



EBA/CP/2022/08

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Consultation Paper Draft Regulatory Technical Standards

Supervisory handbook on the validation of rating systems under the Internal Ratings Based approach

General remarks:

By means of a manual, the EBA wants to create transparency with regard to supervisory expectations in relation to the validation of IRBA rating systems and in this way provide a reliable and uniform framework for banks. In principle, this is to be welcomed. However, care should be taken that the proposed regulations do not contradict or go beyond existing supervisory requirements.

Detailed supervisory expectations for the validation of rating systems can be found in particular in paragraph 65 of the General Topics chapter of the ECB Guide to Internal Models (EGIM). According to this, for example, certain in-depth analyses must be carried out every 3 years (para 65 points vi.c and viii.b EGIM), while the so-called "initial validation" must be carried out after every material model change (para 65 point g in conjunction with para 14 EGIM). In addition, the EBA Guidelines on PD estimation, LGD estimation and the treatment of defaulted exposures (EBA/GL/2017/16) regulate the approach of the developers. These regulations are supplemented by section 8.1 Credit Risk EGIM.

It should be avoided that the validation manual imposes additional requirements on the developers, such as a 3-year cycle for a "full review" of material models as required in No. 2 of Context Box 7. This requirement would go beyond that of the EGIM, which requires a 3-year cycle only for the review of the model development carried out, including the most current data. The EGIM, on the other hand, sets much less demanding requirements for the full review by the developers.

In addition, in our view, the principle of materiality should be taken more into account: The intensity and scope of the validation actions should always be based on the expected data situation, the importance of the rating system (e.g. slotting) and the scope and complexity of the changes made.

According to paragraph 144 point e, operational development and validation tasks that have been outsourced to an external service provider should be carried out by independent units if this service provider also carries out CRCU activities. This seems to us to be far too restrictive and not in line with current audit practice. Instead of making detailed organisational specifications, it should generally be ensured by means of organisational measures (including institutionalised control procedures) that development and validation activities are carried out free of conflicts of interest.

Specific comments:

In addition to the questions answered below, we would like to make the following comments on individual passages of the consultation paper:

- Para 9:

Institutions carry out an initial validation in the event of a material model change. In accordance with the requirements of the "ECB guide to internal models" (EGIM) in point 65 (g), they pay

particular attention to those aspects that are directly or indirectly affected by the change. In addition, a separate regular validation is carried out for the "model in place".

According to the consultation paper in case of a model change those aspects that are directly or indirectly affected by the model change, the activities of the "first validation" are expected to be performed by the validation function; for all other aspects, the validation activities may instead be performed by the validation function according to the "subsequent validation". In our opinion, this mixing of initial and regular validation does not meet the requirements of the EGIM and tends to lead to confusion among the addressees if different model statuses are considered in one and the same validation report.

- Para. 22 point b

According to the proposal the internal audit (IA), first, is obliged to make an annual review of the performance of each rating system. Is this annual review identical with the "general risk assessment" described in the ECB guide to internal models? If so, we would recommend streamlining the wording. If not, why is an additional review required? This is particularly burdensome in cases where the general risk assessment requires no further investigations (deep dive) while the mandatory annual review demands further investigations.

Additionally, the IA must form an opinion on the institution's rating systems. It is not clear from our perspective whether this "opinion" is expected to be a documented result of the combined assessment of the internal validation and IA after validation and audit? If yes, how can this be achieved on an annual basis when validation tasks are performed annually while certain aspects may be audited less frequently as a result of the general risk assessment?

Finally, the IA shall be responsible for its completeness. Regarding the lines of defence model we deem it inappropriate for IA to be responsible for the completeness of the tasks. We would rather propose that IA should be responsible for "assessing the completeness".

- Para. 26 point b

For all aspects that are not directly or indirectly affected by the model change the validation activities shall be performed by the validation function according to the description provided in section 5 Subsequent validation of unchanged aspects of a rating system. Does that mean that all those analyses always have to be performed within an initial validation and is it permitted to use the results of the regular validation for this? According to the ECB Guide on internal Models within an initial validation only specific pre-defined analyses and all aspects that are directly affected by the model change have to be performed. Does considering further analyses based on the model in place (and probably another reference date) make sense here to evaluate the model change and its results?

- Para. 31

According to the EBA institutions are required to ensure the sufficient capitalisation at all relevant levels. This seems straightforward if not obvious. However, we suggest deleting the reference to the IA in the brackets. Due to its character and third line tasks IA could never be responsible of

ensuring sufficient capitalisation. In our view, IA can only be responsible for the assessment of sufficient capitalisation.

- Para. 34 point a

The relevant tests performed to challenge the rating system shall be described in the rating report. In our opinion, the description of the validation tests and the general derivation of the data basis should be made in the validation concept and not in the validation report. A detailed description of the validation tests in each individual validation report would lead to unnecessary duplication.

- Content Box 1 second paragraph, sentence 2

The requirement for the internal audit function to estimate the capital requirements resulting from the updated estimates of risk parameters compared to those resulting from the last version of the model approved by the competent authority (i.e. the version of the model without taking into account non-material model changes) is, in our view, not practicable: if the last material change was made years ago, the model may have been changed in the meantime by a large number of non-material changes. Therefore, the capital requirements "after the last material model change" could possibly only be estimated by applying extensive assumptions. At the same time, we do not see the point of this requirement from a validation perspective. In our opinion, no "good practices" for internal auditing should be established in a validation manual.

- Para. 47 point e

According to the EBA's proposal, the comparison with external ratings is not to be used as an objective benchmark for assessing the performance of the internal model, but rather as a tool to look for potential weaknesses in the effectiveness of the consideration of all relevant information. This formulation seems misleading to us. In portfolios with very few default data, external ratings are, in our opinion, one of the few objective benchmarks.

- Para. 85:

According to point 65 (h) (xi) EGIM, the IT implementation should primarily be analysed within the framework of the initial validation. According to our understanding of the consultation paper, the adequacy of the IT implementation should also be analysed in the context of the regular validation. In our view, this does not add any value if no material model change has been made.

- Para. 86

The scope of the chapter on initial validation (first validation) is intended to cover newly introduced and changed models. In our opinion, initial validation should be limited to cases of material model changes, as in paragraph 65 lit. g EGIM.

- Para. 110

The validation function is supposed to form a judgement about the performance of the model on the basis of two samples. While the requirement of a statistical model review for the period "since last validation" seems reasonable to us, the sample "since last model approval" does not, in our opinion, contain any informative value in itself, especially since several years can pass between the start of development and approval by the supervisory authorities. In our view, depending on the purpose of the analysis, a sample "since model development" or "since last model optimisation" seems more meaningful.

- [Para. 133](#)

The EBA does not expect the validation function to check whether every (non-substantial) model change has been correctly reflected in the business/functional requirements. In our opinion, it should also be clarified that if no changes have been made to the model, in principle no re-validation of the IT implementation is required as part of the "subsequent validation".

- [Para. 138:](#)

When assessing its methodological choices, the validation function is expected to assess whether any bias has been introduced due to the duplication of observations on the same obligors or facilities used in the risk quantification. In our opinion, these analyses of duplicates should be limited to case 2a in paragraph 134. In case 2b, there are no duplicates at institution but only at pool level. Thus, in case 2b, these analyses do not provide any added value at the institution level.

- [Para. 143](#)

All changes to validation methodologies or validation processes and validation reports shall be approved by the senior management and the members of the management body. In our opinion, the approval process is not a specific issue in the context of outsourcing and should therefore be regulated in one of the previous chapters. Furthermore, it goes beyond the current supervisory requirements, as the approval by the board is not limited to material changes.

- [Para. 152](#)

The use of wide confidence intervals is not to be considered "best practice" in the context of data scarcity. In our view, wide confidence intervals should not be automatically rejected in the context of a small data base. The wide intervals reflect the increased uncertainty associated with point estimates and must be appropriately appreciated when interpreting the results.

Questions:

Question 1:

1a) How is the split between the first and the subsequent validation implemented in your institution?

When pool models are used, validation activities are carried out regularly and on an ad hoc basis at pool level, both for the model in use and for model changes:

Regular validation of the model in place at pool level:

- Annual validation in accordance with the requirements of the CRR, Delegated Regulation 2022/439 ("assessment methodology") and the ECB Guide to internal models (EGIM) on the topics to be reviewed annually.
- More intensive validation ("extended validation") of the "model in place" at least every 3 years to cover further topics that do not have to be tested annually. For these topics, an annual review would not make sense because no relevant new findings are available year by year. At least every 3 years, the developers' approach to data preparation (incl. data quality and default rate calculation) and the treatment of deficiencies, including the margin of conservatism (MoC), are also regularly reviewed.

In case of model changes:

- Material model changes: Initial validation at pool level before notification of the change according to Art. 11 Para. 4 Delegated Regulation 2022/439 and para. 65 General Topics EGIM.
- Non-material model changes: Review of the changes depending on the materiality as well as the risk potential of the respective change (review of the basic approach, the background or causes, the approach including compared alternatives and analyses of over-adjustment effects, the impact on rating grades, the achievement of the change targets as well as the impact on central validation dimensions). This is usually done in the course of the annual validation in addition to the validation of the model in place.

Reasons for the approach chosen:

- Compliance with the supervisory requirements on the aspects to be audited.
- As specific as possible risk-adequate design of the approach based on the principle of proportionality:
 - Focusing in-depth analyses on focus portfolios.
 - Selecting the frequency of analyses in such a way that new findings can be expected from new analyses. This is not to be expected for some analyses (e.g. default backgrounds), especially for portfolios with few defaults (LDP) with annual frequency.
 - In case of model changes: In some cases, model changes only affect one particular aspect, e.g. calibration without any influence on the ranking of the ratings. In this case, extensive tests for model differentiation are not necessary. If major model modifications are actually carried out or the change has a major impact and is associated with a corresponding risk potential with regard to the performance of the model, more extensive analyses and a more in-depth critical questioning are carried out. In the case of smaller adjustments, on the other hand, a less elaborate approach to verification by validation is carried out on the basis of the proportionality principle, adjusted in line with the risk.
 - The differentiation between the annual validation of the "model in place" on the one hand and the examination of model changes on the other hand ensures that even in the case of longer-running examination and approval processes for model changes on the part of the supervisory authority, the respective productive model in use is examined regularly.
 - If the approval of model changes takes a long time, it may be useful to monitor model performance for the model-after-change and other selected aspects.

1b) Do you see any constraints in implementing the proposed expectations (i) as described in section 4 for the first validation for a) newly developed models; and b) model changes; and (ii) as described in section 5 for the subsequent validation of unchanged models?

As we understand it, the EBA would like to focus validation activities on matters that have changed; these are to be examined intensively. In the case of unchanged issues, on the other hand, an approach based on standard analyses is more likely. We welcome this basic approach in principle.

However, the approach proposed by the EBA hardly differentiates between the materiality of models, portfolios or model changes. In our view, a basically identical audit approach for the validation of all models that have not been changed and all types of model changes is not risk adequate. A stronger differentiation should be made here:

- More extensive model conversions as well as material model changes should be examined more intensively than smaller adaptations.
- Also, in the case of significant extensions of the scope of application, a complete review of the entire model, as proposed in paragraph 9 lit. c, is not necessarily appropriate in our opinion; this applies in particular with regard to the portfolio already existing in the scope of application (a significant extension of the scope of application can be triggered in individual cases by just a few additional individual cases). The appropriate validation approach from a risk point of view should be chosen specifically and risk-adequate for the respective case of application.
- Material models and portfolio areas with large numbers of cases should be tested more intensively than non-material models and peripheral areas of portfolios with few cases.
- For some analyses, an annual review rhythm is not useful, as it is not to be expected that the results change qualitatively from year to year. This applies in particular to portfolios with low default rates (LDP) (e.g. homogeneity, representativeness of the period for the long-term default rate). For these reasons, we consider a multi-year rhythm to be appropriate and risk-adequate for these cases (see e.g. the ECB's considerations in this regard in point 65 General Topics EGIM).
- The carrying out of a full review by the developers every three years (see Context Box 7) does not make sense, at least for LDPs, even for essential models, as no fundamental new findings about the model design and the basic structure of the model can be expected at this frequency (the factor weights are, however, checked every three years on the basis of the latest data). In the case of material model changes, several years often pass in practice (with project implementation, supervisory approval process, IT implementation, etc.), so that virtually no data would be collected with the new model until the next full review. Therefore, such a frequency should not be presented as "best practice". Apart from this, in order not to mix up the respective supervisory expectations on individual topics, we believe that it should be avoided that a manual on validation also comments on the review of estimates.

In para 88, we understand that the expectation is expressed that the documentation for any notifiable change should be checked by the validation prior to notification: We do not consider this expectation appropriate as this task is unrelated to the other tasks of validation, especially for

non-substantial changes. If an independent formal review of the notification documents prior to notification is deemed necessary, this should be specified in general terms, but in any case without assigning this task to validation.

Regarding a substantive review by the validation, it should be clarified in the last sentence that the validators perform a review of the documentation of the CRCU and not a compliance assessment for the application package. Furthermore, it should be clarified that this review only needs to be carried out for material changes prior to notification to the supervisory authority and can also be carried out for non-material changes as part of the annual validation.

Question 2: For rating systems that are used and validated across different entities, do you have a particular process in place to share the findings of all relevant validation functions? Do you apply a singular set of remedial action across all the entities or are there cases where remedial actions are tailor-made to each level of application?

Question 3:

3a) Do you deem it preferential to split the review of the definition of default between IRB-related topics and other topics? 3b) If you do prefer a split in question 3a, which topics of the definition of default would you consider to be IRB-related, and hence should be covered by the internal validation function?

In our view, a generally applicable answer to these questions cannot be meaningfully given. Whether it makes sense to split the review of the definition of default (DoD) between IRB and non-IRB issues depends on the particular IRB procedures of the respective institution, the portfolios concerned and the other processes affected (e.g. accounting, depending on the respective accounting standard). Therefore, the determination of which role, if any, the validation function should have in the DoD review and which tasks, if any, should be taken over by other organisational units in the respective institution must be made on a case-by-case basis. It should therefore be refrained from making general specifications in this regard.

Question 4: Which approach factoring in the rating philosophy of a model into the back-testing analyses should be considered as best practices?

Art. 12 point f Delegated Regulation 2022/439 ("assessment methodology") states in general terms that the rating philosophy is to be taken into account in backtesting analyses, among other things. In addition, paragraph 66 point c in conjunction with paragraph 67 EBA GL 2017/16 specifies how this is to be done: The expected responsiveness of PDs in relation to changes in macroeconomic conditions based on the respective rating philosophy is examined to determine whether the actual behaviour of PDs in relation to default rates over time corresponds to these expectations. In our view, these specifications are as specific and concrete as is reasonably possible within the framework of a general regulation.

In our opinion, the appropriate approach for the validation of the specific procedure must be specifically geared to the selected rating philosophy, the characteristics of the respective model and the underlying segment and must be designed accordingly (e.g. taking into account the cyclicity of the segment and the calibration method in the respective model). For this reason, in

our view there is no generally applicable "best practice" approach for the concrete procedure for taking the rating philosophy into account in backtesting analyses. Accordingly, it should also be refrained from defining or recommending such an approach.

In our view, it would make sense to examine the development of the one-year default rates and mean PDs over time and to take strong deviations as a reason for further examinations of the rating philosophy.

Question 5: What analyses do you consider to be best practice to empirically assess the modelling choices in paragraph [76] and, more generally, the performance of the slotting approach used (i.e. the discriminatory power and homogeneity)?

In our view, the validation procedure for so-called "slotting approaches" must also be designed in a risk-adequate form in the sense of the proportionality principle. In particular, the materiality of the portfolio covered by the respective slotting approach must be taken into account.

In cases where the slotting approach only covers peripheral areas of an institution's SL portfolio because the core SL portfolios are covered by more elaborate IRB rating systems, the corresponding review of the modelling may be less complex and in-depth than in cases where the slotting approach is applied to core areas of the SL portfolio. In the simpler case, it would be conceivable, for example, to carry out validation actions only with regard to default risk in a first step.

Question 6:

6a) Which of the above mentioned approaches do you consider as best practices to assess the performance of the model in the context of data scarcity?

For LDP portfolios or other portfolios with limited data, option 2 will usually be ruled out, as the development will necessarily exhaust the available data base during development in order to develop a model that is as accurate and stable as possible. If a certain amount of time has elapsed between the time of development and validation, it may make sense under certain circumstances to carry out out-of-time (OOT) tests on the basis of more current data on the part of the validation (option 1). However, this usually requires more recent data of at least another year to be available at the time of validation compared to the dataset used by the developers. However, this will not always be possible.

Nevertheless, further qualitative analyses (option 3) in the validation should ensure that the development does not result in any over-adaptation effects to the data basis. To this end, the results of quantitative analyses should be supplemented in particular by economic plausibility checks of the model design and individual model components. In addition, it may be useful to identify potential overfitting effects with regard to the developer data basis by means of certain analyses on the basis of the development data basis, such as cross-validation tests, also in a quantitative way.

In summary, it can be said that all three options make sense in principle and should be applied or possible depending on the respective (data) situation.

6b): More in general, which validation approaches do you consider as best practices to assess the performance of the model in the context of data scarcity?

The validation procedure should always be specifically geared to the framework conditions of the respective model, which, in addition to the properties of the model and the underlying economic segment, also include the quantity structure of the available data in particular. For the quantitative analyses used, metrics and statistical tests should be designed in such a way that the data basis used, i.e. in particular also a small amount of data, is taken into account appropriately. The smaller the respective quantity structure is, the more other analysis tools should be included in addition to quantitative analyses based on the model results and internal failure experience, e.g.:

- Comparisons with external benchmarks such as external ratings, studies (if available) etc.
- Expert assessments of the economic plausibility of the model design, the model components and the model results.
- Analyses of individual cases, e.g. on the background of overwritten ratings and the economic background of defaults that have occurred.
- if necessary, carrying out impulse-response tests to gain additional insights into the stability/responsiveness of the model.