with ESMA since 31 October 2011 in the UK and therefore meets the conditions to be an eligible credit assessment institution (ECAI)⁴. Further, a registration in Germany on 14 December 2018 took place, maintaining the same scope and methodology for credit assessments.
9. The methodology applied to produce the mapping is the one specified in the Implementing Regulation. This Implementing Regulation employs a combination of the provisions laid down in Article 136(2) of the CRR. The information base used to produce this mapping report reflects additional quantitative information collected after the submission of the draft Implementing Technical Standards by the JC to the European Commission. Regarding qualitative developments, the qualitative factors described in the Implementing Regulation remain unchanged while two new rating scales have been introduced (the Credit Fund Rating Scale and the Expected Loss Rating Scale), the Claims Paying Ability Rating Scale has been replaced by the Financial Strength Rating Scale and additional credit rating types have been introduced: the long-term and short-term Deposit Ratings and the long-term and short-term Critical Obligation Ratings. The quantitative information is drawn from data available in the ESMA's central repository (CEREP⁵) based on the credit rating information submitted by the ECAIs as part of their reporting obligations.
10. 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 DBRS for the purpose of the mapping. Section 4 contains the methodology applied to derive the mapping of DBRS' 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.

⁴ It is important to note that the mapping does not contain any assessment of the registration process of DBRS carried out by ESMA.

⁵ <https://cerrep.esma.europa.eu/cerep-web/>

3. DBRS credit ratings and rating scales

11. DBRS 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)⁶:

- **Long-term issue/security rating** - ratings on individual securities or classes of securities for a specific issuer include consideration for security or ranking. Ratings that apply to actual securities (secured or unsecured) may be higher, lower or equal to the issuer rating for a given entity.
- **Long-term issuer rating** – issuer rating addresses the overall credit strength of the issuer. Unlike ratings on individual securities or classes of securities, issuer ratings are based on the entity itself and do not include consideration for security or ranking.
- **Long-term Deposit Ratings** – DBRS’s deposit ratings refers to wholesale or institutional deposits not covered by any deposit guarantees, and they are currently rated in line with senior debt. Given recent changes in legislation and regulation in some countries, DBRS continues to examine in each jurisdiction whether wholesale deposits benefit from sufficient preference and “seniority” to be rated higher than senior debt..
- **Long-term Critical Obligation Ratings** - risk of default of particular obligations/ exposures at certain banks that have a higher probability of being excluded from bail-in and remaining in a continuing bank in the event of the resolution of a troubled bank than other senior unsecured obligations.
- **Insurer Financial Strength rating** - gives an indication of the risk that a borrower will not fulfil its full obligations in a timely manner. Claims paying ratings measure the capacity of an insurance company to pay its policyholder claims as they fall due. The rating for claims paying ability is the highest rating for an insurance company, since claims paying ranks ahead of all debt.
- **Short-term issue/security rating** - ratings on individual securities or classes of securities for a specific issuer include consideration for security or ranking. Ratings that apply to actual securities (secured or unsecured) may be higher, lower or equal to the issuer rating for a given entity
- **Short-term issuer rating** – reflects the issuer’s overall creditworthiness over a short-time horizon.

⁶ As explained in recital 4 of the ITS 2016/1799, 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.

- **Short-term Deposit Ratings** – the same definition of long-term deposit ratings apply but over a short-term horizon.
- **Short-term Critical Obligation Ratings** - the same definition of long-term deposit ratings apply but over a short-term horizon.

12. DBRS'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 obligations rating scale.** The specification of this rating scale is described in Figure 3 of Appendix 1.
- **Commercial paper and short-term debt rating scale.** The specification of this rating scale is described in Figure 4 of Appendix 1.
- **Financial Strength Rating Scale.** The specification of this rating scale is described in Figure 5 of Appendix 1.

13. The mapping of the Long-term obligations rating scale is explained in Section 4 and it has been derived in accordance with the quantitative factors, qualitative factors and benchmarks specified in the Implementing Regulation.

14. The mapping of the Commercial paper and short-term debt rating scale is explained in Section 5 and it has been indirectly derived from the mapping of the Long-term obligations rating scale and the internal relationship established by DBRS between these two scales (Figure 6 of Appendix 1), as per Article 13 Implementing Regulation.

15. The indirect mapping approach described in the previous paragraph has also been applied in the case of the remaining rating scales, as explained in Section 6. In this case, however, the relationship with the Long-term obligations rating 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 DBRS's Long-term obligations rating scale

16. The mapping of the Long-term obligations rating 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.

17. In the first stage, the quantitative factors referred to in Article 1 of the Implementing Regulation 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 Implementing Regulation.

- The *short run default rates* of a rating category have been compared with the benchmarks specified in point (b) of Article 14 of the Implementing Regulation, which represent the maximum expected deviation of a default rate from its long-term value within a CQS.

18. In a second stage, the qualitative factors proposed in Article 7 of the Implementing Regulation 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

19. This mapping report reflects additional quantitative information collected after the submission of the draft ITS by the JC to the Commission.

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

20. 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 2015, based on the information contained in CEREP and according to the provisions laid down in the Implementing Regulation. The following aspects should be highlighted:

- For AAA/AA and A rating categories, the number of credit ratings cannot be considered to be sufficient for the calculation of the short run and long run default rates specified in Articles 3 – 5 of the Implementing Regulation, as it was the case in the mapping report published in November 2015. Therefore the allocation of the CQS has been made in accordance with Article 6 of the Implementing Regulation, as shown in Figure 11 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. Similarly for rating categories CCC, CC and C.
- For D rating category, no calculation of default rates has been made since it already reflects 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 Implementing Regulation. The result of the calculation of the short run and long run default rates for each rating category is shown in Figure 7 of Appendix 3.

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

22. The default definition applied by DBRS, 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

23. As illustrated in the second column of Figure 12 in Appendix 4, the rating categories BBB/BB/B of the long-term obligations rating scale of DBRS have been initially allocated to each CQS based

on the comparison of the long run default rates (see Figure 7 in Appendix 3) and the long run default rate benchmark intervals established in point (a) of Article 14 of the Implementing Regulation. Rating categories BBB, BB and B remain assigned to CQS 3, 4 and 5 respectively.

24. In the case of rating categories AAA/AA and A, where the number of credit ratings cannot be considered to be sufficient, this comparison has been made according to Article 6 of the Implementing Regulation. The results are shown in Figure 11 of Appendix 3.

- Rating categories AAA/AA: the first data cohort suggests assignment to CQS1 while the second data cohort points to CQS 2. This is in line with the analysis performed in the mapping report published in November 2015. The additional quantitative information collected since the mapping was produced does not register any default and suggests mapping to CQS 1. This reinforces the mapping to CQS1 assigned in the mapping report published in November 2015.
- Rating category A: similarly to rating categories AAA/AA, the additional quantitative information collected since the mapping was produced does not register any default and reinforces the mapping to CQS2.
- Rating categories CCC/CC/C: the analysis is consistent with allocation to CQS6.

4.1.3. Reviewed mapping based on the short run default rates

25. The short run default rates of rating categories BBB to B have been compared with the short run default rate benchmark values established in point (b) of Article 14 of the Implementing Regulation⁷.

26. 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 Implementing Regulation.

27. The additional short-run default rates collected after the mapping published in November 2015 was produced do not breach their respective monitoring nor the trigger levels, see Figures 10 to 12 in Appendix 3.

4.2. Final mapping after review of the qualitative factors

28. The qualitative factors specified in Article 7 of the Implementing Regulation have been used to challenge the mapping proposed by the default rate calculation.

⁷ For AAA, AA and A 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 CQS6.

29. DBRS has not registered any change in the quantitative factors since the draft Implementing Technical Standards were submitted by the JC to the Commission. Therefore the qualitative considerations remain unchanged with respect to the original mapping report, which means that the meaning and relative position of the credit assessments is the only qualitative factor that suggests an adjustment of the mapping proposal resulting from the quantitative factors. In particular, the meaning and relative position of rating categories AAA/AA and A are in line with CQS 1 and CQS 2, respectively. In the case of rating category D, its meaning is consistent with the one of CQS 6 stated in Annex II of the Implementing Regulation.

5. Mapping of DBRS Commercial paper and short-term debt rating scale

30. DBRS also produces short-term ratings and assigns them to the Commercial paper and short-term debt rating scale (see Figure 4 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 DBRS between these two rating scales (described in Figure 6 of Appendix 1) has been used to derive the mapping of the Commercial paper and short-term debt rating scale. This should ensure the consistency of the mappings proposed for DBRS.

31. More specifically, as each short-term rating can be associated with a range of long-term ratings, the CQS assigned to each short-term rating category has been determined based on the most frequent CQS assigned to the related long-term 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.

32. The result is shown in Figure 15 of Appendix 4:

- **R-1 H.** This rating category indicates the highest credit quality. It is internally mapped to long-term categories AAA and AA(H) and exceptionally to AA, all of them mapped to CQS 1. Therefore, CQS 1 is the proposed mapping.
- **R-1 M.** This rating category indicates superior credit quality. It is internally mapped to long-term categories AA and AA(L), which are mapped to CQS 1, and only exceptionally to upper A category, which is mapped to CQS 2. Therefore, CQS 1 is the proposed mapping.
- **R-1 L.** This rating category indicates good credit quality. It is internally mapped to long-term categories A, which is mapped to CQS 2, and only exceptionally to lower AA category, which is mapped to CQS 1, and upper level of BBB category, which is mapped to CQS 3. Therefore, CQS 2 is the proposed mapping.
- **R-2 H.** This rating category indicates upper end of adequate credit quality. It is internally mapped to long-term upper BBB, which is mapped to CQS 3, and exceptionally to categories

lower A and BBB, which are mapped to CQS 2 and CQS 3 respectively. Therefore, CQS 3 is the proposed mapping.

- **R-2 M.** This rating category indicates adequate credit quality. It is internally mapped to BBB and exceptionally lower BBB, both of them mapped to CQS 3. Therefore, CQS 3 is the proposed mapping.
- **R-2 L.** This rating category indicates lower end of adequate credit quality. It is internally mapped to lower BBB mapped to CQS 3. Therefore, CQS 3 is the proposed mapping.
- **R-3.** This rating category indicates the lowest end of adequate credit quality. The category is internally mapped to long-term categories BBB (low) and only exceptionally to BB (high), which are mapped to CQS 3 and 4 respectively. Therefore, CQS 3 is the proposed mapping.
- **R-4.** This rating category indicates speculative credit quality. The category is internally mapped to long-term categories from upper BB to B high and exceptionally to B, which are mapped to CQS 4 and 5 respectively. 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 R-4 rating category is CQS 4.
- **R-5.** This rating category indicates highly speculative credit quality. The category is internally mapped to long-term categories B to C categories, which are mapped to CQS 5 and 6 respectively. 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 R-5 rating category is CQS 4.
- **D.** This rating category indicates payment default, consistent with CQS 6. In addition, it is internally mapped to long-term categories D, which is mapped 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 D rating category is CQS 4.

6. Mapping of other DBRS credit rating scales

33.As mentioned in Section 3, DBRS produces a number of additional credit ratings that are assigned to different credit rating scales. However, the Credit Fund Rating Scale and the Expected Loss Rating Scale are not in the scope of the mapping, as these credit assessment types are not considered as valid credit ratings under the Regulation (EC) No 1060/2009 (Credit Rating Agencies Regulation - CRA).

34.Based on the methodology described in the previous section, the mapping of the Financial strength rating scale has been derived from the relationship established by the JC with the Long-term obligations rating scale. More specifically, as each rating can be associated with one or a range of long-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. Results are shown in Figure 16 of Appendix 4.

- **Financial strength rating scale** (see Figure 5 in Appendix 1). The rating categories can be considered comparable to those of the long-term issuer ratings scale. Therefore the mapping of each rating category has been derived from its meaning, relative position and the mapping of the corresponding categories of the long-term issuer rating scale. The resulting mapping of this scale is shown in Figure 16 of Appendix 4.

Appendix 1: Credit ratings and rating scales

Figure 2: DBRS'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 issue/security rating | Long-term obligations rating scale |
| | Long-term Issuer rating | Long-term obligations rating scale |
| Regional and local governments and PSEs | Long-term issue/security rating | Long-term obligations rating scale |
| | Long-term Issuer rating | Long-term obligations rating scale |
| Institutions | Long-term issue/security rating | Long-term obligations rating scale |
| | Long-term Issuer rating | Long-term obligations rating scale |
| | Long-term deposit ratings | Long-term obligations rating scale |
| | Long-term critical obligation ratings | Long-term obligations rating scale |
| Corporates | Long-term issue/security rating | Long-term obligations rating scale |
| | Long-term Issuer rating | Long-term obligations rating scale |
| | Insurer financial strength | Financial strength rating scale |
| Covered bonds | Long-term issue/security rating | Long-term obligations rating scale |
| Short-term ratings | | |
| Central governments/ Central banks | Short-term issue/security rating | Commercial paper and short-term debt rating scale |

| SA exposure classes | Name of credit rating | Credit rating scale |
|---|--|---|
| | Short-term issuer rating | Commercial paper and short-term debt rating scale |
| Regional and local governments and PSEs | Short-term issue/security rating | Commercial paper and short-term debt rating scale |
| | Short-term Issuer rating | Commercial paper and short-term debt rating scale |
| Institutions | Short-term issue/security rating | Commercial paper and short-term debt rating scale |
| | Short-term Issuer rating | Commercial paper and short-term debt rating scale |
| | Short-term deposit ratings | Commercial paper and short-term debt rating scale |
| | Short-term critical obligation ratings | Commercial paper and short-term debt rating scale |
| Corporates | Short-term issue/security rating | Commercial paper and short-term debt rating scale |
| | Short-term Issuer rating | Commercial paper and short-term debt rating scale |

Source: DBRS

Figure 3: Long-term obligations rating scale

| Credit assessment | Meaning of the credit assessment |
|-------------------|--|
| AAA | Highest credit quality. The capacity for the payment of financial obligations is exceptionally high and unlikely to be adversely affected by future events. |
| AA | Superior credit quality. The capacity for the payment of financial obligations is considered high. Credit quality differs from AAA only to a small degree. Unlikely to be significantly vulnerable to future events. |
| A | Good credit quality. The capacity for the payment of financial obligations is substantial, but of lesser credit quality than AA. May be vulnerable to future events, but qualifying negative factors are considered manageable. |
| BBB | Adequate credit quality. The capacity for the payment of financial obligations is considered acceptable. May be vulnerable to future events. |
| BB | Speculative, non-investment grade credit quality. The capacity for the payment of financial obligations is uncertain. Vulnerable to future events. |
| B | Highly speculative credit quality. There is a high level of uncertainty as to the capacity to meet financial obligations. |
| CCC | Very highly speculative credit quality. In danger of defaulting on financial obligations. There is little difference between these three categories, although CC and C ratings are normally applied to obligations that are seen as highly likely to default, or subordinated to obligations rated in the CCC to B range. Obligations in respect of which default has not technically taken place but is considered inevitable may be rated in the C category. |
| CC | |
| C | |
| D | When the issuer has filed under any applicable bankruptcy, insolvency or winding up statute or there is a failure to satisfy an obligation after the exhaustion of grace periods, a downgrade to D may occur. DBRS may also use SD (Selective Default) in cases where only some securities are impacted, such as the case of a “distressed exchange”. See Default Definition for more information. |

Source: DBRS

Figure 4: Commercial paper and short-term debt rating scale

| Credit assessment | Meaning of the credit assessment |
|-------------------|--|
| R-1 H | Highest credit quality. The capacity for the payment of short-term financial obligations as they fall due is exceptionally high. Unlikely to be adversely affected by future events. |
| R-1 M | Superior credit quality. The capacity for the payment of short-term financial obligations as they fall due is very high. Differs from R-1 (high) by a relatively modest degree. Unlikely to be significantly vulnerable to future events. |
| R-1 L | Good credit quality. The capacity for the payment of short-term financial obligations as they fall due is substantial. Overall strength is not as favourable as higher rating categories. May be vulnerable to future events, but qualifying negative factors are considered manageable. |
| R-2 H | Upper end of adequate credit quality. The capacity for the payment of short-term financial obligations as they fall due is acceptable. May be vulnerable to future events. |
| R-2 M | Adequate credit quality. The capacity for the payment of short-term financial obligations as they fall due is acceptable. May be vulnerable to future events or may be exposed to other factors that could reduce credit quality. |
| R-2 L | Lower end of adequate credit quality. The capacity for the payment of short-term financial obligations as they fall due is acceptable. May be vulnerable to future events. A number of challenges are present that could affect the issuer's ability to meet such obligations. |
| R-3 | Lowest end of adequate credit quality. There is a capacity for the payment of short-term financial obligations as they fall due. May be vulnerable to future events and the certainty of meeting such obligations could be impacted by a variety of developments. |
| R-4 | Speculative credit quality. The capacity for the payment of short-term financial obligations as they fall due is uncertain. |
| R-5 | Highly speculative credit quality. There is a high level of uncertainty as to the capacity to meet short-term financial obligations as they fall due. |
| D | When the issuer has filed under any applicable bankruptcy, insolvency or winding up statute or there is a failure to satisfy an obligation after the exhaustion of grace periods, a downgrade to D may occur. DBRS may also use SD (Selective Default) in cases where only some securities are impacted, such as the case of a "distressed exchange". See Default Definition for more information. |

Source: DBRS

Figure 5: Financial Strength Rating Scale

| Credit assessment | Meaning of the credit assessment |
|-------------------|--|
| AAA | Exceptional financial strength. The insurer's capacity for the payment of policyholder and contract obligations is considered exceptionally strong and unlikely to be undermined by adverse business and economic conditions. |
| AA | Excellent financial strength. The insurer's capacity for the payment of policyholder and contract obligations is considered excellent. Financial strength differs from AAA only to a small degree. Unlikely to be significantly vulnerable to adverse business and economic conditions. |
| A | Good financial strength. The insurer's capacity for the payment of policyholder and contract obligations is substantial, but of lesser financial strength than AA. May be vulnerable to adverse business and economic conditions, but qualifying negative factors are considered manageable. |
| BBB | Adequate financial strength. The insurer's capacity for the payment of policyholder and contract obligations is considered acceptable. May be vulnerable to adverse business or economic conditions. |
| BB | Weak financial strength. The insurer's capacity for the payment of policyholder and contract obligations is uncertain over the long term. Vulnerable to adverse business or economic conditions. |
| B | Very weak financial strength. There is a high level of uncertainty as to the capacity of the insurer to meet policyholder and contract obligations. |
| CCC/CC/C | Exceptionally weak financial strength. There is a very high level of uncertainty in the insurer's capacity to meet policyholder and contract obligations. The risk of the insurer failing to pay policyholder and contract obligations is significantly elevated. There is little difference between these three categories. The CC and C ratings carry greater degrees of risk than CCC ratings, and insurers with such ratings are seen as highly likely to be unable to meet their policy obligations. Insurers that face inevitable default or risk being put under regulatory control may be rated in the C category. |
| R | Regulatory supervision. The insurer is under the supervision of a regulator and a resolution to determine its future is pending. In these situations, the company may be rescued through a sale to another insurer; it may become bankrupt, insolvent or subject to a winding-up statute; or it may be liquidated or put into run-off. |

Source: DBRS

Figure 6: Internal relationship between DBRS' long-term and short-term ratings scales

| Long-term obligations ratings scale | Commercial paper and short-term debt rating scale | | | | | | | | | |
|-------------------------------------|---|-------|-------|-------|-------|-------|-----|-----|--|---|
| AAA | R-1 H | | | | | | | | | |
| AA (high) | | | | | | | | | | |
| AA | | R-1 M | | | | | | | | |
| AA (low) | | | | | | | | | | |
| A (high) | | | | | | | | | | |
| A | | | R-1 L | | | | | | | |
| A (low) | | | | | | | | | | |
| BBB (high) | | | | R-2 H | | | | | | |
| BBB | | | | | R-2 M | | | | | |
| BBB (low) | | | | | | R-2 L | R-3 | | | |
| BB (high) | | | | | | | | | | |
| BB | | | | | | | | R-4 | | |
| BB (low) | | | | | | | | | | |
| B (high) | | | | | | | | | | |
| B | | | | | | | | | | |
| B (low) | | | | | | | | | | |
| CCC | | | | | | | | | | |
| CC | | | | | | | | | | |
| C | | | | | | | | | | |
| D | | | | | | | | | | D |

Source: DBRS

Appendix 2: Definition of default

According to DBRS, default rating status is represented by either ‘D’ (“default”) or ‘SD’ (“selective default”) on DBRS rating scales, depending on the nature of the situation.

A. Issuer and security ratings may all be moved to “D” when:

- 1) The issuer has filed under any applicable bankruptcy, insolvency or winding up statute.
- 2) There is failure to pay or satisfy an obligation (subject to applicable grace periods and/or waiver of such failure) in accordance with the underlying transaction documents and DBRS believes that this default will subsequently be general in nature and include all obligations.
- 3) Independent of the issuer rating, securities described as a Distressed Exchange are downgraded to D.
- 4) DBRS also reserves the right to move ratings to:
 - (a) Downgrade ratings to ‘D’ when it believes that a general default is imminent and unavoidable, although this is a less frequent and a more subjective decision.
 - (b) Discontinue – Withdraw ‘D’ ratings after 30 business days.

B. Issuer ratings may be moved to “SD” in the following circumstances:

- 1) The issuer has failed to satisfy an obligation on a debt issue but DBRS views this as being Selective in that the issuer is expected to continue to meet obligations in a timely manner on other securities and/or classes of securities. This case often relates to a Distressed Exchange. As noted in Section A., securities that qualify as a Distressed Exchange are downgraded to ‘D’. The latter occurs when an issuer makes an offer to exchange debt securities and either (a) and (b) both apply, or (c) applies:
 - (a) Terms of the exchange are disadvantageous to bondholders (typically either with respect to the value of the new security package or a change in the duration of maturity).
 - (b) Bondholders are being compelled to consent to an exchange because failure to do so would likely lead to the company’s inability to continue to make legally scheduled payments as agreed; as opposed to an offer that is purely opportunistic.
 - (c) A Distressed Exchange may also occur if the borrower repurchases a sizeable amount of bonds at a major discount, and DBRS views this as a means of debt restructuring. This would likely only apply to very low rated entities and the SD decision would not apply if it was clear that the focus of the repurchases reflected

considerations more related to the opportunity to benefit from changing term or interest rates and less related to the discount.

- 2) Issuer ratings that are classified as 'SD' may be reassessed in the future and a subsequent rating action may be taken.

C. Structured Finance Transactions:

- 1) For securitization transactions where assets are highly unlikely to repay future obligations, DBRS shall generally downgrade the security to 'C' until the legal maturity final date of such obligation.
- 2) For transactions where assets are structured and firewalled with a very high level of certainty to be bankruptcy remote (for example, a first mortgage on a property that will almost certainly result in an ongoing ability to keep payments current and fully repay principal), the Rating Committee shall have the discretion to deviate from the principle that on the occurrence of an insolvency event, all debt lines should be moved to 'D'.

D. Recovery Ratings:

Where an issuer rating is assigned default status, any related recovery rating is discontinued. For additional information on DBRS recovery ratings, see "DBRS Recovery Ratings for Non-Investment Grade Corporate Issuers".

E. Preferred Share Securities:

With respect to preferred share securities, the non-payment of a dividend is only a "default" if the non-payment constitutes default per the legal documents. As such, the non-payment of a dividend does not necessarily give rise to the assignment of a 'D' rating.

Source: DBRS

Appendix 3: Default rates of each rating category

Figure 7: Number of rated items

| Date | AAA | AA | A | BBB | BB | B | CCC-C |
|------------|-----|------|-------|-------|------|------|-------|
| 01/01/2000 | 4.0 | 33.5 | 91.5 | 56.0 | 10.0 | 2.5 | 1.0 |
| 01/07/2000 | 5.0 | 36.5 | 100.5 | 55.0 | 9.5 | 3.0 | 0.0 |
| 01/01/2001 | 6.0 | 40.5 | 100.0 | 60.5 | 11.0 | 2.5 | 0.0 |
| 01/07/2001 | 7.0 | 48.5 | 104.5 | 60.5 | 11.5 | 2.5 | 0.0 |
| 01/01/2002 | 7.5 | 46.0 | 96.0 | 68.5 | 12.5 | 3.0 | 0.0 |
| 01/07/2002 | 7.5 | 45.0 | 96.0 | 66.0 | 12.5 | 2.0 | 2.0 |
| 01/01/2003 | 8.0 | 43.0 | 96.0 | 65.0 | 12.5 | 2.0 | 1.0 |
| 01/07/2003 | 8.0 | 42.0 | 91.5 | 66.5 | 14.0 | 2.5 | 1.0 |
| 01/01/2004 | 7.5 | 37.5 | 96.0 | 68.5 | 19.5 | 4.5 | 1.0 |
| 01/07/2004 | 7.0 | 38.0 | 97.0 | 87.0 | 24.5 | 8.5 | . |
| 01/01/2005 | 6.0 | 42.5 | 115.0 | 101.0 | 31.0 | 10.5 | 1.0 |
| 01/07/2005 | 6.0 | 52.5 | 141.0 | 129.0 | 34.5 | 11.0 | 1.0 |
| 01/01/2006 | 6.0 | 61.5 | 160.0 | 147.5 | 37.5 | 13.5 | 1.0 |
| 01/07/2006 | 6.0 | 66.0 | 139.0 | 128.5 | 32.0 | 9.5 | 2.5 |
| 01/01/2007 | 6.0 | 72.5 | 139.5 | 131.5 | 29.5 | 11.0 | 2.5 |
| 01/07/2007 | 5.5 | 75.0 | 135.5 | 126.0 | 28.5 | 11.5 | 3.5 |
| 01/01/2008 | 3.0 | 76.5 | 131.5 | 117.0 | 29.0 | 12.0 | 4.5 |
| 01/07/2008 | 3.0 | 75.0 | 128.5 | 110.0 | 22.0 | 13.5 | 2.5 |
| 01/01/2009 | 4.0 | 71.0 | 124.5 | 108.5 | 20.0 | 7.5 | 9.5 |
| 01/07/2009 | 3.0 | 58.5 | 116.5 | 85.0 | 17.0 | 4.0 | 6.5 |
| 01/01/2010 | 3.5 | 58.0 | 120.5 | 86.5 | 14.0 | 6.0 | 4.0 |
| 01/07/2010 | 4.0 | 57.5 | 122.0 | 95.0 | 14.0 | 7.5 | 3.0 |
| 01/01/2011 | 2.0 | 55.0 | 125.0 | 96.0 | 20.0 | 4.5 | 2.0 |
| 01/07/2011 | 2.0 | 56.0 | 122.0 | 97.0 | 21.5 | 7.0 | 3.0 |
| 01/01/2012 | 1.5 | 54.5 | 118.5 | 91.5 | 23.5 | 9.0 | 3.0 |
| 01/07/2012 | 1.5 | 53.0 | 124.0 | 88.5 | 24.5 | 8.0 | 2.0 |
| 01/01/2013 | 1.5 | 55.5 | 131.5 | 91.5 | 24.0 | 10.5 | 1.0 |

Source: Joint Committee calculations based on CEREP data

Figure 8: Number of defaulted rated items

| Date | AAA | AA | A | BBB | BB | B | CCC-C |
|------------|-----|-----|-----|-----|-----|-----|-------|
| 01/01/2000 | 0.0 | 0.0 | 0.0 | 2.0 | 0.0 | 2.0 | 1.0 |
| 01/07/2000 | 0.0 | 0.0 | 0.0 | 3.0 | 0.0 | 2.0 | 0.0 |
| 01/01/2001 | 0.0 | 0.0 | 0.0 | 2.0 | 1.0 | 2.0 | 0.0 |
| 01/07/2001 | 0.0 | 0.0 | 0.0 | 3.0 | 1.0 | 2.0 | 0.0 |
| 01/01/2002 | 0.0 | 0.0 | 0.0 | 1.0 | 2.0 | 3.0 | 0.0 |
| 01/07/2002 | 0.0 | 0.0 | 0.0 | 0.0 | 1.0 | 2.0 | 2.0 |
| 01/01/2003 | 0.0 | 0.0 | 0.0 | 0.0 | 1.0 | 1.0 | 1.0 |
| 01/07/2003 | 0.0 | 0.0 | 0.0 | 0.0 | 1.0 | 0.0 | 1.0 |
| 01/01/2004 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.0 | 1.0 |
| 01/07/2004 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 01/01/2005 | 0.0 | 0.0 | 0.0 | 0.0 | 1.0 | 0.0 | 0.0 |
| 01/07/2005 | 0.0 | 0.0 | 0.0 | 1.0 | 1.0 | 1.0 | 0.0 |
| 01/01/2006 | 0.0 | 1.0 | 1.0 | 0.0 | 2.0 | 2.0 | 0.0 |
| 01/07/2006 | 0.0 | 1.0 | 0.0 | 2.0 | 5.0 | 3.0 | 2.0 |
| 01/01/2007 | 0.0 | 1.0 | 2.0 | 3.0 | 6.0 | 3.0 | 2.0 |
| 01/07/2007 | 0.0 | 1.0 | 3.0 | 2.0 | 4.0 | 4.0 | 3.0 |
| 01/01/2008 | 0.0 | 1.0 | 3.0 | 1.0 | 3.0 | 4.0 | 4.0 |
| 01/07/2008 | 0.0 | 1.0 | 2.0 | 1.0 | 1.0 | 5.0 | 1.0 |
| 01/01/2009 | 0.0 | 0.0 | 1.0 | 1.0 | 0.0 | 2.0 | 4.0 |
| 01/07/2009 | 0.0 | 0.0 | 0.0 | 0.0 | 2.0 | 0.0 | 3.0 |
| 01/01/2010 | 0.0 | 0.0 | 0.0 | 1.0 | 0.0 | 1.0 | 1.0 |
| 01/07/2010 | 0.0 | 0.0 | 1.0 | 1.0 | 0.0 | 0.0 | 2.0 |
| 01/01/2011 | 0.0 | 0.0 | 0.0 | 2.0 | 0.0 | 0.0 | 2.0 |
| 01/07/2011 | 0.0 | 0.0 | 0.0 | 1.0 | 0.0 | 0.0 | 3.0 |
| 01/01/2012 | 0.0 | 0.0 | 0.0 | 1.0 | 1.0 | 0.0 | 3.0 |
| 01/07/2012 | 0.0 | 0.0 | 0.0 | 1.0 | 0.0 | 1.0 | 2.0 |
| 01/01/2013 | 0.0 | 0.0 | 0.0 | 1.0 | 0.0 | 1.0 | 1.0 |

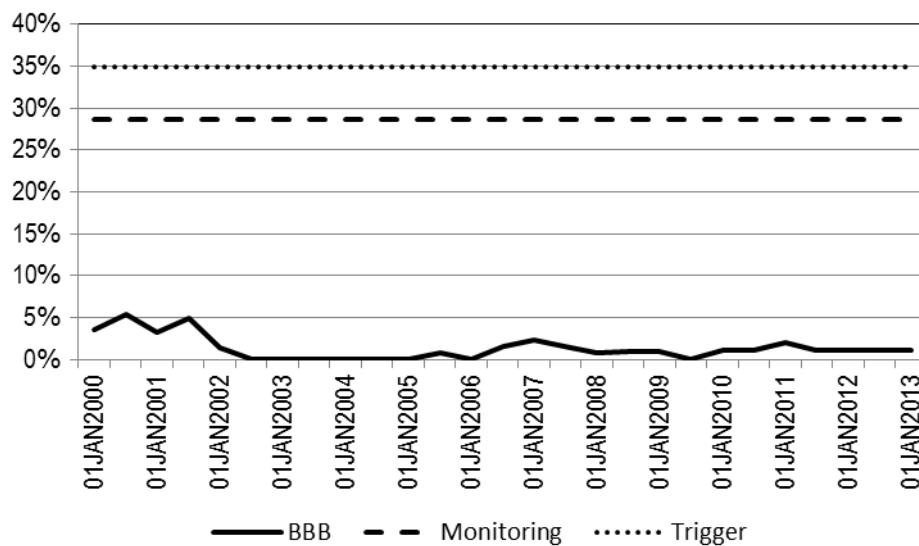
Source: Joint Committee calculations based on CEREP data

Figure 9: Short-run and long-run observed default rates

| Date | BBB | BB | B |
|-------------------------|--------------|--------------|---------------|
| 01/01/2000 | 3.57% | 0.00% | 80.00% |
| 01/07/2000 | 5.45% | 0.00% | 66.67% |
| 01/01/2001 | 3.31% | 9.09% | 80.00% |
| 01/07/2001 | 4.96% | 8.70% | 80.00% |
| 01/01/2002 | 1.46% | 16.00% | 100.00% |
| 01/07/2002 | 0.00% | 8.00% | 100.00% |
| 01/01/2003 | 0.00% | 8.00% | 50.00% |
| 01/07/2003 | 0.00% | 7.14% | 0.00% |
| 01/01/2004 | 0.00% | 0.00% | 22.22% |
| 01/07/2004 | 0.00% | 0.00% | 0.00% |
| 01/01/2005 | 0.00% | 3.23% | 0.00% |
| 01/07/2005 | 0.78% | 2.90% | 9.09% |
| 01/01/2006 | 0.00% | 5.33% | 14.81% |
| 01/07/2006 | 1.56% | 15.63% | 31.58% |
| 01/01/2007 | 2.28% | 20.34% | 27.27% |
| 01/07/2007 | 1.59% | 14.04% | 34.78% |
| 01/01/2008 | 0.85% | 10.34% | 33.33% |
| 01/07/2008 | 0.91% | 4.55% | 37.04% |
| 01/01/2009 | 0.92% | 0.00% | 26.67% |
| 01/07/2009 | 0.00% | 11.76% | 0.00% |
| 01/01/2010 | 1.16% | 0.00% | 16.67% |
| 01/07/2010 | 1.05% | 0.00% | 0.00% |
| 01/01/2011 | 2.08% | 0.00% | 0.00% |
| 01/07/2011 | 1.03% | 0.00% | 0.00% |
| 01/01/2012 | 1.09% | 4.26% | 0.00% |
| 01/07/2012 | 1.13% | 0.00% | 12.50% |
| 01/01/2013 | 1.09% | 0.00% | 9.52% |
| Weighted average | 1.21% | 5.89% | 22.16% |

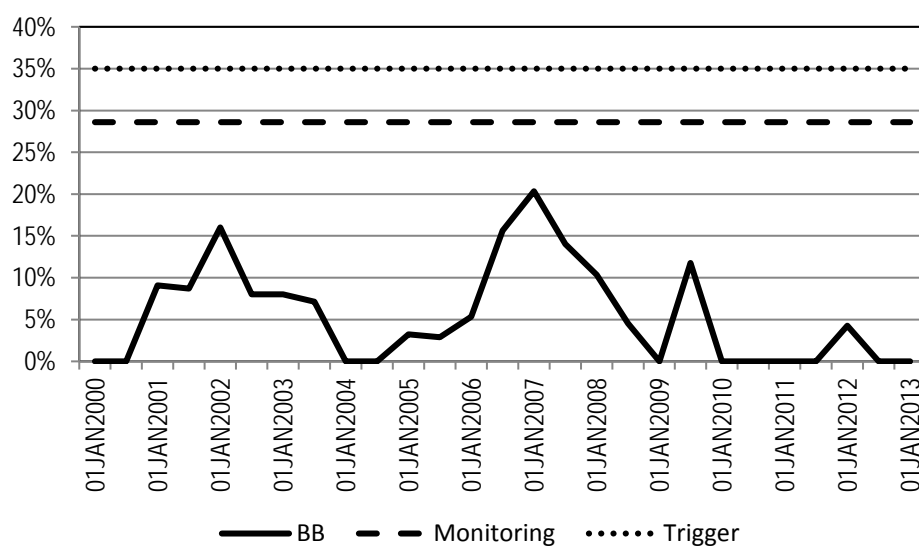
Source: Joint Committee calculations based on CERE data

Figure 10: Short-run and long-run observed default rates of BBB rating category



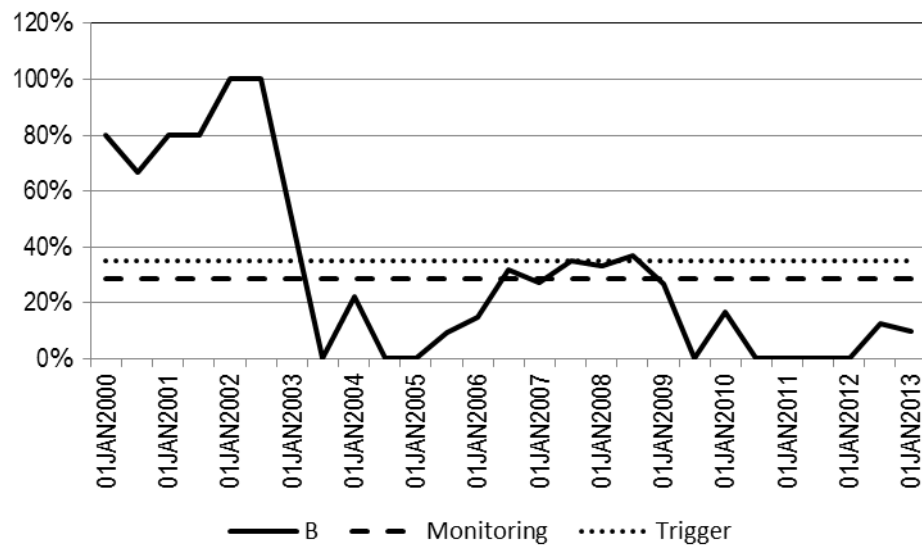
Source: Joint Committee calculations based on CERP data

Figure 11: Short-run and long-run observed default rates of BB rating category



Source: Joint Committee calculations based on CERP data

Figure 12: Short-run and long-run observed default rates of B rating category



Source: Joint Committee calculations based on CERP data

Figure 13: Mapping proposal for rating categories with a non-sufficient number of credit ratings

| 2000-2004 | AAA/AA | A | CCC/CC/C |
|---|--------|-------|----------|
| CQS of equivalent international rating category | CQS1 | CQS 2 | CQS 6 |
| N. observed defaulted items | 0 | 0 | 6 |
| Minimum N. rated items | 0 | 0 | n.a. |
| Observed N. rated items | 478.0 | 969.0 | 6.0 |
| Mapping proposal | CQS1 | CQS 2 | CQS 6 |

| 2005-2009 | AAA/AA | A | CCC/CC/C |
|---|--------|--------|----------|
| CQS of equivalent international rating category | CQS1 | CQS 2 | CQS 6 |
| N. observed defaulted items | 6 | 12 | 16 |
| Minimum N. rated items | 3336 | 1711 | n.a. |
| Observed N. rated items | 638.0 | 1214.5 | 16.0 |
| Mapping proposal | CQS2 | CQS 2 | CQS 6 |

| 2010-2013 | AAA/AA | A | CCC/CC/C |
|---|--------|-------|----------|
| CQS of equivalent international rating category | CQS1 | CQS 2 | CQS 6 |
| N. observed defaulted items | 0 | 0 | 17 |
| Minimum N. rated items | 0 | 0 | n.a. |
| Observed N. rated items | 467.0 | 980.0 | 24.5 |
| Mapping proposal | CQS1 | CQS 2 | CQS 6 |

Source: Joint Committee calculations based on CERP data

Appendix 4: Mappings of each rating scale

Figure 14: Mapping of DBRS's Long-term obligations rating scale

| Credit assessment | Initial mapping <i>based on LR DR</i> (CQS) | Review <i>based on SR</i> <i>DR</i> (CQS) | Final review <i>based on</i> <i>qualitative</i> <i>factors</i> (CQS) | Main reason for the mapping |
|----------------------|---|--|---|--|
| AAA | 1/2 | n.a. | 1 | Additional data collected after the original draft ITS was produced reinforced the mapping to CQS1 |
| AA | 1/2 | n.a. | 1 | |
| A | 2/3 | n.a. | 2 | |
| 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. |
| C | 6 | 6 | 6 | The meaning and relative position of the rating category is representative of the final CQS. |
| D | n.a. | n.a. | 6 | The meaning and relative position of the rating category is representative of the final CQS. |

Figure 15: Mapping of DBRS Commercial paper and short-term debt rating scale

| Credit assessment | Corresponding Long-term obligations ratings scale assessment (established by DBRS) | Range of CQS of corresponding Long-term obligations ratings scale | Final review based on qualitative factors (CQS) | Main reason for the mapping |
|-------------------|--|---|---|--|
| R-1 H | AAA/AA(H) | 1 | 1 | The final CQS has been determined based on the most frequent step associated with the corresponding long-term credit rating category. |
| R-1 M | AA/AA(L) | 1 | 1 | |
| R-1 L | A(H)/A(L) | 2 | 2 | |
| R-2 H | BBB(H) | 3 | 3 | |
| R-2 M | BBB | 3 | 3 | |
| R-2 L | BBB(L) | 3 | 3 | |
| R-3 | BBB(L) | 3 | 3 | |
| R-4 | BB(H) to B(H) | 4-5 | 4 | The final CQS has been determined based on the most frequent step 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-5 | B to C | 5-6 | 4 | |
| D | D | 6 | 4 | |

Figure 16: Mapping of DBRS' Financial Strength rating scale

| Credit assessment | Corresponding Long-term issuer rating scale assessment (assessed by JC) | Range of CQS of corresponding Long-term issuer ratings scale | Final review <i>based on qualitative factors (CQS)</i> | 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 issuer 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 | C | 6 | 6 | |
| R | D | 6 | 6 | |