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**Comments by the Actuarial Association of Europe on  
Consultation Paper on Draft 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)**

### Preamble

Thank you for the opportunity to comment on this paper. The Actuarial Association of Europe (AAE) represents the actuarial profession in Europe and as such is very interested in every kind of quantitative regulation.

Before seeking to answer the questions posed in this consultation it is worth highlighting what appear to be the main drivers behind this consultation paper:

- (1) Some elements of prudential regulation depend on the credit assessment of financial instruments held by financial firms subject to prudential regulation, e.g. banks and insurers. These elements include computation of the risk weighting to apply to an asset in the credit risk components of EU banking regulation and computation of the credit risk ascribed to an asset in the solvency capital requirements under EU insurance regulation.
- (2) As a matter of public policy, EU financial regulators and supervisors are seeking to reduce the extent to which regulated firms in these industries rely on a small number of external (private sector) providers to carry out these credit assessments. At present just three External Credit Assessment Institutions (ECAIs) are used by a high proportion of such firms. EU regulators are seeking to address this issue by:
  - (a) Encouraging banks, insurers and other regulated firms to focus more on their own internally derived credit assessments
  - (b) Encouraging other organisations to provide external credit assessments, i.e. seeking to expand the range of available ECAIs.
- (3) However, this introduces the practical challenge of designing a framework that results in credit assessments supplied by different ECAIs at different times being as comparable as possible:
  - (a) For credit risk to be best taken into account in EU prudential regulation it is desirable for the credit assessments used by a regulated institution to reflect as accurately as possible the underlying credit risks arising from holding the instruments to which the assessments relate. As one firm's categorisation (e.g. "AAA" to "D" or "1" to "9", ...) may not correspond to another's, it is proposed that each firm's own categorisation

be *mapped* by a central body onto some common intermediate *credit quality step* (CQS) which will in future drive prudential computations. This consultation paper is about how best to identify these mappings for any given ECAI.

- (b) Different ECAs might be more or less capable of assessing credit risk reliably and their assessment capabilities may change through time. For example:
- An individual ECAI's credit assessment standards might change through time, so that, say, an "AA" rating it might now ascribe to an instrument might correspond to a credit risk that it might some years' previously have ascribed an "A" rating. This might arise either for individual assessment categories or might involve shifts in the underlying "meaning" of an ECAI's entire range of assessment categories. We might call this phenomenon *credit assessment drift*.
  - Some ECAs might be more skilled in their credit assessments than others, and this might also change through time.
  - Some ECAs may systematically understate or overstate only certain types of instrument (e.g. bonds issued by financials versus non-financials, long-dated versus short dated instruments, structured versus straightforward instruments).

For new or recent entrants to the ECAI market it may be more difficult to form an opinion as to the reliability of their assessments as there may be less data available to analyse how such an ECAI's credit assessments seem to compare with actual risk outcomes.

- (4) Superimposed on possible individual ECAI credit assessment drift is the possibility that there may be credit assessment drift across the generality of ECAs. This is in turn linked to possibility that credit assessments might exhibit pro-cyclical behaviours. The potential for credit assessments to be pro-cyclical has been recognised for some time; see e.g. Kemp (2009). He refers to the differential impact of using *point-in-time* (PIT) type assessments versus *through-the-cycle* (TTC) assessments, to academic work by e.g. Benford and Nier (2007) and Treacy and Carey (1998) aiming to identify the extent to which credit assessments provided by ECAs have been PIT versus TTC in nature and to what this might mean in terms of the potential pro-cyclical tendencies of credit assessments. However, Kemp (2009) also notes that it is possible to adjust other aspects of regulatory frameworks to counter such effects (e.g. by altering the overall capital requirements to which firms in a particular industry are subject). So particularly relevant in this context is the possibility that credit assessments might drift in *unexpected* ways.
- (5) The main task outlined in this consultation paper thus appears to be to identify how best to determine the mappings the central (regulatory) body will apply (at any given time) to any given ECAI's categorisation of the creditworthiness of a specific issuer/issue. However there are several other public policy issues that interact with this task including:
- (a) EU regulators and other EU central bodies will presumably be reluctant to take full 'responsibility' themselves for rating individual issuers or even possibly classes of issuers, because such ratings might prove inaccurate or themselves doing so might create systemic risks. Such behaviour might also be anti-competitive. Conversely, it isn't possible to have risk-sensitive regulatory frameworks without some allowance for the different creditworthiness of different issues. Indeed it is likely to be

intrinsically desirable to facilitate diversity in ECAI views, as this presumably will generate greater insight, improve the functioning of capital markets and over the longer term lead to a more efficient overall economic outcome. The concept of mapping to a common CQS presumably aims to balance these conflicting pressures.

- (b) The default histories of the main ECAs relate primarily to US issuers. They do not therefore necessarily provide a good historical benchmark for EU issuers (who might be expected to form a high proportion of issuers to which these regulations will apply). Ideally, the framework should support European-focused ECAs. Conversely, it is important that where possible ratings awarded by different ECAs be validated appropriately irrespective of issuer location.
- (c) Some applicable EU regulatory frameworks (e.g. Solvency II) emphasise market consistency, i.e. aiming to derive valuations and other factors on which regulatory capital assessments are based from market observables where practical and appropriate. Such an approach would tend to favour assessing creditworthiness by reference to market observables such as credit spread (versus applicable risk free interest rates) that are sensitive to the creditworthiness of the relevant issuer/issue, superimposed on which may be adjustments to mitigate pro-cyclicality effects. The consultation paper makes very little reference to such concepts.

Bearing these preliminary comments in mind, our views on the questions raised in this consultation are:

**Q1. Do you agree with the proposed selection of quantitative factors to differentiate between the different levels of risk of each rating category?**

The approach suggested in the draft Regulation is too limiting. As noted in our preamble, a key goal is to achieve maximum comparability between the mappings applied to different ECAs' categorisations.

The draft Implementing Technical Standards (ITS) appear to assume that the mapping authority will collate quantitative data from each individual ECAI (primarily historic default rates and corresponding instrument universes that the ECAI has rated in the past) and then as far as possible use this data in isolation to identify how best to map to a single CQS all instruments an ECAI has ascribed the same credit assessment.

A more natural way of maximising comparability is to select mapping approaches for different ECAs that result in as uniform as possible CQs for any instrument that is assessed by multiple ECAs. Statistical and actuarial techniques such as principal components analysis and generalised linear modelling should be capable of being used to minimise variation between the CQs assigned to the same instrument by different ECAs whilst still maximising the power of different CQs to discriminate between different levels of credit risk.

Targeting comparability also means that in some circumstances it may be better for the same credit assessment awarded by a given ECAI to map to a range of CQs. For example, a particular ECAI might typically assess long-dated instruments more cautiously (relative to the generality of other ECAs) than short-dated instruments. Ideally the mapping applicable to that ECAI should adjust away this difference (or if appropriate the mappings applicable to all other ECAs should include corresponding inverse adjustments), to the extent that the evidence of the divergence in practices is robust.

This is not to deny the merits of having CQSs that in aggregate reflect the intrinsic riskiness of the instrument in question. Rather the point we are making is that the problem of making the regulatory framework sensitive to credit risk here involves two steps, i.e.:

- (a) Definition of the mappings for each individual ECAI onto common CQSs; and
- (b) Identification of how the common CQSs should be interpreted in relation to exposure to credit risk.

The linkage between CQS and default risk is primarily relevant to (b) rather than (a) and so should ideally be derived primarily by aggregating as much experience as possible across all available ECAIs (with, if necessary, further adjustment at an industry-wide level for pro-cyclical and macro-prudential factors).

Of course, the problem doesn't exactly segregate into two completely independent steps. We might for example consider it desirable for a regulatory framework to include incentives that encourage ECAIs to produce credit assessments that as closely as possible reflect the actual credit risks that individual instruments exhibit. We might therefore want to include some direct linkage between past default experience and the mappings in step (a) to deliver such incentives. Moreover, if an instrument is only rated by one ECAI then that ECAI's own credit assessment disciplines take on added importance.

However, in our opinion, the proposed Regulation seems to be drafted in a manner that gives insufficient weight to the desirability of targeting comparability in (a) irrespective of past default experience or even if an ECAI has any relevant past experience on which to base its assessments. Better might be for the proposed Regulation to specify the information that each ECAI should provide to the mapping authority (which should include some way of uniquely identifying a given instrument across all contributing ECAIs as well as relevant default data) and then to give the mapping authority greater flexibility to exercise expert judgement in defining mappings for any given ECAI and in also interpreting the resulting CQS.

An extreme example of the segmentation referred to above would be if an ECAI provided a service that involved aggregating the credit assessments of other ECAIs but did not itself have access to their past default history. Such an ECAI would, technically speaking, have no past history (of its own) that it could use to meet much of the requirements of the proposed Regulation but might still be able to offer helpful credit assessments to its customers (assuming that the outputs of the ECAIs it was aggregating were of suitable quality).

Regarding the time horizon proposed to compute the short-term default rates, to remain consistent and applicable for regulations as Solvency II we would suggest, instead of three years, to use periods of one year, but covering a wider time range, meaning that each item should be evaluated within 1-year periods but in different years, so that both expansion and recession periods are covered. This change would most likely avoid the lack of default events associated with the consideration of periods shorter than 3 years while providing an indicator which is more reactive to changes in the business cycle.

Moreover, we suggest taking transition probabilities into account to differentiate between different levels of risk in each rating category, as a means of improving both the quality of the credit assessment and its degree of temporal consistency. This is in line with the latest Solvency II proposals driving the fundamental spread in the volatility adjustment and the matching adjustment.

Furthermore, we are not clear about the wording in Article 2 (c): "allow for the calculation". Can this be read in a way that issues with a maturity less than three years are excluded for calibration

purposes or the other way round that for issues with a maturity more than three years, revaluation / spread risk over a period of three years is regarded as irrelevant?

Clarification is needed for the requirement in Article 3.4.(a) to be “representative”. What exactly does “representative” mean, and why is the regulation restrictive not to use “the whole” pool of issues. Regarding Article 3.4.(b) the question arises, what calculation should be done if the denominator is not sufficiently numerous?

In Article 3.5 it may be useful to make explicit that withdrawals relate to a withdrawal of the rating, either by the rating agency or by the issuer (prepaid / put). Also for the expression “prior to the occurrence of default” the intention is presumably that default was somehow predictable. This requires more detail than just ‘prior’.

Article 3.6 (d) speaks about a “significant form of regulatory supervision”. Our obvious comment is that this is only objective if the supervision is public. It seems wise to add that condition.

A further reason why the proposed focus on past default experience is too limiting is that it may place insufficient focus on market consistency principles. As noted in our preamble, such principles tend to favour assessing creditworthiness by reference to current market observables such as credit spreads. The more a given ECAI produced assessments of creditworthiness that aimed to be market consistent the less would be the relevance of past default experience in its credit assessments and hence on how the mapping of such assessments to the common CQS should presumably be derived.

**Q2. Do you agree with the proposed definition of sufficient number of credit ratings and rest of requirements imposed on the calculation of short term default rate when a sufficient number of credit ratings is available?**

See answer to Q1. Again, we think that the implicit assumption that ECAIs will be analysed in isolation is inappropriate. Instead more focus should be given to the extent to which there is a range of ECAIs rating the same instrument.

Comparing the proposed criterion of sufficiency with the simple example of rolling a dice, we could not see it as sufficient to have only 6 throws to have a sound/prudent estimate of throwing a “6”. The sufficient number of observations is dependent on the probability distribution of running into default, but a much better and still practical definition of sufficiency would be to require the number of rated items to be greater or equal to twice the inverse of the expected default rate.

Furthermore, we would like to see clarified what exactly is meant by “expected long-run default rate”; does this expression refer to the long-run benchmark presented in Part 1 of Annex 1?

Moreover, we would recommend imposing a minimum limit of observations as well, as for lower credit quality groups the number of sufficient observations could be unreasonably low.

It is also not quite clear to us how exactly this criterion fits into the process. Is it the idea that above 1/frequency no qualitative assessments are needed, and that below 1/frequency only qualitative assessments are made?

**Q3. Do you agree with the proposed requirements imposed to the calculation of the long run default rate when a sufficient number of credit ratings is available?**

See answers to Q1 and Q2. The concept of differentiating between short and long run rates does seem logical, although the main benefit of doing so appears to us to be to allow for adjustments for

pro-cyclical and macro-prudential factors. So again it seems to us to be more an industry-wide issue than an issue that should focus on individual ECAIs.

We understand the requirement in Article 4.5 to have an “adequate representation of recessionary and non-recessionary years in a full economic cycle”, but we have doubts how to apply this criterion in practice, as economic cycles are changing. Furthermore this Paragraph would benefit from clarification on the way the weights “shall ensure an adequate representation of recessionary and non-recessionary periods”, given that it is previously mentioned that these weights are based on the number of items considered.

The idea of averaging averages means that, on balance, the first two and the last two years of default rates are weighted less than the other years. This suggests that a longer period may be needed.

The sentence “A long run default rate should be estimated as weighted average of short run default rates only when they refer to a recessionary period.” is not clear. Presumably the idea is that at least one recessionary period is included. A ten-year horizon will typically miss the 1/20 year credit crisis. The longer the time horizon, the more reliable the long-term estimates.

**Q4. Do you agree with the proposed options to calculate the quantitative factors when a sufficient number of credit ratings is not available?**

Yes, but we think that in general greater emphasis should be placed on targeting comparability between CQSs deriving from different ECAIs than is currently implied by the draft text.

Regarding the reliance on credit ratings of other ECAIs, we think that some consistency requisites should be imposed on ratings’ meanings and internal default definitions of those ECAIs, in order for them to be considered. Moreover, a high percentage of the credit assessments provided by the ECAI itself should ideally match the ones provided by the other ECAI in similar dates for the same items, in order to provide evidence of the similarity in the credit assessment processes between the two ECAIs.

It should be clear that from an economic perspective the use of credit ratings of other ECAI’s creates redundancies and increases the overall systemic risk related to credit assessments.

**Q5. Do you agree with the proposed use of the default definition used by the ECAI as a relevant factor for the mapping? Do you agree with the proposed assessment of the comparability of the default definition of an ECAI? If not, what alternatives would you propose? Do you think that the adjustment factor depends on certain characteristics of the rated firms such as size and credit quality and if so, how can this be reflected?**

We agree that default definition is relevant to credit risk assessment.

Concerning the adjustment factor of 100%, we could not find the rationale for assuming that the number of non-bankruptcy defaults is equal to the number of bankruptcy defaults. As such, we would suggest that the calculation of the true number of default events, according to the four default situations mentioned in point 6 of Article 3, is provided by supervisory authorities, so that the use of the proposed adjustment factor could be avoided and the accuracy of the information used could be improved.

There is a misprint in Article 8: “The qualitative factors referred to in point (a) of Article 136(2) of Regulation (EU) 575/2013” should be “The qualitative factors referred to in point **(b)** of Article 136(2) of Regulation (EU) 575/2013”

The regulation also prescribes looking at the pool of issuers that the ECAI covers. It would be worth explaining how that will be implemented.

**Q6. Do you agree with the proposed use of the time horizon of the rating category as a relevant factor for the mapping? Do you agree with the proposed use of transition probabilities to identify the expected level of risk during the 3-year time horizon?**

We think that it is largely not relevant to the mapping per se but is instead more relevant to how a given CQS should be interpreted for regulatory purposes.

Questions arises how to calibrate the transition probabilities. Presumably the transition matrix for short-term ratings is 'much faster' than the transition matrix for long-term ratings.

**Q7. Do you agree with the proposed use of the range and meaning of rating categories as a relevant factor for the mapping? Do you agree with the proposed restriction of this factor to adjacent rating categories?**

We agree that the meaning an ECAI ascribes to its rating is relevant to credit risk assessment but do not see any obvious reason why this insight should be limited merely to adjacent rating categories.

**Q8. Do you agree with the proposed use of the risk profile of a rating category as a relevant factor for the mapping?**

We agree in principle to the use of the risk profile but would like to stress that the consideration of factors such as size, sector or geographical diversification of the items under analysis could bring excessive subjectivity to the mapping process."

**Q9. Do you agree with the proposed use of the estimate provided by the ECAI of the long run default rate associated with all items assigned the same rating category as a relevant factor for the mapping? Do you agree with the proposed role played by this factor depending on the availability of default data for the rating category?**

Yes, but again we think that this is less relevant for the mapping per se and more relevant to how a given CQS should be interpreted for regulatory purposes, except in instances where the ECAI is the sole ECAI to rate an instrument.

**Q10. Do you agree with the proposed use of the internal mapping of a rating category established by the ECAI?**

We think that this proposal is potentially quite intrusive and it is likely to be more appropriate to focus merely on an ECAI's 'published' outputs. An ECAI's internal mappings may be less robust than its published output and may exist merely in as informal internal guidance rather than more specific formal internal mappings. It may be very difficult for ECAIs and the mapping authority to work out whether some internal element of the ECAI's rating process is or is not captured by this proposal.

The reliance on ECAIs full internal mapping does not contribute to the ITS's goal of harmonization of the mapping of credit assessments.

Moreover, the interaction of Article 14 and the explanatory text provided for Article 11 is unclear, given that the latter seems to refer to subsets of the full ECAI's internal mappings.

Generally we think that the possible use of the internal mappings strongly depends on the quality of those concrete mappings, so we find it hard to agree on the proposal universally.

**Q11. Do you agree with the proposed specification of the long run and short run benchmarks? Do you agree with the proposed mechanism to identify a weakening of assessment standards?**

We agree that it is likely to be desirable to have benchmarks that aim to identify ‘unexpected’ weakening (or potentially ‘unexpected’ strengthening) of credit assessment standards, particularly ones that apply to the ECAI industry as a whole, see our answer to Q1. However, we think that it would be desirable to provide better justification for actual approach being proposed in draft Article 15 as it is not obvious from the paper alone why the proposed formulae might be a helpful way of doing this.

Also, if an aim is to provide an early warning of the sort of weakening of standards perceived to have occurred ahead of the 2007-2009 Credit Crisis then it is worth noting that this weakening seemed to apply disproportionately to certain types of instrument (e.g. US mortgage-backed instruments). It might therefore be desirable to have benchmarks that differentiate between instrument types.

Furthermore, regarding the mechanism proposed to identify a weakening of assessment standards, we think that it should be specified what would be the consequences when the three conditions mentioned in Article 15 are met.

**Q12. Do you agree with the analysis of the impact of the proposals in this CP? If not, can you provide any evidence or data that would explain why you disagree or which might further inform our analysis of the likely impacts of the proposals?**

We agree with most of the analysis on the impacts of the proposals mentioned in the consultation paper. Nonetheless, we reckon that the degree of harmonization of the mapping of credit assessments is dependent on the existence of data for the calculation of default rates solely based on quantitative factors, since most qualitative factors proposed depend on ECAs’ assessments.

It seems useful to also discuss possible reactions of rating agencies to this regulation:

- One reaction could be to increase the volatility of ratings, to adjust them more quickly to changing circumstances.
- Short-term ratings will become less useful, as they will be geared to a three-year horizon. Similarly, ratings to maturity will become less useful, as they will be geared to a three-year horizon.
- A three-year horizon may slow down reassessment when clients are more interested in a one-year horizon.
- On a three-year horizon, less differentiation is possible. Many investors are looking for a shorter investment horizon.

Further comments:

Page 6: the sentence “credit assessments of covered bonds and shares in CIUs have been considered” is not quite clear. For such issues, the recovery rate is also a very important criterion.

Page 8: Two comments on the sentence “where the credit rating is based on a shorter horizon, the expected level of risk of the rating category beyond its time horizon (for example, second and third years if the time horizon of the credit rating is 12 months) should be considered to assess the level of risk of the rating category that is relevant for the mapping.”:

- There are ratings like A1/P1 - a three-year horizon would not be appropriate to validate these ratings.
- The practical use of ratings relies primarily on a one-year horizon.

Page 9: “The benchmarks proposed in these draft RTS have been chosen to maintain the overall level of capital required for externally rated exposures under the Standardised Approach.” Strictly speaking, ratings are only about expected losses. Although these are very important for valuation purposes, they are not directly related to risk (assuming a diversified credit portfolio). Risk is about uncertainty, about volatility of average annual losses. It is important to continue to validate that expected losses are a meaningful indication of the volatility of annual average losses.

Page 15: the sentence “it should be measured over a 3 year time horizon in order to allow the observation of a significant number of defaults when risk is very low” seems to be confusing. We would have thought that the idea is to align with a ‘through-the-cycle’ investment horizon. Measuring over a period of three years does not create more data.

- Why would a three-year perspective be relevant to an investment bank with a trading exposure? Money-market ratings have their own importance. Important events after a 3-mo horizon may cause default, but be irrelevant for s-t claims.
- Similarly, buy-and-hold investors may expect ratings to be valid through to maturity.

Page 15: We do not understand the statement “Also, it should not include public sector ratings given the scarcity of defaults for this type of rating”. We would assume that the number of defaults is defined by the type of rating, rather than by the type of company. We therefore do not see any reason to exclude public sector ratings.

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