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# Mapping of GBB credit assessments under the Standardised Approach

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## 1. Executive summary

1. This report describes the mapping exercise carried out by the Joint Committee to determine the ‘mapping’<sup>1</sup> of the credit assessments of GBB-Rating Gesellschaft fuer Bonitaets-beurteilung mbH’s (GBB).
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 entity<sup>2</sup> nor should be understood as a comparison of the rating methodologies of GBB with those of other ECAIs. This mapping should however be interpreted as the correspondence of the rating categories of GBB 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. As described in Recital 12 of the Implementing Technical Standards on the mapping of ECAIs’ credit assessments under Article 136(1) and (3) of Regulation (EU) No 575/2013, in order to avoid causing undue material disadvantage on those ECAIs which, due to their more recent entrance in the market, present limited quantitative information, with the view to balancing prudential with market concerns, two mappings apply for these ECAIs, with the first mapping for a limited period of three years. Both mappings should take into account quantitative and qualitative factors. Compared to the second mapping, the quantitative factors for deriving the first mapping should be relaxed. This solution would allow ECAIs which present limited

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<sup>1</sup> 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).

<sup>2</sup> 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](http://www.esma.europa.eu/system/files/esma__2015-1473_report_on_the_possibility_of_establishing_one_or_more_mapping....pdf).

quantitative information to enter the market and would positively stimulate them to collect a sufficient number of quantitative information.

5. In accordance with the previous paragraph for a subset of ECAIs two mappings are applicable, one applicable until 31.12.2018 and one applicable from 01.01.2019. GBB belongs to the subset of ECAIs that are provided two mappings. Updates to the mapping should be made whenever this becomes necessary, including in relation to the mapping to be applied after the three years, to reflect quantitative information collected during the three year-period. Nevertheless, in the absence of such a review, for the ECAIs that are provided two mappings the one applicable from 01.01.2019 shall operate after the three years phase-in period.
6. 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 GBB ratings scale, the Global long-term rating scale, displaying the mapping applicable until 31.12.2018 and the one applicable starting from 01.01.2019.

Figure 1: Mapping of GBB's Global long-term rating scale

<b>Credit assessment</b>	<b>Credit quality step Applicable until 31.12.2018</b>	<b>Credit quality step Applicable from 01.01.2019</b>
<b>AAA</b>	<b>1</b>	<b>2</b>
<b>AA</b>	<b>1</b>	<b>2</b>
<b>A</b>	<b>3</b>	<b>3</b>
<b>BBB</b>	<b>3</b>	<b>3</b>
<b>BB</b>	<b>4</b>	<b>4</b>
<b>B</b>	<b>5</b>	<b>5</b>
<b>CCC</b>	<b>6</b>	<b>6</b>
<b>CC</b>	<b>6</b>	<b>6</b>
<b>C</b>	<b>6</b>	<b>6</b>
<b>D</b>	<b>6</b>	<b>6</b>

## 2. Introduction

7. This report describes the mapping exercise carried out by the Joint Committee (JC) to determine the 'mapping' of the credit assessments of GBB-Rating Gesellschaft fuer Bonitaets-beurteilung mbH's (GBB).
8. GBB is a credit rating agency that has been registered with ESMA in 28 July 2011 and therefore meets the conditions to be an eligible credit assessment institution (ECAI)<sup>3</sup>. GBB is a credit rating agency focused on financial institutions and medium-sized businesses of other industries.
9. 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 (CEREP<sup>4</sup>) 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, detailed information regarding the default definition and comparable data sets from benchmark ECAIs to evaluate the comparability of GBB's definition of default.
10. The following sections describe the rationale underlying the mapping exercise carried out by the Joint Committee (JC) to determine the mappings for both the applicable time periods. With respect to the quantitative requirements used to perform the mappings, in case of ECAIs for which limited quantitative information is available the same methodology has been applied across the two applicable time periods, although with two different levels of prudence. Section 3 describes the relevant ratings scales of GBB for the purpose of the mapping. Section 4 contains the methodology applied to derive the mapping of GBB rating. The mapping table is 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. GBB credit ratings and rating scales

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<sup>3</sup> It is important to note that the mapping does not contain any assessment of the registration process of GBB carried out by ESMA.

<sup>4</sup> 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/>.

11. GBB produces one credit rating - **Long-term credit rating (issuer rating)** - that may be used by institutions for the calculation of risk weights under the Standardised Approach (SA)<sup>5</sup>. The rating is shown in Column 2 of Figure 2 in Appendix 1.
12. Long-term credit rating (issuer rating) is an evaluation of the creditworthiness of (i) private sector banks, which are associated to the Deposit Protection Fund of the German banks or seek to be associated to the Deposit Protection Fund of the German banks, (ii) building societies, (iii) companies moving leasable assets and (iv) small- and medium-sized corporates.
13. GBB assigns this credit rating to the **Global long-term rating scale** as illustrated in column 3 of Figure 2 in Appendix 1. Therefore, a specific mapping has been prepared for this rating. The specification of the Global long-term rating scale is described in Figure 3 of Appendix 1.
14. The mapping of the Global long-term 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 ITS.

## 4. Mapping of GBB's Global long-term rating scale

15. The mapping of the Global long-term 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.
16. 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 calculated in accordance with Article 6 of the ITS, as the number of credit ratings cannot be considered to be sufficient.
17. 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

18. The number of credit ratings for all rating categories of the GBB Global rating scale 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 ITS. Therefore the allocation to the CQS has been made in accordance with Article 6 of the ITS, as shown in Figure 7 and Figure 8 of Appendix 3.

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<sup>5</sup> As explained in recital 4 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.

19. Therefore, 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.

20. For D rating category, no calculation of default rates has been made since it already reflects a 'default' situation.

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

22. The default definition applied by GBB, 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 10 and Figure 11 in Appendix 4, the assignment of the rating categories to credit quality steps has been initially made in accordance with Article 6 of the ITS. Therefore, the number of defaulted and non-defaulted rated items have been used together with the prior expectation of the equivalent rating category of the international rating scale.

##### Mapping Tables applicable until 31.12.2018:

- **AAA/AA/BBB/BB/B:** the number of rated items in each of these categories is equal or larger than the respective minimum required number of observed items given the number of defaulted items in the rating category. Thus the credit quality step associated with the AAA/AA, BBB, BB, B rating categories in the international rating scale (CQS 1, CQS 3, CQS4 and CQS 5 respectively) can be assigned.
- **A:** the number of rated items in this category is below the minimum required number of observed items so that the credit quality step associated with the A rating category in the international rating scale (CQS 2) cannot be assigned. Therefore the proposed credit quality step for this rating category is CQS 3.
- **CCC-C:** since the CQS associated with the equivalent rating category of the international rating scale is 6, the proposed mapping for these rating categories is also CQS 6.

##### Mapping Tables applicable starting from 01.01.2019:

- **AAA/AA/A:** the number of rated items in these categories is below the minimum required number of observed items so that the credit quality step associated with the AAA/AA and A rating categories in the international rating scale (CQS 1 and CQS 2 respectively) cannot be assigned. Therefore the proposed credit quality steps for these rating categories are CQS 2 and CQS 3 respectively.
- **BBB/BB/B:** the number of rated items in each of these categories is equal or larger than the respective minimum required number of observed items given the number of

defaulted items in the rating category. Thus the credit quality step associated with the BBB, BB, B rating categories in the international rating scale (CQS 3, CQS4 and CQS 5 respectively) can be assigned.

- **CCC-C:** since the CQS associated with the equivalent rating category of the international rating scale is 6, the proposed mapping for these rating categories is also CQS 6.

## 4.2. Final mapping after review of the qualitative factors

24.The qualitative factors specified in Article 7 of the 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 behavior<sup>6</sup>, as is the case for all rating categories of the Global long-term rating scale.

25.The **definition of default** applied by GBB and used for the calculation of the quantitative factors has been analysed:

- The types of default events considered are shown in Appendix 2 and are consistent with letter (a), (b), (c) and (d) of the benchmark definition specified in Article 4(4) of the ITS.
- Additionally, the default rates of GBB have been compared to the default rates of a pool of German banks rated by S&P's under the assumption that S&P's default definition meets the requirements in Article 4(4) of the ITS.<sup>7</sup> Even though the coverage is not the same<sup>8</sup>, the defaults observed in the GBB-rated sample do not belong to non-S&P-rated sample. Therefore, the comparison between the default rates observed in GBB and S&P pools presented in Figure 4 of Appendix 2, suggests that the 'default' definition of GBB is, at least, as strict as the 'default' definition of S&P.

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 mapping proposal resulting from the quantitative factors in case of the Mapping Tables applicable until 31.12.2018, except from A rating category to which this factor suggests to be assigned CQS 2. However, the absence of sufficient quantitative evidence does not allow a significant use of this factor to modify the proposed mappings, thus no specific adjustment has been proposed based on this factor. This applies also for the Mapping Tables applicable starting from 01.01.2019. In the case of the D rating category, its meaning is consistent with the one of CQS 6 stated in Annex II ITS.

<sup>6</sup> 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 ITS.

<sup>7</sup> Although, default data is available also for other benchmark ECAs (Moody's, Fitch and DBRS), their respective sizes are relatively smaller with respect to GBB and therefore may not be representative.

<sup>8</sup> The S&P rated pool has approximately 90 rated items per period, which is twice as small as the GBB pools of rated items – approximately 180 rated items per observation period.

- 27.Regarding the **time horizon** reflected by the rating category, GBB applies through the cycle approach which is comparable with the 3-year time horizon that characterizes the benchmarks established in Annex I ITS. The transition probabilities shown in Figure 9 of Appendix 3 over the 3-year horizon are relatively high, which is explained by the recessionary observation period used to make the calculations. Therefore, no change is proposed to the mapping.
- 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 all rating categories under Article 6 of the ITS.

## Appendix 1: Credit ratings and rating scales

Figure 2: GBB's relevant credit ratings and rating scales

SA exposure classes	Name of credit rating	Credit rating scale
<b>Long-term ratings</b>		
Institutions	Long-term credit rating (issuer rating)	Global long-term rating scale
Corporates	Long-term credit rating (issuer rating)	Global long-term rating scale

Source: GBB



Figure 3: Global long-term rating scale

Credit assessment	Meaning of the credit assessment
AAA	Highest financial standing
AA	Very high financial standing
A	High financial standing
BBB	Good financial standing
BB	Satisfactory financial standing
B	Financial standing scarcely adequate
CCC	Inadequate financial standing
CC	Insufficient financial standing
C	Insufficient financial standing
D	Moratorium / insolvency

Source: GBB

## Appendix 2: Definition of default

The default definition is the legal definition, i.e. a default occurs in case of moratorium respectively bankruptcy and missed payments for financial facilities as far it is not fixed as an option in the contract. A voluntary renunciation of payments from investor's side is not a default.

GBB also reports a default if there is a missed payment of the coupon of a debt issue as far the missed payment is not covered by contractual terms of the legal agreement or investors voluntarily renouncing their right of payment.

Source: GBB

Figure 4: Long-run default rates of GBB and S&P

Date	GBB			S&P		
	N. rated items	N. defaulted rated items	Default rate	N. rated items	N. defaulted rated items	Default rate
01/07/2007	183	3	1.64%	108	1	0.92%
01/01/2008	183	3	1.64%	101	1	0.99%
01/07/2008	183	2	1.09%	100	1	1.00%
01/01/2009	180	0	0.00%	85	0	0.00%
01/07/2009	182	0	0.00%	78	0	0.00%
01/01/2010	176	0	0.00%	76	0	0.00%
01/07/2010	178	0	0.00%	76	0	0.00%
<b>Overall</b>	<b>1265</b>	<b>8</b>	<b>0.63%</b>	<b>627</b>	<b>3</b>	<b>0.48%</b>

Source: Joint Committee calculations based on CEREP data

## Appendix 3: Default rates of each rating category

Figure 5: Number of rated items

Date	AAA	AA	A	BBB	BB	B	CCC/CC/C
01/07/2007	0	23	98	41	18	2	2
01/01/2008	0	23	99	40	17	2	2
01/07/2008	0	23	101	40	16	2	2
01/01/2009	0	20	98	43	12	6	3
01/07/2009	0	21	98	43	13	6	3
01/01/2010	0	13	85	55	11	5	7
01/07/2010	0	13	87	55	11	5	7

Source: Joint Committee calculations based on CEREP data

Figure 6: Number of defaulted rated items

Date	AAA	AA	A	BBB	BB	B	CCC/CC/C
01/07/2007	0	0	2	0	1	0	0
01/01/2008	0	0	2	0	1	0	0
01/07/2008	0	0	2	0	0	0	0
01/01/2009	0	0	0	0	0	0	0
01/07/2009	0	0	0	0	0	0	0
01/01/2010	0	0	0	0	0	0	0
01/07/2010	0	0	0	0	0	0	0

Source: Joint Committee calculations based on CEREP data

Figure 7: Mapping proposal for rating categories with a non-sufficient number of credit ratings, applicable until 31.12.2018

2007h2 - 2010h2	AAA/AA	A	BBB	BB	B	CCC-C
CQS of equivalent international rating category	CQS 1	CQS 2	CQS 3	CQS 4	CQS 5	CQS 6
N. observed defaulted items	0	6	0	2	0	0
Minimum N. rated items	0	699	0	21	0	n.a.
Observed N. rated items	136	666	317	98	28	26
<b>Mapping proposal</b>	<b>CQS 1</b>	<b>CQS 3</b>	<b>CQS 3</b>	<b>CQS 4</b>	<b>CQS 5</b>	<b>CQS 6</b>

Source: Joint Committee calculations based on CERP data

Figure 8: Mapping proposal for rating categories with a non-sufficient number of credit ratings, applicable starting from 01.01.2019

2007h2 - 2010h2	AAA/AA	A	BBB	BB	B	CCC-C
CQS of equivalent international rating category	CQS 1	CQS 2	CQS 3	CQS 4	CQS 5	CQS 6
N. observed defaulted items	0	6	0	2	0	0
Minimum N. rated items	496	867	0	27	5	n.a.
Observed N. rated items	136	666	317	98	28	26
<b>Mapping proposal</b>	<b>CQS2</b>	<b>CQS 3</b>	<b>CQS 3</b>	<b>CQS 4</b>	<b>CQS 5</b>	<b>CQS 6</b>

Source: Joint Committee calculations based on CERP data

Figure 9: Transition matrix

3-year transition matrix, 3-year average (2007 - 2013)

Rating end period	AAA	AA	A	BBB	BB	B	CCC	CC	C	D	WR
Rating start period											
AAA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AA	0.0	51.4	31.7	6.3	0.0	0.0	0.0	0.0	0.0	0.0	10.6
A	0.0	1.0	65.9	22.0	0.3	0.1	0.0	0.0	0.4	0.9	9.3
BBB	0.0	0.3	24.6	52.8	5.3	1.5	2.7	0.0	0.6	0.0	12.2
BB	0.0	0.0	2.0	25.5	33.3	9.8	14.7	1.0	2.0	2.0	9.8
B	0.0	0.0	0.0	0.0	20.0	40.0	13.3	0.0	6.7	0.0	20.0
CCC	0.0	0.0	0.0	0.0	13.3	0.0	86.7	0.0	0.0	0.0	0.0
CC	0.0	0.0	0.0	0.0	0.0	0.0	100	0.0	0.0	0.0	0.0
C	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100	0.0	0.0

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 matrix, 5-year average (2007 - 2013)

Rating end period	AAA	AA	A	BBB	BB	B	CCC	CC	C	D	WR
<b>Rating start period</b>											
<b>AAA</b>	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<b>AA</b>	0.0	81.1	14.7	1.1	0.0	0.0	0.0	0.0	0.0	0.0	3.2
<b>A</b>	0.0	0.7	85.8	9.4	0.0	0.4	0.0	0.0	0.0	0.6	3.2
<b>BBB</b>	0.0	0.2	10.5	80.1	4.3	0.7	0.4	0.0	0.0	0.0	3.9
<b>BB</b>	0.0	0.0	0.0	15.3	68.1	4.2	4.2	1.4	1.4	1.4	4.2
<b>B</b>	0.0	0.0	0.0	0.0	12.0	56.0	20.0	0.0	4.0	0.0	8.0
<b>CCC</b>	0.0	0.0	0.0	0.0	0.0	19.0	76.2	0.0	4.8	0.0	0.0
<b>CC</b>	0.0	0.0	0.0	0.0	0.0	0.0	100	0.0	0.0	0.0	0.0
<b>C</b>	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	81.0	0.0	19.0

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 10: Mapping of GBB's Global long-term rating scale, applicable until 31.12.2018

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	1	n.a.	1	The quantitative factors are representative of the final CQS.
AA	1	n.a.	1	
A	3	n.a.	3	
BBB	3	n.a.	3	The quantitative factors are representative of the final CQS.
BB	4	n.a.	4	The quantitative factors are representative of the final CQS.
B	5	n.a.	5	The quantitative factors are representative of the final CQS.
CCC	6	n.a.	6	The quantitative factors are representative of the final CQS.
CC	6	n.a.	6	
C	6	n.a.	6	
D	6	n.a.	6	The meaning and relative position of the rating category is representative of the final CQS.



Figure 11: Mapping of GBB's Global long-term rating scale, applicable starting from 01.01.2019

<b>Credit assessment</b>	<b>Initial mapping based on LR DR (CQS)</b>	<b>Review based on SR DR (CQS)</b>	<b>Final review based on qualitative factors (CQS)</b>	<b>Main reason for the mapping</b>
<b>AAA</b>	2	n.a.	<b>2</b>	The quantitative factors are representative of the final CQS.
<b>AA</b>	2	n.a.	<b>2</b>	
<b>A</b>	3	n.a.	<b>3</b>	
<b>BBB</b>	3	n.a.	<b>3</b>	The quantitative factors are representative of the final CQS.
<b>BB</b>	4	n.a.	<b>4</b>	The quantitative factors are representative of the final CQS.
<b>B</b>	5	n.a.	<b>5</b>	The quantitative factors are representative of the final CQS.
<b>CCC</b>	6	n.a.	<b>6</b>	The quantitative factors are representative of the final CQS.
<b>CC</b>	6	n.a.	<b>6</b>	
<b>C</b>	6	n.a.	<b>6</b>	
<b>D</b>	6	n.a.	<b>6</b>	The meaning and relative position of the rating category is representative of the final CQS.