Open Hearing on Discussion Paper on the Validation and Review of Credit Rating Agencies' Methodologies

European Securities and Markets Authority

Background
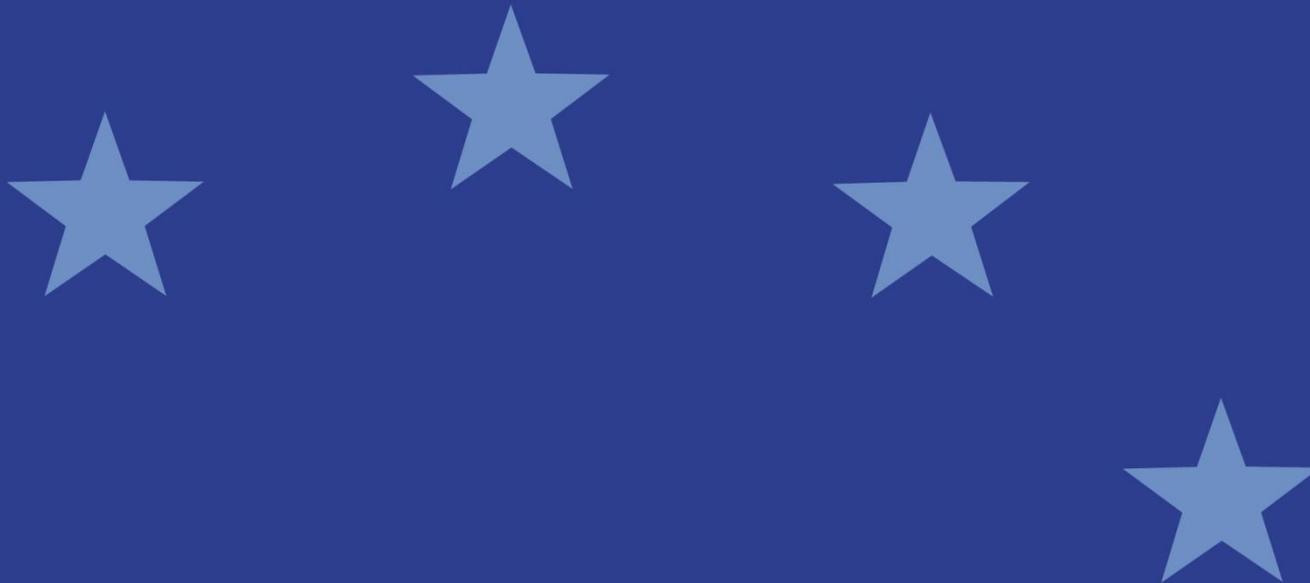
- Discussion paper result of:
  - Ongoing supervision findings
  - Supervisory investigation
  - Dialogue with academics and other regulators

- Next steps:
  - Discussion Paper closes **February 19th**
  - Feedback statement
  - Guidance

Discriminatory Power

- Ability to rank order the rated entities in accordance to their future status (defaulted/not defaulted) at some predefined time horizon

- Proposed measures:
  - Cumulative Accuracy Profile (CAP) Curve
  - Accuracy Ratio

- Further recommendations:
  - Kolmogorov-Smirnov statistic
  - Receiver Operator Characteristics (ROC) curve (and confusion matrix)
  - Qualitative measures e.g. distribution of the observed default rates

Discriminatory Power Questions

1. Do you agree with ESMA's view regarding the discriminatory power of methodologies?

2. Do you agree that the Accuracy Ratio, as derived from the CAP curve, is the minimum statistical measure that a CRA should use as part of its validation processes for demonstrating the discriminatory power of its methodologies?

3. Do you agree that complementary measures such as the Kolmogorov-Smirnov statistic and the ROC curve (along with a confusion matrix) add further information to the discriminatory power of methodologies? If not, please explain why.

4. Are there additional quantitative measures that CRAs should use and which would add further insight into the discriminatory power of methodologies? If yes, please explain the measures and your rationale.

5. Are there qualitative measures that are appropriate for demonstrating the discriminatory power of methodologies? If yes, please explain the measures and your rationale.

Predictive Power

- Comparing the expected behaviour of the ratings assigned from a methodology to the observed results. A CRA should define internally its expectations (absolute numbers or ranges) per rating category with regards to the measure of creditworthiness its ratings refer to.

- Proposed measures for PD ratings:
  - Binomial test
  - Chi-square test

- Further recommendations (PD ratings):
  - Brier Score
  - Vasicek one-factor model test

Predictive Power Questions

6. Do you agree with ESMA's view regarding the predictive power of methodologies?

7. Do you agree that statistical measures of predictive power increase the quality of validation of CRAs methodologies and should be performed by the CRAs?

8. Do you agree that the binomial and the chi-square tests are the minimum statistical measures that a CRA (when its ratings refer to default probabilities) should use as part of its validation processes for demonstrating the predictive power of its methodologies?

9. Do you agree that complementary measures such as the Brier score and the Vasicek one-factor model test add further information to the predictive power of methodologies (when the CRAs' ratings refer to default probabilities)? If not, please explain why.

10. Are there additional measures that CRAs should use and which would add further insight into the predictive power of methodologies when the CRAs' ratings refer to default probabilities? If yes, please explain the measures and your rationale.

Predictive Power Questions II

11. Are there qualitative measures that are appropriate for demonstrating the predictive power of methodologies when the CRAs' ratings refer to default probabilities? If yes, please explain the measures and your rationale.

12. Do you agree that CRAs using methodologies related to creditworthiness measures other than default probabilities should use statistical measures to demonstrate the predictive power of their methodologies? If yes, please state the potential creditworthiness measures that methodologies could relate to and the corresponding statistical measures as well as any appropriate qualitative measures.

13. If ESMA establishes that there is a need for further guidance to the industry, should this guidance also cover the demonstration of predictive power of methodologies related to creditworthiness measures other than default probabilities?

Historical Robustness

- Assessing dimensions other than discriminatory and predictive power, e.g. stability of ratings, distribution of assigned ratings.

- Measures proposed:
    – Population/System Stability Index
    – Transition (migration) matrices and analysis of movement of ratings

- Further recommendations:
    – Analysing ratings' distribution
    – Univariate analysis of key rating determinants
    – Benchmarking to external credit risk measures

Historical Robustness Questions

14. Do you agree with ESMA's view regarding the historical robustness of methodologies?

15. Do you agree that stability statistical measures and the transition (migration) matrices are the minimum measures that a CRA should use as part of its validation processes for demonstrating the historical robustness of its methodologies?

16. Do you agree that complementary measures such as distribution analysis, the univariate analysis of rating determinants and benchmarking add further information to the historical robustness of methodologies? If not, please explain why.

17. Are there additional measures (qualitative or quantitative) that CRAs should use and which would add further insight into the historical robustness of methodologies? If yes, please explain the measures and your rationale.

Limited Quantitative Evidence (LQE)

- Article 8 of the RTS on rating methodologies provides an exemption to CRAs from complying with Article 7 of the RTS on rating methodologies in cases where there is '*limited quantitative evidence to support the predictive power of a credit rating methodology*'. Article 8 states that in these instances, a credit rating agency should:

  - ensure that credit rating methodologies are sensible predictors of credit worthiness;

  - apply internal procedures in a consistent way and over time and across different market segments;

  - have processes in place to ensure that systemic credit rating anomalies highlighted by back-testing are identified and are appropriately addressed.

- A CRA should internally establish the relevant policies & procedures for deciding if there is LQE to support the predictive power of a methodology. These policies & procedures should identify the responsible parties for taking this decision as well as the relevant criteria that this decision will be based on.

Limited Quantitative Evidence (LQE)

- ESMA is of the view that a CRA should, as part of the process of validating its methodologies, seek to enhance the data sample in order to, if possible, apply Article 7 of the RTS on rating methodologies. A CRA should consider data enhancement solutions such as:

    – expanding the data sample with the use of third party data (if available and subject to verifying data quality);

    – combining (if meaningful) asset classes or sub-asset classes with similar risk characteristics in order to perform joint validation assessments; or

    – creating, if possible, hypothetical transactions that can be used to expand the available data.

Limited Quantitative Evidence (LQE)

- For demonstrating discriminatory power in LQE portfolio, a CRA should consider measures such as:
  - the use of a 'relaxed' default definition for the purposes of validation (e.g. if an asset class is a low default one, then use, for the purposes of validation, the ratings of the highest credit risk, non-default, rating category / categories as default observations);
  - combining rating categories; or
  - using an extended time period;

- Proposed measures (in line with historical robustness):
  - Transition (migration) matrices and analysis of movement of ratings
  - Benchmark to external credit risk measures
  - Consider other historical robustness / discriminatory measures

Limited Quantitative Evidence Questions

18. Do you agree with ESMA's view regarding the validation of methodologies with limited quantitative evidence?

19. Do you agree that CRAs should, as a first step, investigate data enhancement in validating methodologies with limited quantitative evidence?

20. Do you agree that CRAs should, as a second step, investigate measures that may enable them to perform statistical tests to demonstrate the discriminatory power of their methodologies?

21. Do you agree that historical robustness measures should be performed when validating methodologies with limited quantitative evidence?

Limited Quantitative Evidence Questions II

22. Do you agree that the transition (migration) matrices and benchmarking are the minimum measures that a CRA should use as part of its validation processes for methodologies with limited quantitative evidence?

23. Do you agree that complementary historical robustness measures add further information to the validation processes for methodologies with limited quantitative evidence? If not, please explain why.

24. Are there additional measures that CRAs should use when validating methodologies with limited quantitative evidence? If yes, please explain the measures and your rationale.

Identifying and Addressing Anomalies

- Art. 7 & 8 RTS: '*systemic credit rating anomalies highlighted by back-testing are identified and are appropriately addressed*'

- Measures proposed:
  – CRAs should internally set thresholds for their quantitative validation techniques to identify and address potential anomalies highlighted by back-testing
  – Appropriately documented and recorded
  – Led by IRF
  – Justified, challenging and consistently applied component of the validation process
  – A CRA should predefine and justify the actions that deviations from the thresholds will result in
  – A CRA should distinguish systemic deviations from non-systemic ones and explain how the predefined actions would differ in such a case.

Identifying and Addressing Anomalies Questions

25. Do you agree that thresholds should be set for the quantitative validation techniques?

26. Do you agree that the Internal Review Function should decide on these values?

27. Do you agree that predefined actions should be documented by CRAs for when the thresholds are met?

Further Q&A

- Discussion Paper closes on February 19th
- Feedback statement will follow
- Guidance