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Final Report

Draft Regulatory Technical Standards

On amending Delegated Regulation (EU) No 529/2014 supplementing Regulation (EU) No 575/2013 of the European Parliament and of the Council with regard to regulatory technical standards for assessing the materiality of extensions and changes of the Internal Ratings Based Approach

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1. Executive Summary

Article 143(1) of the Regulation (EU) No 575/2013 ('CRR') requires approval by competent authorities for institutions to be able to calculate their risk-weighted exposure amounts ('RWEA') for credit risk using the Internal Ratings Based Approach ('IRB Approach'). Institutions must also apply for permission from their competent authorities prior to implementing material extensions and changes to their internal approaches. The permission to use the IRB Approach is granted by the competent authority in accordance with Article 143(1) CRR, where the conditions set out in Part Three, Title II, Chapter 3 of CRR are met.

Under the IRB Approach, Article 143 CRR differentiates between material extensions or material changes, which are subject to approval from competent authorities, and other extensions or changes, which are only subject to notification. The Commission Delegated Regulation (EU) No 529/2014 ('CDR on MC') further splits the non-material changes into those that require ex-ante notifications to the competent authorities at least two months before their implementation (i.e., the supervisors have two months to oppose the implementation by reclassifying the model change as material), and extensions and changes that only have to be notified to the competent authorities after their implementation (i.e., ex-post notifications).

The CDR on MC contains in its annex a list of qualitative criteria which provides a classification of changes and extensions into the three categories mentioned above. Furthermore, the CDR on MC also contains quantitative thresholds, based on the reduction of RWEA before and after a change, to determine the materiality of an extension or change.

With the Regulation (EU) 2024/1623 ('CRR3') amending the CRR, the EBA is mandated under Article 143(5) CRR to publish Draft Regulatory Technical Standards amending the Commission Delegated Regulation (EU) No 529/2014 ('amending RTS on MC'). The amendments proposed stem primarily from two reasons.

First, a review of the CDR on MC is carried out to align this Regulation with the CRR3 amendments to the CRR. This includes removing references in the amending RTS on MC to the IRB approach for equity exposures, and to the AMA approach.

Second, amendments are made to enhance the supervisory efficiency of the approval process of model changes and extensions, by leveraging on 10 years of supervisory experience gathered since publication of the original RTS. The EBA received additional evidence highlighting that the amount of material model changes has strained supervisory resources. Together with the current approval process set up by competent authorities, this has caused undue delays in the implementation of model changes by the institutions, uncertainty about the date of implementation, hampering the effective model use and timely model improvements. In light of these costs, and having considered the new constraints brought by the final Basel III framework on internal models (e.g., input and

output floors), EBA has decided to take a pragmatic approach such that the amending RTS on MC classify a lower number of model changes as material.

The amending RTS on MC introduces a stronger reliance on the quantitative thresholds with the aim to reduce the number of material model changes, whilst ensuring an appropriate information flow to the supervisor. This stronger reliance is implemented by reducing the qualitative criteria categorizing changes as material: these changes will now only be material if they lead to a breach of the quantitative threshold. A reduced list of criteria that categorizes changes as material is maintained. This entails changes that are so fundamental (e.g., a complete model re-design) that they should be considered material irrespective of their quantitative impact.

The revisions proposed in this amending RTS on MC will be complemented by a further review of the Commission Delegated Regulation (EU) 2022/439 ('CDR on assessment methodology'), in order to ensure that competent authorities have all the tools available to conduct a risk-based supervision of model changes.

Next steps

The draft regulatory technical standards will be submitted to the Commission for endorsement before being published in the Official Journal of the European Union.

2. Background and rationale

2.1. Introduction and mandate

1. Article 143(1) of Regulation (EU) No 575/2013 ('CRR') requires approval by competent authorities for institutions to be able to calculate their risk-weighted exposure amounts ('RWEA') for credit risk using the Internal Ratings Based Approach ('IRB Approach'). Institutions must also apply for permission from their competent authorities ('CAs') prior to implementing material extensions and changes to their internal approaches.
2. The permission to use the IRB Approach is granted by the CAs in accordance with Article 143(1) CRR where the conditions set out in Part Three, Title II, Chapter 3 of CRR are met. Adjustments may be needed to maintain the compliance of these approaches with the regulatory requirements for the calculation of own funds requirements and for their use in accordance with Article 144(1)(b) CRR. The need for adjustments may for example stems from changes in internal or external factors, the outcome of the review of estimates, or changes in the business activity or organisational structure of the institution.
3. Article 143(3) CRR differentiates between material extensions or changes that are subject to approval, and all other changes that are subject to notification per Article 143(4) CRR. Furthermore, Article 143(5) CRR mandated the EBA to develop draft regulatory technical standards to specify the conditions for assessing the materiality of the use of an existing rating system for other additional exposures not already covered by that rating system and changes to rating systems or internal models approaches to equity exposures under the IRB Approach ('RTS on MC'). The EBA has published the RTS on MC in December 2013 and the related Commission Delegated Regulation (EU) No 529/2014 ('CDR on MC') was adopted in March 2014, and amended in 2015 to include the Internal Models Approach (IMA) for market risk.
4. The CDR on MC provides (in its annexes) lists of qualitative criteria for the classification of extensions and changes to the internal approaches for the IRB approach and the IMA approach into one of the following categories:
 - a. Material extensions and changes, which require a permission from the CAs;
 - b. Extensions and changes which are not material but still require ex-ante notifications to the CAs at least two months before their implementation (i.e., the CAs have two months to challenge the adequacy of the materiality classification and/or the compliance with the respective regulatory provisions);
 - c. Extensions and changes that only require ex-post notification to the CAs after their implementation.

5. In addition, the CDR on MC also contains quantitative thresholds, based on the RWEA before and after a change, intended as a ‘back-stop’ measure in addition to the lists of qualitative criteria when determining the materiality of an extension and change.
6. With the Regulation (EU) 2024/1623 (‘CRR3’) amending CRR, the EBA is mandated under Article 143(5) CRR to publish Draft Regulatory Technical Standards amending the Commission Delegated Regulation (EU) No 529/2014 (‘amending RTS on MC’) concerning changes to rating systems and extensions to the range of application of rating systems under the IRB approach. There are two reasons necessitating the amending RTS on MC.
7. First, the amending RTS on MC reflect CRR3 updates to the CRR. Considering that Article 150(1)(a) CRR imposes the use of the Standardised Approach (SA) for the exposures assigned to the exposure class referred to in Article 147(2), point (e) CRR (equity exposure class), all references in the amending RTS on MC to the internal models approach to equity exposures are removed. Similarly, the use of Advanced Measurement Approach (AMA) for the operational risk is no longer possible under CRR, and therefore all references to this approach are removed.
8. Second, in light of the IRB repair programme nearing its final phase, the focus of this amending RTS on MC is shifted toward enabling a more efficient model maintenance process while safeguarding effective supervision, particularly regarding fundamental changes to rating systems and significant changes in the model landscape. With that, the amending RTS on MC leverage on the supervisory experience gained since the original RTS was published. Accordingly, the amending RTS on MC introduce clarifications on its scope, a comprehensive revision of the qualitative criteria, and adjustments to the calculation of quantitative criteria for extending rating systems to additional exposures.

2.2. Scope of the RTS

9. Recital 7 of the CDR on MC states that *‘The permission of competent authorities relates to the methods, processes, controls, data collection and IT systems of the approaches, therefore on-going alignment of the models to the calculation dataset used, based on the approved methods, processes, controls, data collection and IT systems, should not be covered by this Regulation’*. This recital gave rise to a number of interpretative questions from different stakeholders.
10. It should be clarified that recital 7, specifically pertaining to the *‘on-going alignment of the models to the calculation data-set used’*, relates to the ongoing application of the rating systems, and not to changes due to the alignment of development and calibration processes to the approved rating system methods. As the permission of competent authorities relates to the methods, processes, controls, data collection and IT systems of the approaches, updates to the data for the application portfolio used in the ongoing application of the rating systems in order to calculate the RWEA for the application portfolio, based on the approved methods, processes, controls, data collection and IT systems, should not be considered to fall within the scope of this amending RTS on MC. On the contrary, changes to development and calibration processes (including the respective reference datasets) to align with the approved methods, processes,

controls, data collection and IT systems, should be covered by this amending RTS on MC. A new recital has been introduced clarifying this aspect.

11. In a similar vein, an additional recital is introduced in the amending RTS on MC clarifying that *'New origination of exposures by the institution itself that are of a type of exposure already rated under the IRB approach should not be seen as an extension of a rating system and should therefore not be covered by this Regulation'*.
 12. Changes to aspects outside of the rating systems applicable under the IRB approach should not be considered falling within the scope of the amending RTS on MC, even if they may have a potential impact on the RWEA calculation. This implies that changes in the parameters Maturity ('M'), Total Annual Sales ('S') and the SA-CCF assignment to off-balance sheet items which solely affect the formula used for RWEA calculation should not be within the scope of the amending RTS on MC as they do not directly affect aspects within the scope of a rating system.
 13. On the contrary, the methodology for assigning exposures to exposure classes continues to fall within the scope of the amending RTS on MC as changes to this methodology may also indirectly affect the internal risk estimates used for RWEA calculation and not only the formula used for RWEA calculation itself, for example through differences in the systems, processes, controls, and data collection methods in place between different exposure classes.
 14. Institutions are required to assess and categorize any changes coming from the implementation of CRR3 that impact the performance of a rating system and bundle them for permission or notification. The prioritisation of the implementation of these changes and any related remediation plans and actions, including possible temporary mitigation measures, should be notified to the CAs. However, the EBA considers that mandatory changes coming from a direct implementation of CRR3 and that do not impact the performance of a rating system should not be considered under the scope of this amending RTS on MC. As such, they neither require an authorisation from the CAs nor a notification. These changes include the application of new regulatory values (new PD, LGD and CCF input floors, new LGD and CCF regulatory values and new parameters in the credit risk mitigation framework) and updates in relation to the risk weight function (e.g. deletion of the 1,06 factor).
 15. The distinction between the extensions covered by article 148(1) CRR and the scope of this amending RTS on MC is clarified. It is clarified that for exposures that were not risk weighted under the IRB approach and are subsequently moved to the IRB approach, (i.e. under the Standardized Approach to IRB, or from F-IRB to A-IRB), there are two distinct cases:
 - a. Types of exposures that will be rated by an existing approved rating system (this rating system is extended). These cases are in the scope of the RTS and require prior permission by CAs.
 - b. Types of exposures that will be rated by a newly developed rating system. These cases are not in scope of this RTS but instead require approval through Article 143(2) CRR, as approval is required for each rating system.
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16. Other changes to the permanent partial use of internal approaches or, where applicable, to the sequential implementation of IRB approaches are covered by Articles 148 and 150 CRR. Those types of changes should not be covered by this amending RTS on MC.

2.3. Revision of the RTS to assess the materiality of model changes

17. The EBA has been made aware that institutions' model change requests have been driving the supervisory agenda constraining the capacity to perform assessments on initiative of the competent authorities to investigate concerns, vulnerabilities and emerging risks identified as part of the ongoing model monitoring under Article 101(1) and (4) of Directive 2013/36/EU ('CRD'). Together with the current approval process set up by competent authorities, the amount of material model changes has strained supervisory resources, which in turn has caused undue delays in the implementation of model changes by the institutions, uncertainty about the date of implementation, hampering the effective model use and timely model improvements.

18. As such, the amending RTS on MC introduce a stronger reliance on the quantitative thresholds with the aim to reduce the number of material model changes, whilst ensuring an appropriate information flow to the supervisor. A revision towards a reduction of material model changes allows CAs to introduce more efficiency in their supervisory processes by taking a more risk-based approach. The adjustments made are expected to provide more flexibility on how to allocate the scarce supervisory internal model resources available.

2.4. Revision of the qualitative criteria for assessing the materiality of changes

19. The amending RTS on MC increases the reliance on quantitative metrics and reduces the qualitative criteria that now entail only those changes that fundamentally change an IRB rating system.

20. There are several changes that the EBA considers to be fundamental changes to IRB rating systems, which are therefore considered to still require an approval from CAs; these changes would remain material irrespective of their quantitative impact. These changes are described in subsections 2.4.1, 2.4.2, and 2.4.3 in more detail, and relate to:

- a. A fundamental change to (level of application of) the definition of default.
- b. A fundamental re-development of the model.
- c. A fundamental change in the risk quantification methods.

21. A set of qualitative criteria reflecting changes that require prior permission under the current CDR on MC are recategorized in the amending RTS on MC such that the corresponding changes require ex ante notifications. Although no longer classified as material (unless the quantitative

criteria are triggered), the EBA still considers these changes to be important to the extent that an ex-ante notification is required.

22. This revision re-categorises the following changes from material to non-material (unless of a breach of the quantitative thresholds):

- a. Changes in the methodology used for assigning an obligor or a transaction to a rating system, and changes to the methodology to assign exposures to exposure classes.
- b. Changes to the validation framework.
- c. Changes to the DoD UTP framework, changes in the 90DPD counter, and changes in adjustments to external defaults used, unless deemed significant by the DoD significance measure, see paragraph 24.
- d. Removing years of data, and adding new years of data beyond the annual inclusion of the most recent year.¹
- e. Improving data quality and performing subsequent recalibrations.
- f. Including/removing new risk drivers or changing the weight of existing risk drivers, and including/removing additional types of collateral into the LGD estimation, except where they change the rank ordering or distribution of exposures across grades in a significant manner, see paragraph 25.d.
- g. Changes to the methods to perform overrides based on human overrides of inputs or outputs of the assignment process.

2.4.1. Fundamental changes to the default definition

23. In the amending RTS on MC, material changes related to the Definition of Default (DoD) are limited to changes to the level of application of the definition of default for retail exposures according to Article 178(1) CRR. These changes relate to aspects where their implementation may be more complex and imply a higher risk of non-compliance pertaining to the operationalisation of identifying defaulted exposures as referred to in Article 178 CRR.

24. However, this criterium may not capture all changes of higher complexity. Therefore, a backstop measure is added: a change related to DoD is deemed material when it impacts the default classification of the exposures in the range of application of a rating system in a significant manner. This measure should capture significant changes, including those to the method to

¹ The current CDR on MC already states that change in the length and composition of time series used for parameter estimation according to Article 179(1)(a) that goes beyond the annual inclusion of the latest observations require ex ante notification, *unless already classified as material*. Because of this latter part, institutions were likely to have nonetheless classified the change as material based on the previous wording for changes to risk quantification.

identify if the obligor is more than 90 days past due on any material credit obligation according to Article 178(1)(b) CRR, changes to the use of external data according to Article 178(4) CRR, and changes to the mandatory Unlikelihood to Pay indications described in Article 178(3) CRR. There are no prescribed thresholds, but these will have to be defined by the institution itself.

2.4.2. A redevelopment of the model

25. Re-developments of risk parameters in approved rating systems, i.e., redevelopments of the algorithms and procedures used for assigning obligors / exposures to obligor / facility grades or pools, remain material model changes. Specifically, this relates to fundamental changes to the model design of the expert based, statistical or mathematical model used to differentiate obligors or facilities and to assign these obligors to rating scales or pools. These fundamental changes are:

- a. fundamental changes to the typologies of the data sets used for explaining the target variable, because these changes have a significant impact on how the final model is to be interpreted. Changes in the typologies of the data sets are considered to be fundamental when institutions switch between using internal defaults, external defaults, pooled defaults, or external ratings for the target variable in risk differentiation. This includes switching between an internal rating approach that selects and weighs the risk drivers to be used for risk differentiation purposes by identifying the main factors that explain external ratings provided by an external credit assessment institution or similar organisation ('shadow ratings approach'), and using internal directly observed defaults to explain risk drivers and their weights/hierarchy.
- b. switches between discrete assignment models and continuous models as referred to in Article 169(3) CRR; These changes have a significant impact on how the model is to be estimated and applied.
- c. changes in the functional link (relationship) between inputs (rating criteria / risk drivers) and outputs (assigned rating) of the model as referred to in Article 174, second subparagraph, of CRR. These changes require approval when this implies a fundamental change of the complexity of the model design and/or the reliance on human judgment. It was considered appropriate to distinguish between the following level of complexity and reliance of human judgment, namely between simple linear models (including simple regression models), simple non-linear models (such as component based models or kernel density estimators), or more complex models (such as random forests or neural networks). Any switch between these types of functional links is considered to either change fundamentally the complexity of the model, i.e., make it more difficult to interpret, explain and challenge modelling assumptions and the economic meaning of the relation between risk drivers and the target variable, or change fundamentally the reliance on human judgment of the model which may have impact on model performance.

- d. other changes in risk differentiation are considered material if they change the rank ordering or the distribution of obligors, facilities or exposures across grades or pools, in a fundamental manner, the measure and level of which will have been defined by the institution. This measure should capture fundamental changes to rating grades, rating criteria and their weights implying a re-estimation of the model, whereas smaller changes to these aspects related to model maintenance should not be captured.

2.4.3. A fundamental change in the risk quantification methods

26. Fundamental changes to the risk quantification approaches or methodologies for quantifying the risk of obligor default or associated loss as referred to in Articles 180, 181 and 182 CRR, including the methodology for estimating the downturn impact for identified downturn periods, should also remain material model changes. These fundamental changes are:

- a. any switch between a portfolio level calibration method to a grade level calibration method, or vice versa;
- b. fundamental changes in the estimation approach to calculate the downturn impact, namely any switch between approaches based on observed impact of a downturn to approaches based on an estimated impact of a downturn (including the 'haircut' approach and 'extrapolation' approach as referred to in the Guidelines for the estimation of LGD appropriate for an economic downturn), or vice versa.

2.5. Revisions to ex ante notifications for changes to rating systems

2.5.1. Qualitative changes recategorized to ex post notification

27. Most of the qualitative criteria that triggered material model changes under the CDR on MC and that are not deemed material under the amending RTS on MC, have been redefined as ex ante notification criteria; these types of changes should be notified to the competent authorities prior to their implementation. However, to further increase efficiency of the model change process, several changes are moved to the ex post category.

28. The validation framework is vital to the functioning of IRB rating systems of institutions. To accommodate the improvement of validation functions of institutions, the EBA has published in 2023 the Supervisory handbook on the validation of rating systems under the IRB approach, which clarifies the role of the validation function as part of corporate governance, in particular in terms of scope of work and interaction with the credit risk control unit. The handbook provides some general guidance on the expectations relative to the validation function, as already laid out in Article 185 CRR.

29. Although it is considered that changes to the validation framework should be reviewed by CAs, it is an observed best practice that CAs currently review changes under the IRB approach to

policies and procedures, including changes to the validation framework, during an annual review cycle. To that effect, the guidelines on the Supervisory Review and Evaluation Process already state that CAs should also assess whether the internal validation process is sound. Furthermore, these guidelines state that CAs should monitor whether the institution continues to fulfil the minimum requirements and ensure that related own funds requirements are not underestimated. The assessment of model risk may be based on the insights gained in other supervisory actions, including those carried out in accordance with Article 101 of Directive 2013/36/EU. Reviewing such changes during the annual review cycle allows supervisors to evaluate such changes more comprehensively and often have the possibility to evaluate these changes against practical examples of implementation.

30. With that, changes in the validation framework of institutions should follow a notification categorisation that reflects the risk of undermining a sound validation function. As such:

- a. changes are ex ante if either:
 - i. they unequivocally lead to a more lenient judgment of the validation function of the discriminatory power or the predictive power of the institution's rating processes or their rating systems. This may be due to the removal of a test *without* replacement, or the lowering of an acceptance threshold of such a test, or due to definition of more lenient conclusions or follow-up actions based on a test result.
 - ii. they change the organisational set up of the validation function.
- b. Other changes require an ex-post notification, in particular those that lead to an unequivocally stricter judgment of the validation function.

31. Furthermore, Annex I, Part II, Section 2, criteria 4(c) of the CDR on MC related to other processes besides the validation framework (such as the institutions' material change policies) require only an ex-post notification rather than an ex-ante notification under the amending RTS on MC.

32. Finally, also changes to the methodology to assign exposures to exposure classes have been moved to the ex-post notification category. These changes may potentially indirectly affect risk estimates, as they may potentially affect the risk controls of rating systems (e.g., data vetting or validation). For example, an exposure class change may impact rating systems through the different requirements between retail and non-retail triggering other model changes (e.g., related to increasing the data period used for estimation). Such changes would in itself require approval from, or notification to CAs, depending on the type of change.

2.5.2. Derogation for slotting and purchased receivables removed

33. Based on the qualitative criteria in the CDR on MC, changes to the supervisory slotting criteria approach (SSCA) according to Article 153(5) CRR, and changes in the treatment of purchased receivables according to Article 153(6) and (7) and Article 154(5) CRR are classified as requiring

an ex-ante notification. This implies that a material change can only occur with respect to the SSCA or the treatment of purchased receivables if the quantitative criteria are exceeded. However, in light of the revised materiality criteria, there is limited reason to treat the SSCA and purchased receivables in a different manner compared to other rating systems. Therefore, the general framework to assess these changes to the slotting and purchased receivables approaches is applied in the amending RTS on MC.

2.5.3. Qualitative criteria that are updated based on CRR3

34. Article 183 CRR, after the CRR3 amendment, refers to the requirements for assessing the effect of unfunded credit protection (UFCP) for exposures to central governments and central banks, exposures to regional governments, local authorities and public sector entities, and exposures to corporates, where own estimates of LGD are used and for retail exposures. To align the amending RTS on MC with this CRR3 amendment, the EBA considers it appropriate to broadening the scope of the related qualitative ex ante criteria (point 2(u) of Annex 1, Part II, Section 2), by referring generally to changes to UFCP effecting an institution's own estimates of LGD. It is the understanding of the EBA that this relates primarily to changes made by institutions under Article 183(1a) CRR, which stipulates that institutions may recognise unfunded credit protection by using either the PD/LGD modelling adjustment approach or the substitution of risk parameters approach under A-IRB, in accordance with Article 236a CRR and subject to the eligibility requirements of Part Three, Title II, Chapter 4 ('Credit Risk Mitigation'). As such, changes from a modelling approach to a substitution approach and vice versa would entail an ex-ante notification, unless the quantitative criteria for material model changes are triggered.

2.6. Bundling changes to determine quantitative impact of changes to rating systems

35. Institutions should bundle changes for the purpose of assessing the materiality classification and ensure their readiness of implementing the change in their IT systems. When assessing the quantitative thresholds, in order to ensure that the quantitative threshold is not diluted by assessing the threshold individually for smaller pieces of the same change, two aspects with respect to the bundling of changes are stipulated, namely that

- a. A group of modifications affecting a single rating system should be considered as a single model change. In particular, modifications that are similar in nature should be grouped together as one change. For example, if the methodology to take into account recoveries from collateral is changed, where the methodological change is first applied to some collateral types and subsequently to others, such modifications constitute one change, if they constitute the same change to the approved methods, processes, controls, data collection, and IT systems used. As a consequence, the materiality assessment described in Article 4(1)(c)(i) and 4(1)(c)(ii) of the amending RTS on MC should be performed on the aggregated impact encompassing all such modifications.

However, as a derogation to the first subparagraph, institutions may consider the timing of the change as a justification to split the change if this allows for a more effective and efficient implementation of the change, in case the change is implemented across a time period longer than one year. In this case, institutions may split such changes with a phased implementation plan, where this implementation plan is subject to a notification to the competent authority. In this case, the quantitative thresholds described in Article 4(1)(c)(i) and 4(1)(c)(ii) may be evaluated against the individual parts of the change as outlined in the implementation plan.

- b. One change affecting multiple rating systems should be considered as individual separate changes for each rating system affected. As such, institutions should assess the materiality by considering these changes separately when assessing the threshold described in Article 4(1)(c)(i). In other words, if a change affects multiple rating systems, the 1.5% threshold should be assessed separately for all affected rating systems. Next to that, the impact of the separate changes on the rating system itself should also be evaluated separately using the threshold as defined in Article 4(1)(c)(ii).

2.7. Framework for assessing the materiality of extensions and reductions to the range of application of rating systems

2.7.1. Qualitative criteria to assess materiality of extensions

36. Annex I, Part I, Section 1, point 1 related to the classification of material extensions has been updated, beyond the clarification provided in paragraph 15 on the scope of the amending RTS on MC.

- a. First, the categorization of types of extensions is simplified, requiring approval for extensions to additional exposures, unless the institution can prove representativeness of the rating system for the extended exposures.
- b. As a second revision, the concept of representativeness in this RTS which needs to be demonstrated by the institution in order to apply the derogation described in paragraph a is linked to the requirements on representativeness in the Commission Delegated Regulation (EU) 2022/439 ('CDR on Assessment Methodology').

2.7.2. Quantitative metrics to assess materiality of extensions

37. In relation to the quantitative threshold for reductions of the range of application of rating systems, the framework is adapted to capture the risks associated with such changes.

38. First, it is clarified that the quantitative threshold does not need to be applied to reductions of the range of application of rating systems, where the EBA deems ex-ante notifications for reductions as sufficient in accordance with Section 2 of Part 1 of Annex 1. Furthermore, the risks

associated with reductions of the range of application of rating systems are understood to be captured elsewhere in the framework. Reductions due to reversals to less sophisticated approaches are captured by Article 149 CRR. Reductions stemming from exposures moving to other rating systems under the IRB approach are captured in the framework for extensions of the range of application of those other rating systems. The threshold described in Article 4(1)(d) of the amending RTS on MC that applies to these extensions is considered to be appropriate to capture any risks stemming from the corresponding reductions of the range of application of rating systems. Furthermore, if the reduced scope exposes weaknesses in the model's performance and necessitates the redevelopment or a recalibration, the other criteria set out in this RTS would then apply to these changes.

39. With respect to extensions, it is furthermore clarified that the 15% threshold described in Article 4(1)(c)(ii) of the amending RTS on MC does not cover the risk that a rating system might not perform adequately for the additional exposures to which the range of application of the rating system is extended. This risk of this weak model performance on the new exposures becomes more pressing the larger the extensions of range of application of the rating system is in comparison to the existing range of application. Instead, the EBA considers that a different quantitative threshold is required for extensions, taking into account these specific risks concerned with extensions. The new threshold is described in an added point Article 4(1)(d)(ii). The threshold is calculated as the ratio of the risk-weighted exposure amounts of the additional exposures to the range of application of the rating system (i.e. the set of exposures to which the rating system is extended and rated by this rating system) divided by the risk-weighted exposure of the existing range of application of the rating system prior to the extension.

2.8. Documentation requirements

40. Article 8 of the amending RTS on MC sets out the documentation requirements for changes and extensions. The intention is that the documentation requirements also include the most important technical aspects and rationale around the change and its categorization. Although this may introduce marginal additional documentation requirements for ex ante changes, given the shift in the RTS requiring ex ante notification for most model maintenance changes, the updated documentation requirement should still allow supervisors to be able to understand the impact of changes and effectively evaluate the materiality of the change. This is reflected in two main changes:

- a. The rationale and objective of the change is further detailed by requesting more specifically the reason for changing the rating system, in particular whether it addresses a deficiency in the model (identified by either CRCU, validation function, or the supervisor).
- b. Additional information is requested on the assessment by the institution on the categorization of the change. First, it is clarified that the internal validation should assess the materiality categorization of the change or extension. Next to that,

besides documenting the quantitative RWA impact and the triggered qualitative criteria, additional information is required;

- i. For model changes, institutions should submit documentation regarding the impact of the change on the distribution of exposures across grades and the ranking ordering of the rating system, where applicable.
- ii. For model extensions, institutions should submit documentation regarding their assessment of the representativeness of the rating system and its data used against the additional exposures on which the rating system will be applied. Furthermore, institutions should submit the technical documentation, in particular regarding the model performance of the extended rating system.

2.9. IT requirements

41. On the expectations in relation to the IT implementation of the rating system, a technical clarification is made by adding a reference to Article 144(1)(g) CRR to Article 3(5) of the amending RTS on MC. This requires institutions to calculate under the IRB Approach the own funds requirements resulting from its risk parameter estimates and to be able to submit the reporting as required by Article 430 CRR. This implies that institutions should have conducted the preparatory work for the IT implementation of the rating systems. The intention is to further clarify that institutions are not only required to be able to calculate RWEA but also to report accordingly under COREP based on the approved extension or change from the date specified in the new permission. Introducing the cross-reference to Article 144(1)(g) CRR therefore provides further transparency and clarity on the requirements regarding the implementation of material changes post approval by the CAs.

3. Draft regulatory technical standards

COMMISSION DELEGATED REGULATION (EU)

of XXX

amending the regulatory technical standards laid down in Commission Delegated Regulation (EU) No 529/2014 supplementing Regulation (EU) No 575/2013 of the European Parliament and of the Council with regard to regulatory technical standards for assessing the materiality of extensions and changes of the Internal Ratings Based Approach.

(Text with EEA relevance)

THE EUROPEAN COMMISSION,

Having regard to the Treaty on the Functioning of the European Union,

Having regard to Regulation (EU) No 575/2013 of 26 June 2013 on prudential requirements for credit institutions and amending Commission Delegated Regulation (EU) No 529/2014² in particular Article 143(5), third subparagraph thereof,,

Whereas:

- (1) Commission Delegated Regulation (EU) No 529/2014 (CDR 529/2014) which specifies the technical standards for assessing the materiality of extensions and changes of the Internal Ratings Based (IRB) Approach and the Advanced Measurement Approach (AMA) should be amended to reflect the changes in the legal framework which occurred since its entry into force, with particular reference to the introduction of the provisions concerning the repeal of the provisions of Regulation (EU) No 575/2013 concerning the IRB approach to equity exposures and the repeal of the provisions of Regulation (EU) No 575/2013 concerning the Advanced Measurement Approach for operational risk. Furthermore, several elements of Commission Delegated Regulation (EU) No 529/2014 should be enhanced by leveraging on the supervisory experience gathered since the publication of CDR 529/2014.
- (2) Changes to rating systems as defined in Regulation (EU) No 575/2013 (CRR) may have a potential impact on the internal risk estimates used for risk weighted exposure amount calculation, and as such include changes affecting the range of application of a rating system, the rating methodology for IRB systems, the definition of default and the validation framework as well as changes to relevant processes, data and the use of the models. Recalibrations of risk parameters and changes to rating criteria of rating systems

² OJ L 176, 27.6.2013, p. 1.

are changes to rating systems even when undertaken solely due to updates in the underlying data used for model development and risk parameter quantification. However, updates to the data in the application portfolio used to assign ratings to exposures in order to calculate the risk weight exposure amount for these exposures in the application portfolio should not be considered to be changes to rating systems.

- (3) The distinction between the extensions referred to in Article 148(1) of CRR and the scope of CDR 529/2014 is hereby clarified. For exposures that were not previously risk-weighted under the IRB approach and are subsequently migrated to the IRB approach, including transitions from the Standardised Approach (SA) to IRB or from Foundation IRB to Advanced IRB, two separate cases apply. Cases where the exposures are to be rated by extending an existing and approved rating system are within the scope of CDR 529/2014. However, cases where exposures are to be rated using a newly developed rating system are outside the scope of CDR 529/2014; instead, they require approval pursuant to Article 143(2) of CRR. In any case, institutions should ensure compliance with Part Three, Title II, Chapter 3 of CRR for the additional exposures to which rating systems are extended.
- (4) New origination of exposures by the institution itself that are of a type of exposure already rated under the IRB Approach should not be seen as an extension of a rating system and should therefore not be covered by this Regulation.
- (5) To improve efficiency and lower the burden for supervisors and institutions whilst maintaining a prudent approach to classifying model changes, certain qualitative criteria to assess the materiality of changes are reduced. The qualitative criteria that classify changes as material should be limited to fundamental changes to the definition of default, and fundamental changes to the structure of the model and the risk quantification of risk parameters. In addition, any change to institutions' rating systems should require approval in case the respective quantitative criteria are breached.
- (6) In relation to changes to the definition of default, material changes to rating systems should be limited to those changes where the implementation of these changes may be more complex and may imply a higher risk of non-compliance pertaining to the identification of defaulted exposures in accordance with Article 178 of CRR. First, this includes changes in the level of application of the definition of default for retail exposures according to Article 178(1) of CRR. Next to that, it should be ensured that significant changes to the definition of default of institutions are appropriately implemented, as an incorrect implementation may have a potentially high impact on risk-weighted exposure amounts.

- (7) In relation to changes to the algorithms and procedures used for assigning obligors or exposures to grades or pools, or for quantifying risk parameters ('changes in the IRB methodology'), material changes to rating systems should be limited to fundamental changes to the structure of the rating system and to the risk quantification of parameters. A clear list of such fundamental changes should be provided to ensure clarity on the interpretation of these fundamental changes.
- (8) Fundamental changes to the typologies of the data sets used to explain the rating criteria, their hierarchy and weights, should require approval from competent authorities, because these changes have a significant impact on how the final model is to be interpreted. Changes in the typologies of the data sets are considered to be fundamental when institutions switch between using internal defaults, external defaults, pooled defaults, or external ratings for risk differentiation purposes. This includes switching between an internal rating approach that selects and weighs the rating criteria to be used for risk differentiation purposes by identifying the main factors that explain external ratings provided by an external credit assessment institution or similar organisation ('shadow ratings approach'), and a rating approach that uses internal directly observed defaults to explain risk drivers and their weights/hierarchy.
- (9) Changes between discrete assignment models and continuous models as referred to in Article 169(3) of Regulation (EU) No 575/2013 should require approval from competent authorities as this fundamentally changes the way the model is estimated and applied.
- (10) Changes in the functional link (relationship) between inputs (risk drivers) and outputs (assigned rating) of the model as referred to in Article 174, second subparagraph, of Regulation (EU) No 575/2013 should require approval from competent authorities in case they change fundamentally the complexity of the model or the reliance on human judgment in the model. Therefore, switches between the following types of functional links require approval; a simple linear model (including a simple regression model), a simple non-linear model (such as a component-based model or kernel density estimator), or a more complex model (such as a random forest or a neural network).
- (11) For other changes in risk differentiation, including changes to rating grades, rating criteria and their weights used in models, institutions shall determine whether such modifications impact the rank ordering or distribution of exposures across grades or pools in a comparable fundamental nature. Institutions should be able to identify changes to rating criteria that are of a comparable fundamental nature implying a re-estimation of the rating system such that they require approval from competent authorities, and distinguish them from non-material changes to rating criteria that relate to the ongoing model maintenance or improvement of existing rating systems.

- (12) Changes in the risk quantification of parameters should require approval from competent authorities when institutions switch between grade level estimation methods, and alternative estimation methods performed at different (more aggregated) levels. Next to that, changing the estimation method to determine the downturn impact from a downturn period should be considered to be material.
- (13) For changes to the definition of default, and changes in the IRB methodology, that are not classified as material through the qualitative criteria or quantitative criteria, the list of changes that should require prior notification is also updated. Other changes not in these updated criteria should be notified after implementation.
- (14) Changes to the treatment of exposures that are risk weighted according to Article 153(5), and changes in the treatment of purchased receivables according to Article 153(6) and (7) and Article 154(5) of Regulation (EU) No 575/2013 should be classified according to the general materiality criteria applied for other rating systems.
- (15) Institutions should update their validation framework in a timely manner while ensuring this does not entail a risk of missing deficiencies in the rating system. Therefore, the changes in the validation methodology and validation processes should require an ex ante notification when they lead to an unambiguously more lenient assessment within the institution, or in the case they are changes to the organisational structure of the validation function, as this could impact its countervailing power. Other changes should be notified after implementation.
- (16) The quantitative criteria for changes to the rating system should ensure a harmonised implementation amongst competent authorities and institutions. It is clarified that where one change affects multiple rating systems, for example a change in the definition of default, the quantitative threshold in Article 4(1)(c)(i) in this Regulation should be evaluated separately for the impact of the change on each of the different rating systems individually.
- (17) The quantitative criteria that apply to changes to the range of application of rating systems have been revised to align them with the risks stemming from such changes under the IRB Approach. First, it is clarified that the quantitative thresholds do not apply to reductions of the range of application of a rating system because the risk of exposures moving to other rating systems is covered by the quantitative threshold that applies to extensions of the range of application of these other rating systems. To extend the range of application of rating systems, the quantitative threshold in Article 4(1)(c) in this Regulation is considered inappropriate, such that a new threshold should be introduced. This is because a rating system might not perform adequately for the additional exposures to which the range of application of the rating system is extended, irrespective

of the rating system that was used to risk-weight the exposures before the change. The risk of this weak model performance on the new exposures is considered to be proportionate to the magnitude of the extension of range of application of the rating system in comparison to the range of application of the rating system prior to the change.

- (18) This classification of changes and extensions requiring approval from or notification to competent authorities is notwithstanding Article 101 of Directive 2013/36/EU of the European Parliament and of the Council. Based on their on-going model monitoring, competent authorities may at any time take appropriate supervisory measures with regard to extensions and changes that have been notified. Although the new criteria for changes to and extensions of rating systems reflect the need to improve efficiency and lower the burden for supervisors and institutions, the updated triggers for new approvals and notifications of extensions and changes to internal approaches should not hamper or limit the effectiveness of supervisory internal model review approaches or administrative processes provided for by Article 20(8) of Regulation (EU) No 575/2013.
- (19) The documentation to be submitted by institutions to competent authorities at the time of the application for approval or notification of a change or extension should reflect the new categorisation of changes and extensions and allow for an effective supervisory assessment of the categorisation of changes and of potential changes in the model landscape of institutions.
- (20) This Regulation is based on the draft regulatory technical standards submitted by the European Banking Authority to the Commission.
- (21) The European Banking Authority has conducted open public consultations on the draft regulatory technical standards on which this Regulation is based, analysed the potential related costs and benefits, and requested the opinion of the Banking Stakeholder Group established in accordance with Article 37 of Regulation (EU) No 1093/2010 of the European Parliament and of the Council³.

HAS ADOPTED THIS REGULATION:

Article 1

Commission Delegated Regulation (EU) No 529/2014 is amended as follows:

³ Regulation (EU) No 1093/2010 of the European Parliament and of the Council of 24 November 2010 establishing a European Supervisory Authority (European Banking Authority), amending Decision No 716/2009/EC and repealing Commission Decision 2009/78/EC (OJ L 331, 15.12.2010, p. 12).

(1) Article 1 is replaced by the following:

‘Article 1

Subject matter

This Regulation lays down the conditions for assessing the materiality of extensions and changes to the Internal Rating Based approaches and the Internal Models Approach permitted in accordance with Regulation (EU) No 575/2013, including the modalities of the notifications of such changes and extensions.’

(2) Article 2 is replaced by the following:

‘Article 2

Categories of extensions and changes

1. The materiality of changes to the range of application of a rating system, or of changes to a rating system in the Internal Rating Based approach (‘changes to the IRB approach’) or of the materiality of the extensions and changes for the Internal Models Approach (‘extensions and changes in the IMA’) shall be classified into one of the following categories:
 - (a) material extensions and changes, which, according to Articles 143(3) and 363(3) of Regulation (EU) No 575/2013, require permission from the competent authorities;
 - (b) other extensions and changes, which require notification to the competent authorities.’
2. The extensions and changes referred to in point (b) of paragraph 1 shall further be classified into:
 - (a) extensions and changes that require notification before their implementation;
 - (b) extensions and changes that require notification after their implementation.’

(3) Article 3 is replaced by the following:

‘Article 3

Principles of classification of extensions and changes

1. The classification of changes to the range of application of a rating system, or of changes to a rating system in the Internal Rating Based approach shall be carried out in accordance with this Article and Articles 4 and 5.

The classification of extensions and changes in the IMA shall be carried out in accordance with this Article and Articles 7a and 7b.

2. Where institutions are required to calculate the quantitative impact of any extension or change on own funds requirements or, where applicable, on risk-weighted exposure amounts, they shall apply the following methodology:
 - (a) for the purpose of the assessment of the quantitative impact institutions shall use the most recent data available;
 - (b) where a precise assessment of the quantitative impact is not feasible, institutions shall instead perform an assessment of the impact based on a representative sample or other reliable inference methodologies;
 - (c) for changes having no direct quantitative impact, no quantitative impact as laid down in Article 4(1)(c) and Article 4(1)(d) for the IRB approach or Article 7a(1)(c) for IMA shall be calculated;
 - (d) for reductions to the range of application of a rating system no quantitative impact as laid down in Article 4(1)(c) or Article 4(1)(d) for the IRB approach shall be calculated.
3. For the purpose of assessing the materiality of changes and extensions, including the assessment of the quantitative impact of changes and extensions, one material extension or change to the same rating system shall not be split into several changes or extensions of lower materiality. In particular, the following modifications shall be assessed as one extension or change:
 - (a) modifications of a different nature that are made simultaneously.
 - (b) modifications of the same nature.

In derogation to point (b) of the first subparagraph, institutions may consider the timing of the change as a justification to split the change if this allows for a more effective and efficient implementation of the change, in case the change is implemented across a time period longer than one year. In this case, institutions may split such changes with a phased implementation plan, where this implementation plan is subject to a notification to the competent authority.

4. In case of doubt, institutions shall assign extensions and changes to the category of the highest potential materiality.

5. Where competent authorities have provided their permission in relation to a material extension or change, institutions shall calculate the own funds requirements in accordance with Article 144(1)(g) of Regulation (EU) No 575/2013 based on the approved extension or change from the date specified in the new permission which shall replace the prior one. The non-implementation on the date specified in the new permission of an extension or change for which permission from competent authorities has been given, shall require a new permission from competent authorities which shall be applied for without undue delay.
6. In case of delay of the implementation of an extension or change for which permission from the competent authority has been granted, the institution shall notify the competent authority and present to the competent authority a plan for a timely implementation of the approved extension or change, which it shall apply within a period to be agreed with the competent authority.
7. Where an extension or change is classified as one requiring prior notification to competent authorities, and where, subsequently to the notification, institutions decide not to implement the extension or change, institutions shall notify without undue delay the competent authorities of this decision.

(4) Article 4 is replaced by the following:

Article 4

Material changes to the IRB approach

1. Changes to the range of application of a rating system, or changes to a rating system, shall be considered material if they fulfil any of the following conditions:
 - (a) they fall under any of the changes to the range of application of a rating system described in Annex I, Part I, Section 1;
 - (b) they fall under any changes to the rating systems described in Annex I, Part II, Section 1;
 - (c) they are changes to rating systems that result in either of the following:
 - (i) a decrease of 1,5 % or more of either of the following:
 - the overall EU parent institution's consolidated risk-weighted exposure amounts for credit and dilution risk, or

- the overall risk-weighted exposure amounts for credit and dilution risk in the case of an institution which is neither a parent institution, nor a subsidiary;
 - (ii) a decrease of 15 % or more of the risk-weighted exposure amounts for credit and dilution risk associated with the range of application of the internal rating system.
 - (d) they are extensions of the range of application of a rating system that result in either of the following:
 - (i) a decrease of 1,5 % or more of either of the following:
 - the overall EU parent institution's consolidated risk-weighted exposure amounts for credit and dilution risk,
 - the overall risk-weighted exposure amounts for credit and dilution risk in the case of an institution which is neither a parent institution, nor a subsidiary;
 - (ii) an increase of 15% or more of the risk-weighted exposure amounts for credit and dilution risk associated with the range of application of the internal rating system.
2. For the purposes of paragraph (1)(c)(i) and paragraph (1)(d)(i) of this Article, and in accordance with Article 3(2), the impact of the change shall be assessed as a ratio calculated as follows:
- (a) in the numerator, the difference in the risk-weighted exposure amounts for credit and dilution risk associated with the range of application of each internal rating system impacted by the change before and after the change at the EU parent institution's consolidated level or at the institution level which is neither a parent institution, nor a subsidiary;
 - (b) in the denominator the overall risk-weighted exposure amounts for credit and dilution risk before the change at the EU parent institution's consolidated level or, respectively, at the institution level which is neither a parent institution, nor a subsidiary.
3. For the purposes of paragraph (1)(c)(ii) of this Article, and in accordance with Article 3(2), the determination of the impact on risk-weighted exposure amounts

shall refer only to the impact of the change to the IRB approach, and the set of exposures shall be assumed to remain constant.

- (a) in the numerator, the difference in the risk-weighted exposure amounts for credit and dilution risk associated with the range of application of the internal rating system before and after the change;
- (b) in the denominator, the risk-weighted exposure amounts for credit and dilution risk before the change associated with the range of application of the rating system.

The calculation shall refer to the same point in time.

4. For the purposes of paragraph (1)(d)(ii) of this Article, and in accordance with Article 3(2), the impact of the change shall be assessed as a ratio calculated as follows:

- (a) in the numerator, the risk-weighted exposure amounts for credit and dilution risk associated with the additional exposures on to which the range of application of the internal rating system is extended, after the change.
- (b) in the denominator, the risk-weighted exposure amounts for credit and dilution risk before the extension associated with the range of application of the rating system.

The calculation shall refer to the same point in time.’

- (5) Article 5 is replaced by the following:

Article 5

Changes to the IRB approach not considered material

1. Changes to the range of application of a rating system, or changes to a rating system, which are not material but are to be notified to competent authorities according to Article 143(4) of Regulation (EU) No 575/2013, shall be notified in the following manner:
- (a) changes which fulfil any of the following conditions shall be notified to competent authorities at least two months before their implementation:
 - (i) changes to the range of application of a rating system as described in Annex I, Part I, Section 2;

- (ii) changes to a rating system as described in Annex I, Part II, Section 2;
 - (iii) changes to a rating system which result in a decrease of at least 5 % of the risk-weighted exposure amounts for credit and dilution risk associated with the range of application of the internal rating system.
- (b) all other changes to a rating system shall be notified to the competent authorities after their implementation at least on an annual basis. These include the changes described in Annex I, Part II, Section 3.
2. For the purposes of paragraph (1)(a)(iii) of this Article, and in accordance with Article 3(2), the impact of the change shall be assessed as a ratio calculated as follows:
- (a) in the numerator, the difference in the risk-weighted exposure amounts for credit and dilution risk associated with the range of application of the internal rating system before and after the change;
 - (b) in the denominator, the risk-weighted exposure amounts for credit and dilution risk before the change associated with the range of application of the rating system.

The calculation shall refer to the same point in time.

The determination of the impact on risk-weighted exposure amounts shall refer only to impact of the change to the IRB approach, and the set of exposures shall be assumed to remain constant.'

(6) Article 6 is deleted.

(7) Article 7 is deleted.

(8) Article 8 is replaced by the following:

'Article 8

Documentation of extensions and changes

1. For changes to the range of application of a rating system, or changes to a rating system, classified as requiring competent authorities' approval, institutions shall submit, together with the application, the following documentation:
- (a) a description of the extension or change and a summary of the objective of the extension or change, including an explanation of the reason for changing or

extending the rating system, in particular whether it addresses a deficiency identified by the credit risk control unit, the internal independent validation, or addresses a supervisory obligation or finding.

- (b) confirmation that the extension or change has been approved through the institution's approval processes by the competent bodies and date of approval;
 - (c) an explanation of the materiality categorization of the change, which has been subject to an internal independent review or validation. This should include:
 - (i) the scope of application affected by the model extension or change, with volume characteristics.
 - (ii) a qualitative explanation of the categorization, detailing the qualitative criteria that are triggered.
 - (iii) where applicable, the quantitative impact of the change or extension on the risk weighted exposure amounts or on the own funds requirements. In the case changes are bundled, a breakdown of this quantitative impact across the different changes.
 - (iv) for changes to a rating system, and where applicable, the impact of the change on the ranking of facilities or obligors across grades or pools, the distribution of facilities or obligors across grades or pools as referred to in point 1(a)(iv) of Annex I, Part II, Section 1 of this Regulation.
 - (v) For extensions of the range of application of a rating system, where applicable, an assessment of the representativeness of the data used to test the rating system and quantify the risk parameters of the rating system against the additional exposures to which the rating system will be applied, as referred to in point 1 of Annex I, Part I, Section 1 of this Regulation.
 - (d) reports of the institutions' independent review or validation of the change.
 - (e) technical and process document(s), including where applicable an assessment of the model performance of the rating system.
2. For changes to rating systems classified as requiring notification either before or after implementation, institutions shall submit, together with the notification, the documentation referred to in points (a), (b), and (c) of paragraph 1.
 3. For extensions of the range of application of a rating system classified as requiring notification before implementation, institutions shall submit, together with the

notification, the documentation referred to in points (a), (b), (c), and (e) of paragraph 1.’

Article 2

This Regulation shall enter into force on the twentieth day following that of its publication in the *Official Journal of the European Union*.

This Regulation shall be binding in its entirety and directly applicable in all Member States.

Done at Brussels,

For the Commission
The President

On behalf of the President

[Position]

ANNEX

- (1) Annex 1 to Commission Delegated Regulation (EU) No 529/2014 is replaced by the following:

‘PART I CHANGES TO THE RANGE OF APPLICATION OF RATING SYSTEMS

SECTION 1

Changes requiring competent authorities' approval (‘material’)

1. Extending the range of application of a rating system to additional exposures, unless the institution can prove that;
 - (a) the data used to build the model to assign exposures to grades or pools is representative with respect to the extended scope of application according to Article 174(c) of Regulation (EU) No 575/2013 and according to the **[‘representativeness’ articles]** in the Commission Delegated Regulation (EU) 2022/439;
 - (b) the data used for risk quantification purposes shall be representative of the extended scope of application according to Article 179(1)(d) of Regulation (EU) No 575/2013 and of the **[‘representativeness’ articles]** in Commission Delegated Regulation (EU) 2022/439.

SECTION 2

Changes requiring prior notification to competent authorities

1. Reducing the range of application or the scope of use of a rating system.
2. Extending the range of application of a rating system for which it can be shown that it does not fall under Part I, Section 1, point 1 of this Annex or as material changes according to Article 4(1)(d) of this Regulation.

PART II CHANGES TO RATING SYSTEMS’

SECTION 1

Changes requiring competent authorities' approval ('material')

1. Fundamental re-estimation of the algorithms and procedures used for: assigning obligors to obligor grades or pools; for assigning exposures to facility grades or pools; or for quantifying the default risk or associated loss. These are:
 - (a) fundamental changes to the model design of the statistical or mathematical model used to differentiate obligors or facilities and to assign these obligors to rating scales or pools. These are:
 - (i) fundamental changes in the typologies of the datasets used to change rating criteria and/or their weights or hierarchy, namely any switch between using external data sources, internal data sources, or pooled data sources;
 - (ii) switching between using risk parameter estimates for discrete grades or pools, and using direct risk parameter estimates as referred to in Article 169(3) of Regulation (EU) No 575/2013;
 - (iii) any change in the functional link between inputs and outputs of the model as referred to in Article 174, second subparagraph of Regulation (EU) No 575/2013 that changes fundamentally the complexity of the model design or the reliance on human judgment;
 - (iv) any change that changes the rank ordering or the distribution of obligors or exposures across grades or pools, in a fundamental manner, the measure and level of which will have been defined by the institution;
 - (b) fundamental changes to the risk quantification approaches or methodologies as referred to in Articles 180, 181 and 182 of Regulation (EU) No 575/2013. These are:
 - (i) switching between grade level estimation methods, and alternative estimation methods;
 - (ii) switching between estimating LGDs or own-conversion factors appropriate for an economic downturn based on loss data or observed drawings and estimating LGDs or own-conversion factors appropriate for an economic downturn based on alternative estimation methods;
2. Fundamental changes to the definition of default under Article 178 of Regulation (EU) No 575/2013. These are:

- (a) any change in the level of application of the definition of default for retail exposures according to Article 178(1), second subparagraph of Regulation (EU) No 575/2013;
- (b) any significant change in the default classification of obligors or facilities in either the datasets used for the purpose of estimation of risk parameters ('reference data set') or range of application of a rating system. Institutions should measure the significance of the change in default classification by evaluating the following ratio, for respectively the reference data set and range of application of the rating system: in the numerator, the total number of changed default classifications, including both classifications from non-default to default and vice versa; in the denominator, the total number of defaults before the change. The level of the threshold against which this ratio should be evaluated should be defined by the institution.

SECTION 2

Changes requiring ex ante notification to competent authorities

1. Changes in the methodology used for assigning an obligor or a transaction to a rating system according to Article 169(1) of Regulation (EU) No 575/2013.
2. Unless classified as material changes according to Part II, Section 1 of this Annex or as material changes according to Article 4(1)(c) of this Regulation, the following changes in the algorithms and procedures used for: assigning obligors to obligor grades or pools; for assigning exposures to facility grades or pools; or for quantifying the default risk or associated loss:
 - (a) changes to the rating scale in terms of the number or structure of rating grades according to Article 170(1) of Regulation (EU) No 575/2013;
 - (b) changes to the rating criteria and/or their weights or hierarchy according to Article 170(1)(c) and (e) and 170(4) of Regulation (EU) No 575/2013;
 - (c) changes in the internal procedures and criteria for assigning risk weights to specialised lending exposures according to Articles 153(5) and 170(2) of Regulation (EU) No 575/2013;
 - (d) changes to the grade or pool definitions or criteria according to Articles 171(1) and 172 of Regulation (EU) No 575/2013;

- (e) changes in the application of additional conservatism to the outcomes of the rating assignment according to Article 171(2) of Regulation (EU) No 575/2013, related to the identification of deficiencies in the implementation of the model in the IT system or to the process of assignment of risk parameters to obligors or facilities in the application portfolio;
- (f) changes in the scope of information used to assign obligors to grades or pools according to Article 171(2) of Regulation (EU) No 575/2013;
- (g) introducing or withdrawing external ratings as a factor for determining the internal rating assignment within a rating system according to Article 171(2) of Regulation (EU) No 575/2013;
- (h) changes in assumptions about how business cycle effects may affect the migration of facilities or obligors across grades or pools according to Article 171(3).
- (i) changes to the institution's approach to the 'one-obligor-one-rating principle' according to Article 172(1)(e) of Regulation (EU) No 575/2013;
- (j) changes in the rules and processes for the use of overrides according to Article 172(3) of Regulation (EU) No 575/2013;
- (k) if an institution maps its internal grades to the scale used by an ECAI and then attributes the default rate observed for the external organisation's grades to the institutions' grades according to Article 180(1)(f) of Regulation (EU) No 575/2013, changes in the mapping used for this purpose;
- (l) inclusion of new or additional information in a model for parameter estimation according to Article 179(1)(d) of Regulation (EU) No 575/2013.
- (m) re-estimations that are purely based only on additional or updated data that go beyond the annual inclusion of the latest observations;
- (n) where applicable, changes to the segmentation of obligors or facilities in subsets of the scope of application of the model which are jointly calibrated, where such segmented calibration ensures that, for each segment, the resulting risk-parameter estimates correspond to the long-run average default rate, the long run average realised LGD or long run average realised CCF, or to the downturn LGD or CCF estimates ('changes to calibration segments').

- (o) where applicable, removing years from the data set on which the ranking or pooling method is applied in order to perform the calibration that ensures that risk parameter estimates corresponds to the long-run average default rate, the long run average realised LGD or long run average realised CCF, or downturn LGD or CCF estimate ('changes to the calibration sample');
 - (p) changes in the treatment of information from incomplete recovery processes for the purpose of Article 181(1)(a) and 182(1)(a) of Regulation (EU) No 575/2013, in particular where they change the maximum period after which no more recoveries are estimated ('maximum recovery period');
 - (q) changes to individual calculations for margins of conservatism related to deficiencies that lead to a bias in the quantification of risk parameters or to an increased uncertainty not fully captured by the general estimation error.
 - (r) changes to the methodology to quantify the margin of conservatism for the general estimation error.
 - (s) changes in the nature, severity and duration of an economic downturn period as referred to in Commission Delegated Regulation (EU) 2021/930, or a change in selecting the downturn period used for the estimation referred to in Article 181(1), point (b), and Article 182(1), point (b), of that Regulation;
 - (t) changes to the methodology for estimating the downturn impact for identified downturn periods according to Article 181(1)(b) and Article 182(1)(b) of Regulation (EU) No 575/2013.
 - (u) inclusion of additional types of funded credit protection into the LGD estimation in accordance to Article 181(1)(c) to (g) of Regulation (EU) No 575/2013, and changes in the way or extent to which unfunded credit protection is accounted for in the LGD estimation according to Article 183 of Regulation (EU) No 575/2013;
3. Unless classified as material according to Part II, Section 1 of this Annex, changes in the definition of default according to Article 178 of Regulation (EU) No 575/2013.
 4. Changes in the validation methods and/or validation processes that unequivocally lead to a more lenient judgment of the validation function of the performance of the institution's rating processes or the performance of their rating systems according to Article 185(a) and Article 185(b) of Regulation (EU) No 575/2013, in the following cases:

- (a) the removal of a test on the discriminatory performance or on the predictive power or on the representativeness of a rating system,
 - (b) the lowering of a validation threshold of a test referred to in point (a).
5. Changes in internal organisational processes. These include:
- (a) changes in the credit risk control unit according to Article 190 of Regulation (EU) No 575/2013 as regards its position within the organisation and its responsibilities;
 - (b) changes in the validation unit's position according to Articles 190(1) and (2) of Regulation (EU) No 575/2013 within the organisation and its responsibilities.

SECTION 3

Changes requiring ex post notification to competent authorities

1. Unless classified as material changes according to Part II, Section 1 of this Annex, or as material changes according to Article 4(1)(c) of this Regulation, or classified as changes requiring ex ante notification according to Part II, Section 2 of this Annex, or classified as changes requiring ex ante notification according to Article 5(1)(a)(iii) of this Regulation, any changes to rating systems in the Internal Rating Based approach. This includes the following changes:
 - (a) Changes in the methodology used for assigning exposures to different exposure classes according to Article 147 of Regulation (EU) No 575/2013.
 - (b) Changes in the algorithms and procedures used for: assigning obligors to obligor grades or pools; for assigning exposures to facility grades or pools; or for quantifying the risk of obligor default or associated loss.
 - (c) changes in the validation methodology and/or validation processes which lead to changes in the institution's judgment of the accuracy and consistency of the estimation of the relevant risk parameters, the rating processes or the performance of their rating systems according to Article 185(a) of Regulation (EU) No 575/2013.
 - (d) Changes in the control environment or key processes that have an important influence on a rating system.'
- (2) Annex II to Regulation (EU) No 529/2014 is deleted.

4. Accompanying documents

4.1. Draft cost-benefit analysis / impact assessment

Article 143(5) of the CRR3 mandates the EBA to revise the RTS on model change to specify the conditions for assessing the materiality of the use of an existing rating system for other additional exposures not already covered by that rating system and changes to rating systems under the IRB Approach. The EBA has published the initial draft RTS in December 2013 and the related Commission Delegated Regulation (CDR 529/2014) was adopted in March 2014.

As per Article 10(1) of the EBA regulation (Regulation (EU) No 1093/2010 of the European Parliament and of the Council), any RTS developed by the EBA shall be accompanied by an Impact Assessment (IA) annex which analyses ‘the potential related costs and benefits’ before submitting to the European Commission. Such annex shall provide the reader with an over-view of the findings as regards the problem identification, the options identified to remove the problem and their potential impacts.

The EBA has prepared the IA which analyses the policy options considered. Given the nature of the topic, the IA is largely qualitative.

4.1.1. Problem identification

The proposed amendments originate mainly from two sources: first, the alignment of the CDR with the corresponding amendments to Regulation (EU) No 575/2013, and second, the enhancement of supervisory effectiveness of the approval process of model changes and extensions.

In the context of the latter, the EBA has been made aware of concerns on the current lengthy ‘time to market’, claiming that the time it takes from the final development of a model change to its actual use for calculating own funds requirements can be subject to significant delays. Next to delays of operational readiness within the institutions’ themselves, the supervisory approval processes contribute significantly to this process, delaying the re-mediation of deficiencies. This is partly due to the amount of material model changes straining supervisory resources, which in turn has caused undue delays in the implementation of model changes by the institutions, uncertainty about the date of implementation, hampering the effective model use and timely model improvements.

Revisions include, inter alia, amendments to the qualitative criteria related to the definition of default, the validation framework, and the modelling approaches, updates to the framework for extensions and reductions, and clarifications on the calculation of quantitative criteria and the scope of the RTS.

4.1.2. Policy objectives

The main objective of this update is to make fundamental changes in the framework with an aim at reducing the number of model changes and simplifying the overall process. A revision towards a reduction of material model changes would allow CAs to introduce more efficiency in their supervisory processes by taking a more risk-based approach. Secondary objectives are to provide alignments corresponding to the updated regulatory framework and clarifications on interpretative issues that have proved to be unduly burdensome for institutions and or/supervisors in order to ensure a harmonised framework at European level. The review builds on more than 10 years of specific supervisory experience using the currently applicable criteria.

4.1.3. Options considered and assessment

A reduction of the number of material model changes entails a higher risk tolerance on the side of competent authorities but also should enable lowering the supervisory resources spent on internal model approval processes and opportunities to allocate resources in a more risk-based manner. In preparing this RTS, the EBA considered several options to reduce further the number of material model changes.

It was considered most appropriate to revise significantly the qualitative criteria and as such increase the reliance on the quantitative criteria. A review was conducted on a subset of internal model investigations (over the period 2022 to 2024) to assess the impact of the proposed qualitative criteria for triggering material changes. The period covered by the review overlaps with the IRB repair program and may therefore not be representative of future model changes; these future changes are likely to be less fundamental and more focused on model maintenance and changes to the model landscape. Additional uncertainty stems from that past changes are difficult to assess against the proposed more targeted qualitative criteria on risk quantification and the definition of default.

It was concluded that more emphasis in the qualitative criteria should be placed on changes in risk differentiation, as fundamental changes may only materialise at different stage of the business cycle such that the quantitative criteria do not accurately capture the materiality of such changes. For changes in risk quantification, the reliance on the quantitative threshold is significantly increased. Several other options were also considered. It was considered to:

- a. Make only a set of technical changes but this was not pursued as this would reduce only marginally the number of material model changes.
- b. Reduce further the qualitative criteria and lower the quantitative thresholds in order to be more sensitive to RWA reductions. However, lowering the threshold would not only capture past model changes previously triggered by qualitative criteria, but also capture changes that were never classified as material (ex-ante changes with an RWEA decrease above the new threshold) resulting in a set of mostly false positives where supervisory follow-up would not be warranted.

- c. Rely on a combination of the quantitative thresholds and the qualitative criteria to determine materiality of changes. Specifically, it considered combining the existing quantitative criteria with the qualitative criteria (i.e. changing the 'or' to an 'and' in the CDR for certain qualitative criteria); in other words, both criteria—quantitative and qualitative—would need to be met in order to trigger the classification as a material model change. However, Members were of the opinion that retaining the principles of the original CDR is appropriate, i.e. to maintain a list of qualitative triggers and have as a separate trigger several quantitative criteria. Full reliance on the quantitative criteria would have likely implied an unwarranted reduction of approximately 70% of the material model changes (as measured over the past three years).

Next to addressing the aim to reduce the number of material model changes, the EBA has clarified or revised a number of interpretive issues. These include, inter alia, clarifications on the qualitative criteria for assessing the materiality of changes, clarifications on the qualitative criteria for assessing the materiality of extensions, clarifications on the quantitative metrics for material changes and extensions, alignments with CRR3, and IT and documentation requirements.

Consideration was given to how a change affecting multiple rating systems should be assessed against the 1.5% threshold. In particular, this means that either the threshold is assessed for each individual rating system (option 1) or the threshold is assessed for all affected rating systems, i.e. considered as a single change to the rating systems in the IRB Approach (option 2). The main argument in favour of option 1 is a potential reduction in burden and complexity for institutions, as the change could be material for one rating system but not for another. It was therefore considered appropriate to clarify that a change affecting multiple rating systems should be considered as separate changes to the individual rating systems. This is especially relevant for the calculation of the quantitative criteria. However, in communication with the competent authority, this should not prevent institutions from bundling changes into one application to the competent authority where a change is made to multiple rating systems.

In addition, the quantitative thresholds for extensions to the range of application of rating systems have also been reviewed. It is clarified that the 15% threshold described in Article 4(1)(c)(ii) does not apply to extensions as it does not cover the risk that a rating system might not perform adequately for the additional exposures to which the range of application of the rating system is extended. Hence, a new quantitative threshold for extensions is required that considers the specific risks associated with extensions, which become more pressing the larger the extended scope of range of application is compared to the existing range of application. To reflect such risks associated with extensions, the threshold shall be calculated as the ratio of the risk-weighted exposure amounts of the additional range of application of the rating system (i.e. the set of exposures to which the rating system is extended) divided by the risk-weighted exposure amounts of the existing range of application of the rating system before the extension.

4.2. Feedback on the public consultation and on the opinion of the BSG

The EBA publicly consulted on the draft proposal contained in this paper.

The consultation period lasted for 3 months and ended on 10 March 2025. 18 responses were received, of which 14 were published on the EBA website.

This paper presents in the section below a summary of the key points and other comments arising from the consultation, the analysis and discussion triggered by these comments and the actions taken to address them if deemed necessary.

In many cases several industry bodies made similar comments, or the same body repeated its comments in the response to different questions. In such cases, the comments, and EBA analysis are included in the section of this paper where EBA considers them most appropriate.

Changes to the draft RTS have been incorporated as a result of the responses received during the public consultation.

Summary of key issues and the EBA's response

Stakeholders have responded that the classification of model changes is critical as it has implications for both institutions' internal processes and the supervisory responsibilities on the assessment of the change. For institutions under SSM supervision, the approval and subsequent implementation of material model changes have in practice required significant resources from both institutions and supervisors, and in instances has taken several years before supervisory approval was granted. This lengthy process can hinder timely implementation of improvements to the Internal Rating Based (IRB) framework. Industry stakeholders suggested that the RTS should be substantially changed, where quantitative thresholds (RWA impact) should be used as the primary trigger of materiality, reducing the list of qualitative indicators. Flexibility could furthermore be introduced through supervisory judgment to reclassify changes from material to non-material when justified. Finally, the RTS scope could be further clarified by excluding types of changes from its scope. These proposed clarifications and simplifications would allow streamlining processes to enable faster and more efficient assessments of IRB model changes.

EBA acknowledges that the current RTS triggers too many changes such that institutions' model change requests have been driving the supervisory agenda constraining the capacity to perform assessments on CAs' own initiative to investigate concerns, vulnerabilities and emerging risks identified as part of the ongoing model monitoring under Article 101(1) and (4) of Directive 2013/36/EU. As such, the qualitative criteria for material model changes have been reconsidered, with the aim of shifting the focus of this RTS toward enabling a more efficient model maintenance process while safeguarding effective supervision, particularly regarding fundamental changes to rating systems and significant changes in the model landscape.

The EBA has also considered to combine the qualitative criteria with quantitative thresholds. Any change that triggers the qualitative criteria but does not trigger a quantitative threshold (or vice versa) would be an ex-ante notification. However, this has the drawback that, if only a quantitative threshold is breached without any qualitative criteria being triggered, this would also be a non-material change. It seems difficult to justify a situation where a change that leads to a material decrease of RWA would not be considered as material on the ground that it does fit in one of the qualitative criteria. Significant RWA decreases should in the general case be reviewed by the supervisor.

Finally, clarifications on the scope of the RTS has been introduced. However, although this RTS represents a clear revision in terms of the categorization of model changes, the scope of this RTS should still be sufficiently broad in order to ensure a timely information flow on model changes from institutions to supervisors. This information flow is vital for the supervisor to establish its priorities in relation to its ongoing model monitoring under Article 101(1) and (4) of Directive 2013/36/EU.

Summary of responses to the consultation and the EBA's analysis

Comments	Summary of responses received	EBA analysis	Amendments to the proposals
General comments			
General calibration of the RTS	<p>Some respondents suggested to combine quantitative and qualitative triggers by incorporating the idea of flexibility granted to competent authorities for the requalification of the model changes:</p> <ul style="list-style-type: none"> - If both qualitative and quantitative criteria for material change are met, the change should be considered material. However, a judgmental layer may apply at the end of the process which allows to change the classification from material to non-material categorization. - If only one of the two criteria is met, an ex-ante notification shall be made by the supervised institution to determine whether the qualification of the model change should be elevated to 'material', under a risk- 	<p>EBA recognizes that the current RTS triggers too many model change requests, limiting supervisors' ability to address emerging risks and vulnerabilities, and has therefore reconsidered qualitative criteria to allow for the efficient maintenance of models by institutions while ensuring effective supervision of fundamental changes. EBA also explored combining qualitative criteria with quantitative thresholds. However, treating significant RWA reductions as non-material is not deemed appropriate, even when they fail to meet qualitative criteria, as such cases should generally require supervisory review.</p>	<p>Several updates to the RTS</p>

- based, prudent but proportionate approach.
- For any changes with RWA reduction of less than 5% at the range of application level or RWA decrease of less than 1.5% at Group level, they would be subject to ex-ante notifications, unless they enter the ex-post notification categorization.

Responses to questions in Consultation Paper EBA/CP/2024/24

Question 1. Do you have any comments on the clarification of the scope of the revised draft regulatory technical standards to specify the conditions for assessing the materiality of the use of an existing rating system for other additional exposures not already covered by that rating system and changes to rating systems under the IRB Approach?

Legal Basis	Some respondents suggested to transform the recitals related to the scope of the RTS into formalised articles to remove any inconsistency between the recitals of the different RTSs.	The current articles of the RTS and the updated recitals are deemed to provide sufficient clarification on the scope of the RTS.	No change
Out scope types of changes	Some respondents suggested to clarify the meaning ‘updates to data in the ongoing application of the rating systems’, where the following should be set out of scope:	Under Article 143(4) CRR on the IRB Approach, institutions shall notify the competent authorities of all changes. The EBA notes that the comments refer to the Level 1 text and introduction in these draft RTS a category of	No change

- Recalibrations, extensions of time series; recalibration after back-testing or update of risk drivers only as a mechanical effect of adding one additional year of default should deserve lighter treatment to avoid burden for both banks and supervisors. This is especially relevant in the context of machine learning, where the current recital might deter the development of such techniques.
- Ongoing updates of calibration data
 - o Due to IT or data errors, minor adjustments.
 - o Remediation of data quality issues (e.g. amending missing/incorrect LTV input data or fixing data traceability issues), specifically related to return to compliance programs
 - o routinely collected new data. Examples of such data might be stock prices, interest rates, inflation rates or rent levels.

Recalculating the Margin of Conservatism for a particular grade using the methodology

changes that need not be notified is not in line with the CRR.

The RTS prescribes that the following change requires ex ante notification to the CA; a change in the length and composition of time series used for parameter estimation according to Article 179(1)(a) that goes beyond the annual inclusion of the latest observations, unless already classified as material according to Part II, Section 1 of this Annex.

Recalibrations that are based on the inclusion of the latest observations should therefore be considered to be in scope of the RTS, and require an ex post notification, unless already classified as requiring approval or ex ante notification due to other parts of the RTS (e.g., by breaching a quantitative threshold).

Recalibrations that go beyond including the inclusion of the latest observations, in particular recalibrations that include older years that were previously not included in the calibration of the risk parameter, require an ex ante notification (unless deemed material).

approved by the Competent Authority and including the most recent data as a part of the regular review.

As such, ongoing updates to the data used for the recalibration, including remediation of IT errors or data quality issues and updates to equity prices or macro-economic variables, require an ex ante notification (unless deemed material) when the institution performs a recalibration of their rating system that includes this data.

In relation to the interaction of this RTS with the potential need to frequently update ML models, the EBA published in 2023 a follow-up report on machine learning for IRB models. One of the principles described in this report is that where ML models are frequently updated, the reason for such regular updates are recommended to be analysed in detail and monitored by the institution. Generally, a break in the economic conditions or in the institutions' processes or in the underlying data might justify a model update. As credit risk is, however, not supposed to change frequently (in contrast to e.g. the market risk), such updates are expected, in general, not to occur frequently. Therefore, the parameters of the model should generally be stable.

Any update of the rating system used to calculate own fund requirement needs to be assessed according to the model change framework.

Changes due to regulatory updates	Some respondents suggested that changes due to updates in any regulation should be excluded, either at European or local level (e.g., change in DoD. Clarifying that the adaptation of institutions' internal policies to transpose this regulation should fall outside the scope of this RTS.	<p>The CRR3 introduced several changes that impact the calculation of the RWA but do not constitute changes to rating systems. As such, changes stemming from this regulatory update were considered not requiring approval from the CA. This is further explained by EBA in its statement on the application of CRR 3 in the area of credit risk for the Internal Ratings Based Approach.⁴</p> <p>However, any revisions to regulation (for example the CCF guidelines) may require institutions to make changes to their rating systems to comply with the new requirements that would require approval by the CA, and as such should be covered by this RTS.</p> <p>The updated RTS therefore prescribes that changes in key processes that influence rating systems require an ex post notification to the CA.</p>	No change
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⁴ [Statement on the application of CRR 3 in the area of credit risk for the Internal Ratings Based Approach.](#)

An institution's material change policy is one of these key processes, and as such, the transposition of the update of this standard into policy should be notified to the CA. This is relevant in particular due to the introduction of the significance metric for changes to DoD (instead of requiring all DoD changes to be material), it is important for institutions to notify their CA of their defined metric.

Assignment of exposures to exposure classes	Some respondents suggested to clarify the inconsistency that changes to other input parameters for the RWA formula not affecting the rating systems do not require any notification, whereas the methodology for assigning exposures to exposure classes continues to fall within the scope of the RTS	EBA acknowledges that assigning exposures to other exposure classes should not directly affect rating systems. However, changes to the methodology used to assign exposures to exposure classes may indirectly affect institution's choices to update their model landscape and consequently their rating systems. As such, the EBA considers that an exception is necessary for these changes such that an ex post notification is warranted.	
Changes to categorization of products	Some respondents suggested to clarify that the following is out of scope; assigning (or identifying) exposures to certain categories that implies a particular RWA treatment, e.g., <ul style="list-style-type: none"> - Identification of trade finance products and apply the M of 162.3. 	Changes to the categorization of exposures to product types or exposure types that are not rated under the IRB approach are out of scope of this RTS. Furthermore, changes to the categorization of exposures to product types or	No change

- Classification or reclassification of products/portfolios in buckets of the Article 111(2) and Annex 1 to assign SA CCFs when an institution has not received permission to use AIRB-CCF.
- Identification of covered bonds under CRR article 161(1)(d).
- Identification of SME exposures in the application of the SME factor (e.g., by changes in the revenues identification).
- Identification of products that should fall under the CCF of the 166.8.b to apply SA CCFs.

exposure types that does not affect rating systems are out of scope of this RTS.

Changing the calculation of revenues for the determination of the size factor S also affects the assignment of the SME factor to a certain exposure and the assignment to the retail exposure class. However, this calculation does not affect the rating systems themselves and would therefore be out of scope of this RTS. Similarly, categorization of products (e.g., as trade finance) to assign the appropriate SA CCF or maturity parameter M should be considered outside of the scope of this RTS as long as they do not affect the rating systems of an institution.

However, the case of moving exposures from IRB-CCF to SA-CCF because the institution assigns an SA-CCF because the minimum requirements for calculating IRB-CCF are not met by the institution should be within the scope of this RTS.

<p>Changes to RWA calculation formula</p>	<p>Some respondents suggested to clarify that the following is out of scope:</p> <ul style="list-style-type: none"> - Population of amortization tables of the loans to apply the M of 162.2(a) 	<p>Changes to the categorization of exposures to product types or exposure types that does not affect rating systems are out of scope of this RTS.</p>	<p>No change</p>
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- Consideration of the year as 365.25 days in the calculation of the maturity.
- Changes in the application of the SME factor.
- Implementation of the regulatory floors (e.g. related to PD and LGD parameters, related to the 1-day floor).
- Application of the F-IRB approach to the corporate and institutions exposure classes, e.g., Application of CRM.
- Application of an option that is directly stated in the CRR, e.g., Article 161.7 states that an institution shall be permitted to apply article 230 even for funded credit protection that cannot be included in an A-IRB LGD (because of the lack of data).

As an example, calculations to determine the maturity parameter M and the implementation of the regulatory input floors for the PD and LGD parameters are out of scope of the RTS.

However, changes to the approach to apply directly article 230 for funded credit protection that cannot be included in the A-IRB LGD due to a lack of data likely affects the calibration of the A-IRB LGD for exposures covered by the rating system for which the institution wants to apply article 230. Hence, such a change is included in the scope of the RTS.

<p>Changes outside of changes to rating systems</p>	<p>Some respondents suggested to clarify whether the methodologies, systems, and data listed below impact rating systems, such that changes to these methods are considered in scope of the RTS:</p> <ul style="list-style-type: none"> - Identifying obligors or groups of connected clients - Revision of the validity of Financial Statements (e.g., changes in internal policy of validity from 18 to 24 months) 	<p>Changes to policies and methods that affect rating systems are in scope of the RTS.</p> <p>For example, a change in the definition of groups of connected clients is in scope of the RTS, as this likely impacts the calculation of the long run average default rate. Similarly, where data from financial statements are used as risk drivers in internal models, changing policies related to delayed financial statements likely affect rating systems as well. Similarly,</p>	<p>No change</p>
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- Updates to collateral valuation methodologies
- Establishing the eligibility of FCP and UFCP under F-IRB
- Redefinition of policy overrides/overlays criteria
- Changes to the Definition of Default for the Standardised Approach (SA) portfolio

institutions should assess whether changes to the DoD in the SA scope could influence the IRB application portfolio due to effects such as the pulling effect or obligor-related UTP indicators.

On the other hand, determining the eligibility of FCP and UFCP for exposure classes under the F-IRB approach does not affect the rating systems, and are therefore out of scope of this RTS.

Changes imposed by supervisor

Some respondents suggested to clarify whether the following is in scope:

- Actions to be conducted to implement regulatory add-ons as per Final Decision letters from the Supervisor.
- Actions to be conducted to implement the remediation actions committed with Supervisor which are duly and timely notified in accordance with the remediation plans.
- The alignment of the documentation or implementation of the ECB approved model (pre-notification or material change) resulting from the outcome of the proper functioning of the control environment

Model changes are in or out of scope of this RTS, irrespective of the root cause or source of the change. No exception is warranted for the case where the CA has requested the remediation of a certain incompliant aspect of the institution's IRB approach, and a model change to the IRB approach is made to remediate the incompliance.

No change

Extension of rating system to SA exposure	Some respondents suggested to clarify that the extension of an existing IRBA rating system (or existing models) to exposures treated under STD/FIRB approach should be in scope, where the representativeness of the exposures before and after extension should be assessed, potentially with the combination of an applicable quantitative threshold (i.e., possibility to have ex ante notification). It was mentioned that an approval process for every case of the roll-out plan would make it difficult to achieve full implementation of the plan, and that it is relevant for both internal changes and for acquired portfolios.	CRR article 148(1), and in particular the requirement of the prior permission of the CA, refers to the approval of the institution's plan to sequentially implement the IRB approach across exposures within an exposure class. As such, the RTS is updated to reflect that extensions of approved rating systems to additional exposures that were previously risk-weighted under the SA approach, also those that are acquired portfolios, are in scope of the RTS (as they are not within perimeter of the statement of CRR article 148(1)). In any case, any recalibration due to the inclusion of additional exposures is then subject to the qualitative and quantitative model change criteria in the RTS. This is not withstanding any (required) interaction with competent authorities regarding potential changes needed to an institution's IRB rollout plan.	Recital is updated
New origination	Some respondents suggested to clarify whether new product types originated also covered by recital 4.	It is considered sufficiently clear that recital 4 also applies to new product types as long as this new product type is of a type of exposure already covered by a rating system and originated by the institution itself.	Recital is updated

Question 2: Do you have any comments on the clarifications and revisions made to the qualitative criteria for assessing the materiality of changes as described in the Annex I, part II, Section 1 and Annex I, part II, Section 2?

Changes imposed by supervisor	<p>Some respondents suggested to specify in the RTS that if the change is aimed at fulfilling an obligation or remediating a finding from the competent authority, the change should not require approval, but a notification should suffice (either ex-ante or ex-post).</p> <p>Similarly, changes resulting from revisions to regulatory requirements should not require approval, but a notification should suffice (either ex-ante or ex-post).</p>	<p>The rules in these draft RTS are applicable irrespective of the root cause or source of the change. No exception is warranted for the case where the CA has requested the remediation of a certain non-compliant aspect of the institution's IRB approach, and a model change to the IRB approach is made to remediate the non-compliance.</p>	No change
Inclusion of ESG risk drivers	<p>Some respondents suggested to include a derogation regarding the materiality assessment for the inclusion of ESG risk drivers in their rating systems, such that for the inclusion of these risk drivers institutions would not have to perform any analysis on the rank ordering or distributions of obligors.</p>	<p>The rules in these draft RTS are applicable irrespective of the root cause or source of the change.</p> <p>The EBA has recommended in the 'Report on the role of environmental and social risks in the prudential framework' that ESG risks can be taken into account in the rating assignment (i.e. risk differentiation step), the risk quantification (through for example margin of conservatism, downturn component, calibration segments) and in the application (e.g. via use of human</p>	No change

judgement and overrides) in accordance with the existing requirements. In particular, sufficient information should be available, such that the incorporation of new risk drivers in the risk differentiation step does not materially decrease the overall performance of the rating system; the adjustment of estimates during the risk quantification step are based on a sufficient number of observed and reliable data.

Slotting	Some respondents disagreed with the new approach defined for the rank ordering assessment for the slotting approach as it is a regulatory based approach with only four possible performing grades.	The rules in these draft RTS are applicable irrespective of the root cause or source of the change. Given the difficulties in modelling slotting exposures, the modelling of these exposures is relatively restricted. However, there are still modelling steps performed in the assignment of exposures to the four grades. Given the difficulties inherent still in this modelling process, CA approval may be needed in some cases.	No change
Changes to specific qualitative criteria	The CP wording of Annex I, Part II, Section 1, point 2(e) refers to changes to the use of individual external ratings (“an external rating”). One member suggested to clarify that this point relates only to changes in the	EBA has duly considered the industry feedback on the individual material model criteria, and taking into account also the overall feedback on the current calibration of the RTS, has decided	Several revisions are made to the RTS

general decision whether or not external ratings are used to assign internal ratings.

Some members suggested that Annex I, Part II, Section 1, point 2(a), and point 2(g) should be softened so that simple model maintenance activities like replacing risk factors, adding risk factors or increasing the list of eligible collateral types which do not affect the overall structure of a model should only require ex-ante notification. As soon as such change were to meet quantitative thresholds, they would be attributed to a material change category if applicable.

Some respondents suggested to link the 'fundamental' part of Annex I, Part II, Section 1, point 2(f) of the new proposed regulation, in the sentence 'change in the fundamental methodology for estimating PD..' to a calculation metric based on RWA impact, rather than leaving it to the remit of the institution to define what constitutes a 'change in the fundamental methodology'. It was suggested that the significance level of this metric could be determined by the institution.

to substantially revise the qualitative criteria for material model changes.

The revised RTS reduces the qualitative criteria, including a set of criteria that relate to only those changes that fundamentally change an IRB rating system.

Another respondent suggested to remove point 2(f) and instead rely on the quantitative threshold in Annex I, Part II, Section 1, point 2(d), such that changes to the methodology that meet the criteria in 2(d) are treated as material. Alternatively, it was suggested to provide a list of specific types of changes that would be considered changes to the 'fundamental' methodology.

Another respondent suggested to link the materiality of changes in the fundamental methodology referred to in point 2(f) to a metric of model performance, such that only changes with a weaker model performance would require approval.

Some respondents suggested that only changes to the methodology how appropriate adjustments are applied require approval from the competent authority, while the concrete the determination of an appropriate adjustment for a specific situation based on the approved methodology only requires an ex-ante notification. This is because changes to the methodology to derive appropriate adjustments as a material model change could trigger an excessive number of material

change because such adjustments (as well as their underlying methodology) are almost always derived ad-hoc based on the specific situation at hand.

One member suggested to clarify in Annex I, Part II, Section 1, Point 2 (g) which types of changes to procedures directing the treatment of types of collateral under 181(1)(c)-(g) would be considered in the condition (*“if their treatment differs from procedures already approved”*).

Several respondents suggested the removal or additional clarification for the criterium in Annex I, Part II, Section 1, Point 3, regarding the change of an indication of unlikelihood to pay from a manual process to automatic reclassification (or vice versa).

Some respondents suggest to either remove or provide more clarity on what is meant with the “method to identify if the obligor is more than 90 DPD”. It is argued that operational changes, e.g. changing in the 90 DPD counter the batch frequency for defaulting exposures from monthly to daily (with exact date and number of days being stored in any case), do

not prevent the well-functioning of risk management functions.

One respondent pointed out that point 3 (c) refers to changes in the use of external data used for the quantification of risk parameters and the requirement to apply appropriate adjustments to account for differences in the default definition applied in external data. As such, in our view, these type of changes are already covered by Annex I, part II, section 1, point 2(f), or by more general updates to data used for the quantification of risk parameters, and quantitative backstop. Therefore, we suggest to remove point 3 (c).

DoD – quantitative metric	Some respondents suggested to have a clear specification of the metrics and thresholds by the EBA for the significance level of a change in the Definition of Default (DoD) for a material change. The DoD definition is at the core of IRB models and a unified understanding, for all banks, of the metric and thresholds is needed. It would be important and beneficial to establish clear guidance on significance thresholds to ensure a level playing field across jurisdictions and promote	EBA acknowledges these suggestions and has clarified the metric used to determine whether a change to the DoD significantly impacts the default classification. However, due to variety in models, portfolios, and risk management practices, it was considered not appropriate to set a fixed threshold for determining a material change to DoD.	The RTS is updated to clarify the DoD metric
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harmonised implementation among competent authorities and institutions.

Some respondents suggested that there is overlap with the quantitative RWA threshold, such that the RWA quantitative criteria should not apply to changes to the definition of default (in order to rely uniquely on the quantitative measure regarding the change in the RDS or scope of application of a rating system in significant manner).

Some respondents also highlighted that although the change in DoD may either affect the rating systems indirectly, and or through a portfolio asset quality shift (from performing to defaulted), the focus in this RTS should only be on the former (impact on the rating systems) and not the latter (shift in portfolio asset quality).

Validation framework	Some respondents suggested that the change is material only in case of changes in one of the main validation categories of back testing and discriminatory ability to avoid triggering material changes where only less significant validation tests are affected.	Taking into account the feedback and considerations on the supervisory effectiveness of assessing changes to the validation framework, EBA has significantly revised the criteria for changes to the validation framework.	Several revisions are made to the RTS
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Some respondents noted that changes to validation framework are neither strictly conservative nor strictly more lenient. If a test is replaced with a new and better one, it will typically go in both directions. In practice, there could be changes in the aggregation workflow of a test executed at different levels, that should be simulated to get the direction and the classification of the change. Since the validation framework could apply to an extended number of models across a banking group, the full simulation exercise would be burdensome. As such, the respondents suggested

1. to clarify and provide metrics and thresholds for what is considered to be a “more lenient judgment” of the accuracy and consistency of the estimation of the relevant risk parameters, the rating processes or the performance of their rating systems in case of changes in the validation methodology and/or validation processes. [example: moving to a more "risk-based" approach to validation would allow an institution to focus on the relevant model risk and subject these to stricter scrutiny in the validation methodology. On the other hand, one could

In general, it is not expected that changes to the validation framework directly affect the risk parameters produced by rating systems, and as such, these changes are no longer considered material. The updated criteria for changes to the validation framework aim to allow institutions to set up policies distinguishing changes to the validation framework between ex ante and ex post notifications without having to perform burdensome scenario analyses on the potential impact of the change.

argue that this implies following a more lenient approach on comparatively unimportant model risk aspects] [example II; A change in validation methodology leads to a minor improvement in the accuracy and consistency of the estimation of the relevant risk parameters.] Some little fluctuations may be possible, e.g. most of the final test outcomes are the same except for a couple, which are less severe; in this case, we deem a classification as material would be incorrect. One possible solution would be to classify a change as being material only if the validation assessment would be „systematically“ (i.e. biased to be) more lenient. not only the direction of change, but also its magnitude should be accounted for when assessing its materiality.

2. To allow for a simulation of the lenience requirement on a sample of models, and not all models of the institution as this is too burdensome.

3. To allow the institution to have the possibility in some cases for a qualitative classification assessment, to complement the “mechanical” outcome of the simulation.

Some respondents suggested to move changes to the validation framework to the ex-post notification category if the change is clearly conservative. It was mentioned that an ex-ante notification is costly, and to avoid an incentive for institutions to refrain from or delay such sensible changes, they should only require ex-post notification instead of ex-ante notification. Especially the following changes should be categorised as requiring only an ex-post notification:

1. inclusion of supplementary tests that have only a conservative effect on the traffic light system,
2. setting stricter threshold values for test procedures,
3. changing the validation process by including additional control steps

Question 3. Do you have any comments on the clarifications and revisions made to the qualitative criteria for assessing the materiality of extensions and reductions as described in the Annex I, Part I, Section 1 and Annex I, Part I, Section 2?

Extension of rating system to SA exposure

Some respondents suggested to clarify that the extension of an existing IRBA rating system (or existing models) to exposures

See response under question 1.

treated under STD/FIRB approach should be in scope, where the representativeness of the exposures before and after extension should be assessed, potentially with the combination of an applicable quantitative threshold (i.e., possibility to have ex ante notification).

Question 4. Do you have any comments on the introduced clarification on the implementation of the quantitative threshold described in Article 4(1)(c)(i) and 4(1)(d)(i)?

Changes of the same nature	<p>Some respondents suggested to clarify the meaning of “changes of the same nature”, “sequentially over time” in case of “modifications of the same nature and to the same rating system that are implemented sequentially over time”. Some respondents suggested to clarify how a change should be treated if it affects multiple rating system, but the change is implemented sequentially over time.</p>	<p>The clarification in the CP targeted the case where multiple related changes to the same rating system should be bundled to determine the RWA impact in relation to the quantitative materiality criteria. This impact should not be watered down by splitting such changes in individual separate changes.</p>	<p>Several revisions are made to the RTS</p>
	<p>Some respondents suggested to clarify also the bundling of multiple uncorrelated changes to the same rating system within a short time period.</p>	<p>However, EBA acknowledges the practical concerns raised in the responses to the CP, and as such has included some amendments to the requirements on bundling changes in order to facilitate a practical implementation.</p>	
	<p>Some Respondents proposed assessing changes per rating system individually to</p>		

avoid submitting multiple application packages simultaneously, noting that all changes should be implemented in pre-production before submission. Some respondents suggested to allow for a phased IT implementation (and readiness) where changes are bundled or where a change affects multiple rating systems, otherwise a phased implementation approach of a change would not be feasible. It was mentioned that if readiness to implement is required for the entirety of the change, the change could only be requested once everything has been completed, effectively eliminating any opportunity for phasing.

It was suggested that the RTS allow banks to set a limited timeframe for bundling changes. Some respondents opposed this, arguing that once a change is ready for one rating model, its implementation should not wait for other changes, as supervisory obligations can create long, unpredictable timelines for multiple updates. With that, it is not always possible to schedule and predict all changes needed to a rating system far in advance.

Changes affecting multiple rating systems	<p>Some respondents suggested to clarify whether, if one change affecting multiple rating systems is considered as a single change, both thresholds should be calculated.</p> <p>Some respondents also suggested to clarify which rating systems should be covered by the application for the change, i.e., whether all rating systems affected should be included in the application, even in the case where there is an immaterial impact on a certain rating system. Some respondents suggested it would not be feasible to cover all rating systems affected in the application package.</p>	<p>One change affecting multiple rating systems should be considered as individual separate changes for each rating system affected. As such, institutions should assess the materiality by considering these changes separately when assessing the threshold described in Article 4(1)(c)(i) of this RTS.</p> <p>Next to that, the change still should be assessed for each rating system individually using the 15% threshold.</p>	RTS is updated
Impact on RWA	<p>One respondent suggested to allow for the splitting of changes if the changes do not have any impact on risk weighted assets.</p>	<p>The quantitative thresholds should be computed for each change. If there is no RWA impact such that the quantitative thresholds will not be breached in any case, but the changes are considered nonetheless material, changes to the same rating system that are to be implemented within a reasonable timeframe should be bundled, to limit the number of application packages to the competent authorities.</p>	No change

Bundling reductions and extensions

Some respondents suggested to also bundle different changes to the range of application of different rating systems, i.e., whether in such cases risk weighted exposure increases from the extensions can be balanced out against decreases risk weighted exposure decreases stemming from reductions. In particular, changes in segmentation (especially for legal persons) should be assessed as a whole due to the inherent dependencies across different rating systems.

In general, extensions and reductions to the same rating system should not be combined for the purpose of the calculation of the quantitative threshold. These extensions and reductions may subsequently be bundled in a single application package to the competent authorities if they are to be implemented within a reasonable timeframe. This bundling should however not impact the materiality categorisation of the individual changes.

Treating scope reductions and extensions separately would not likely artificially inflate the materiality threshold, also in the case of segmentation changes. The extensions and reductions may affect the individual rating systems in a different manner, thus the bundling of these changes for materiality threshold may have some compensation effects that are not desired from a supervisory perspective.

One change affecting extensions of multiple rating systems should be considered as individual separate extensions for each rating system affected.

RTS is updated

RWA determination in quantitative criteria	Some respondents suggested to clarify whether the risk weighted exposure amounts considered in the materiality thresholds should include insurance effects from synthetic securitizations, supervisory limitations, and output floor effects.	The current requirements on the calculation of the quantitative criteria are considered sufficiently clear.	No change
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Application of threshold	One respondent suggested to clarify whether the threshold described in 4(1)(d)(i) should take into account the effect of both extension of the scope of application of a rating system in combination with complementary reductions of the scope of application of other rating systems (stemming from the exposure considered in the extension).	The CP already sufficiently clarifies that the threshold should compare the change in RWA moving the exposure from one rating system to another, against the RWA measured at institution or group level (using the 1.5% threshold).	No change
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Question 5. Do you have any comments on the revised 15% threshold described in Article 4(1)(d)(ii) related to the materiality of extensions of the range of application of rating systems?

Alternative metrics	Some respondents indicated that the new ratio may lead to unintended results, as significant reductions in RWA may not trigger the threshold in 4(1)(d)(ii) for a material extension. Some respondents suggested that alternative metrics should be investigated, in particular	The threshold in 4(1)(d)(i) already covers the risk that there is a significant reduction in RWA, but measured at the level of the institution. It would be counterintuitive to measure this at the level of the rating system.	No change
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the combination of the threshold with a metric that considers the model performance of the rating system on the additional exposures. Other respondents suggested to revert to the status quo, i.e., to evaluate against a threshold the relative decrease in risk weighted exposure amounts.

Some respondents mentioned that the envisaged quantitative threshold on the rating system level would disproportionately affect smaller rating systems. Others mentioned that the risk that a rating system might not perform adequately for the additional exposures to which the range of application of the rating system is extended is already covered by other parts of the regulation.

<p>Bundle changes to the range of application for the purpose of calculating the threshold in Article 4(1)(d)(ii)</p>	<p>Some respondents suggested to clarify the ratio in the situation where both reductions and extensions happen at the same time. Some respondents suggested to also bundle different changes to the range of application of different rating systems, i.e., whether in such cases risk weighted exposure increases from the extensions can be balanced out against decreases risk weighted exposure decreases stemming from reductions. In</p>	<p>This is not appropriate for the intended use of the threshold in Article 4(1)(d)(ii), as this would not cover the risk of the incompliance with representativeness. Model performance in one of the rating systems might deteriorate, whereas in the other rating system it might be stable, so the impact of the change should be assessed for the rating systems individually.</p>	<p>No change</p>
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particular, changes in segmentation (especially for legal persons) should be assessed as a whole due to the inherent dependencies across different rating systems.

Range of application	Some respondents suggested to clarify whether the ratio described in Article 4(1)(d)(ii) is to be evaluated at the level of range of application of the rating system, or at the level of the scope of application of a model (e.g., a CCF model).	It is sufficiently clear that the ratio is evaluated at the level of the scope of application of the rating system.	No change
Combine quantitative and qualitative criteria for extensions	Some respondents suggested to combine the qualitative and quantitative assessment for extensions, i.e., to make extensions only material if there is not sufficient representativeness and the quantitative threshold is hit, or to add an additional qualitative criterium on model performance (i.e. that the quantitative threshold only applies if there is a significant drop in model performance). Other respondents suggested to remove the quantitative threshold.	The quantitative threshold for extensions is only a backstop. In case the conditions for the derogation of representativeness are not met, extensions are considered material in any case.	No change

Question 6. Do you have any comments on the documentation requirement for extensions that require prior notification?

Validation assessment	<p>Some respondents suggested that requiring an assessment by the internal validation function for extensions classified as not material risks lengthening overall internal approval timelines and overburdening the validation function with immaterial extensions. It was mentioned that this would unnecessarily delay or slow down sensible model changes, in particular for pooled models. It was also mentioned that the stated objective of this revision (i.e., of providing the CA with sufficient opportunity to challenge the materiality assessment of ex-ante extensions) is already achieved by a requirement for institutions to document and provide the evidence referred to in Annex I, part I, section 1, point 1 (regarding the representativeness of data of the extended scope of application).</p> <p>Some respondents suggested that for non-material extensions, the independent review, as listed in Article 8(1)(f) of these RTS, is understood to be a review of the materiality categorization of model changes to ensure quality assurance of the notification type, and not a complete model review report by the independent review team. One member</p>	EBA acknowledges these concerns and has amended the RTS accordingly.	Amended RTS
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suggested that the focus of such a review should be on the representativeness of the rating system on the additional extended exposures.

Others suggested removing the requirement in article 8(1)(f) to submit reports of the institutions' independent review or validation for immaterial extensions. Some members suggested that no additional validation assessment should be required if the extension is to a portfolio of less than 15% of the original portfolio.

Model performance	<p>Some respondents suggested to clarify that "model performance" is not an anticipatory back-testing exercise and that institutions are not required to submit the results of an initial back-testing exercise when submitting applications for extensions (but that the first back-testing exercise is carried out after the implementation of the models).</p> <p>Some respondents suggested to clarify that when the rating system is not fully automated and requires expert judgment for qualitative variables, institutions are allowed to conduct an assessment based on the ratings of a</p>	<p>Although model performance testing can be performed on historical observations, it is not required to wait one year after the model change to back-test on one new year of additional data.</p> <p>The testing of model performance is understood in the context of current supervisory expectations in relation to discriminatory power and homogeneity. Model performance should be tested on a representative sample, not necessarily for the full historical observation period.</p>	No change
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representative sample of the population (as it would not be possible to derive the historical ratings accurately for the entire portfolio).

The RTS is deemed sufficiently clear in this regard.
