Deutsche Bank

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Dear Mr Farkas,

EBA Consultation on RTS "On the conditions for assessing the materiality of extensions and changes of internal approaches when calculating own funds requirements for credit, market and operational risk under articles 138(5), 301(3)(a) and 352(3)(a) of Regulation (EU) XX/XXXX of the European Parliament and of the Council on prudential requirements for credit institutions and investment firms [CRR]"

Deutsche Bank (DB) welcomes the opportunity to share with the European Banking Authority (EBA) our views on the draft regulatory technical standards.

DB supports the EBA's objective to seek a more consistent framework for extensions and changes of internal model approaches and the associated materiality criteria. Clear and consistent reporting will facilitate supervisory understanding of banks' internal models and allow easier comparison across peers. We do however believe that in certain areas the proposed criteria calibration would result in regulatory authorities being overwhelmed with the amount and frequency of model change requests and notifications. Some refining of the criteria would help ensure model changes with significant impact on risk are easily identifiable and can receive the correct and necessary supervisory scrutiny.

We have additional concerns that certain provisions in the CP would require banks to unnecessarily and disproportionately increase IT and processing costs and systems. In our response we aim to identify ways to help ensure that increased costs for banks and the burden on supervisors are proportionate. DB's view is that this is best achieved by increasing flexibility and transparency.

In addition to providing answers to the specific questions in the consultation paper, we include (in Annex 1) suggested amendments to the IMA part of the CP which we hope will assist the EBA in refining the requirements for assessing the materiality of extensions and changes of internal approaches. A summary of our proposal is found in Table 1 on page 4. In Annex 2 we provide responses to the formal questions asked by the EBA.

Our response across all risk categories focuses on three key areas:

- The definitions relating to model change categories requiring pre-approval, pre-notification and post notification, notably the definitions pertaining to material changes;
- The lead time required for model changes requiring pre-notification which we believe will significantly slow down and weaken risk management; and
- The number of calculation days required to determine quantitative materiality.

Chairman of the Supervisory Board: Paul Achleitner
Management Board: Jürgen Fitschen (Co-Chairman), Anshuman Jain (Co-Chairman), Stephan Leithner, Stuart Lewis, Stefan Krause, Rainer Neske, Henry Ritchotte
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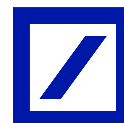
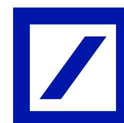


Finally, we also note that in previous consultation responses DB has raised questions about the alignment of scope between the consultations and the mandate put forth in the Level 1 text. In our opinion, some of the proposals in this consultation paper (CP) go beyond the mandate articulated under articles 138(5), 301(3)(a) and 352(3)(a) of the CRR. DB's understanding is that the scope of this consultation should be limited to provisions that identify material changes in risk models. With the inclusion of rules for notification and approval, amongst other things, we have concerns that the scope of the CP is broader than the mandate espoused by the co-legislators.

If it would be useful we would be happy to meet with the EBA to discuss our response.

Yours sincerely,

Andrew Procter
Global Head of Compliance, Government and
Regulatory Affairs



Annex 1: Proposed amendments to the IMA part of the RTS

This section focuses on the IMA-relevant articles 7 - 9 and Annex 3. Furthermore, reference is made to article 2 where provisions affect IMA. The overarching aim of our proposals is to ensure that supervisors are not flooded with notifications, but can easily identify those which are materially important, and to ensure that a bank's risk management are not unnecessarily delayed when implementing model changes.

The definition of model change categories requiring pre-approval, pre-notification and post notification

The CP describes quantitative and qualitative criteria for a model change to be material:

- If there is a material RWA impact (Art. 7 (1))
- Extensions (Annex 3 Part I)
- Certain model changes other than extensions (Annex 3 Part II, Title 1)

We agree that certain types of model changes should be deemed material. In this area we believe the following amendments might assist:

Proposed amendment 1: Not all extensions are significant enough to be deemed material. We propose adjustments to the criteria as per tables 1 and 2.

The list of model changes as outlined in Annex 3, Part II, Title I, defines all model changes as material even if only a very small portion of the internal model is affected. We believe that this catch-all approach will result in a disproportionately large, and unmanageable number of pre-approval requests.

Proposed amendment 2: We therefore propose introducing an additional materiality threshold. Instead of focussing solely on the impact on the capital demand we believe that the percentage of risk factors affected by a model change provides an accurate quantification of impact. We propose that a minimum threshold of 20% of risk factor changes should apply before a model change is deemed material. (See table 1).

The introduction of this second materiality threshold, would mean that most of the model change criteria outlined in Annex 3, Part II are not required. A full overview of the proposed removals or adjustments to model change criteria listed in the CP can be found in table 3.

Proposed amendment 3, affecting Annex 3, Part II: Individual proposals for inclusion / exclusion of model change criteria, see table 3.

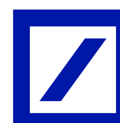


Table 1: Criteria to determine materiality for model changes, including proposed notification approach and number of days of impact runs

Category	Subcategory	Criteria	Pre-approval / notification	Max #days of impact runs
Material	Material RWA impact	As per Art. 7, 1 (c) with thresholds >5% (i) and (ii) >10% for (iii)	Pre-approval	5
	Extensions	As per Annex 3, Part I, Title I (1), (2)[1], (3) and (4)	Pre-approval	5
	Material process impact	If more than 20% of risk factors are affected	Pre-approval	5
	Other	As per Annex 3, Part II, Title I (with reduced list of criteria, see table 3 below)	Pre-approval	5
Non-material	Significant RWA impact	As per Art. 7, 1 (c) but with reduced thresholds >2.5% (i) and (ii) >5% for (iii)	Pre-notification (2 weeks)	1
	Extensions	As per Annex 3, Part I, Title I (5) As per Annex 3, Part I, Title II (1)	Pre-notification (2 weeks)	1
	Significant process impact	If more than 10% of risk factors are affected	Pre-notification (2 weeks)	1
	Other	All else	Post-notification	1

The lead time required for model changes requiring pre-notification

DB has concerns about delays in updating market risk models due to the proposed pre-approval and pre-notification requirements. The frequency of model change is, for example, tied to market events, changes in product and trading strategies, and market data quality. A long lead time in implementation could result in a material reduction in the quality of the internal models and inappropriate capital charges.

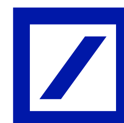
Proposed amendment 4, affecting Art. 8 (a): Non-material extensions and model changes with significant RWA or process impact require pre-notification with a lead time of 2 weeks (instead of 4 weeks).

DB proposes putting more focus on the post-notification process and increasing the frequency for reporting all other changes provided for in Article 8 (b).

Proposed amendment 5, affecting Art. 8 (b). Increase the frequency of post-change notification.

DB proposes increasing this frequency to quarterly reporting instead of annually to ensure adequate supervisory oversight. For ease of reference, we have included our proposals in the overview table 1.

[1] This does not include the extension of the market risk model to a location not included in the range of application, because such extension should always be the ambition target for every internal model to provide a coherent risk measure across the group.



The number of calculation days required to determine quantitative materiality

We note the intention of the CP to measure the impact of several model changes together over a time horizon of 60 days[2] to determine the cumulative materiality of model changes. This would form the basis for the quantitative materiality test of Art. 7(1c). The reason for such cumulative impact testing is to see whether several small model changes, when aggregated, have a material cumulative impact.

IMA models generally have numerous small model changes over the course of a year. This is necessary to adapt to changing markets, products or strategies as the portfolio of the bank changes day-to-day. It would be detrimental to the quality of the resulting risk measures[3] but also to the level of model-based capital if the speed of reactivity of the bank were to be restricted so severely.

It is also important to note that low impact model changes across all three risk areas usually have a limited impact even when combined with other small model changes. This is due to the diversification of model changes applying to different asset classes or products. Finding a balance between changing internal models quickly enough to respond to changes in the market, and ensuring that changes which have a material impact are reviewed and approved by supervisors is essential.

Proposed amendment 6, affecting Art. 2 (3): Model changes may be classified separately without undertaking cumulative impact assessments.

In order to provide sufficient rigour around the classification, banks should be in a position to explain the estimated impact of cumulative model changes when requested by regulators.

Proposed amendment 7, affecting Art. 2 (3): Banks need to be able to estimate the joint impact of model changes upon request.

The CP proposes that the impact is measured over a 60 day period in order to determine the quantitative materiality. We agree that there is merit in estimating the impact of a model change over a period in time, mostly because the impact of a model change varies for different position dates. Therefore, impact estimation over time is useful for a bank to understand the effects as well as the robustness of a model change. Often, robustness of different portfolio compositions is tested as part of the backtesting analysis during the model development phase.

However, if a single day of calculation shows a model change to be material, no further calculation days are needed for the purpose of classification. DB proposes undertaking a maximum of 5 days of impact calculations for model changes which are potentially material. Our experience shows that this time period is adequate to capture day-to-day changes within the underlying, dynamic, trading portfolio. For small model changes a one-day impact calculation is sufficient. Rather than having lengthy parallel runs for small model changes to test the impact, the bank should be able to use other estimation techniques to support the categorisation into a ‘non-material’ category.

Proposed amendment 8, affecting Art. 7 (1) to (4): The required time period for impact estimation should vary according to the significance of a model change, see table 1. A maximum of 5 days is viewed as sufficient.

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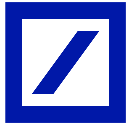
[2] Art. 2 (3) in conjunction with Art. 7 (2)-(4).

[3] Including Value-at-Risk, Stressed Value-at-Risk, Incremental Risk Charge and Comprehensive Risk Measure



If the RTS were to include the changes above, we do not believe the model change process would suffer undue delays.

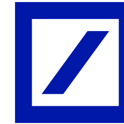
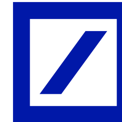


Table 2: Proposed inclusion / exclusion of Annex 3 items, Part I

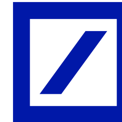
Reference	Description	Proposed treatment	Justification for proposed treatment if different from CP
Annex 3, Part I, Title I	*Extensions requiring competent authorities' approval ('material'). Extensions of an IMA falling under any of the categories listed below shall be classified as material:*		
(1)	extension of the risk categories captured by the IMA according to Article 352(1) of Regulation (EC) No xxxx/20xx [CRR];	Include	
(2)	extensions of the market risk model to an additional legal entity or to a location not included in the range of application yet;	▪ Remove "Extension to a location not included in the range of application yet" ▪ Keep wording to "extensions of the market risk model to an additional legal entity", only.	Extension to a new location is a normal part of model roll-out if and when trade economics and market data become available at a new location.
(3)	integration of a portfolio such as in cases of portfolio acquisitions and corporate takeovers;	Include	
(4)	first time application of the VaR spread methodology for the calculation of the advanced CVA risk charge;	Include	
(5)	any reverse extensions such as cases where the institutions aim at applying the standardized method to risk categories for which they are granted permission to use an internal market risk model.	Move to non-material category	Standardised method is a more conservative fall-back approach and a bank should be allowed to revert back quickly to standardised approach when the internal model shows severe weaknesses
Annex 3, Part I, Title II	*Extensions requiring ex ante notification to competent authorities. Extensions falling under either of the categories listed below shall be classified as extensions requiring notification to competent authorities prior to implementation:*		
(1)	inclusion of product classes requiring other modelling techniques than those applied to existing products such as path-dependent products, or multi-underlying positions, according to Article 356 of Regulation (EC) No xxxx/20xx [CRR];	Include	



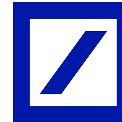
Reference	Description	Proposed treatment	Justification for proposed treatment if different from CP
(2)	an increase in the use of or percentage of proxies arriving from an extension according to Article 356 of Regulation (EC) No xxxx/20xx [CRR].	Remove	We think the monitoring of the number of proxies in use by a model is good practice. However, it is not commensurate to the required effort if the number of proxies increases by just a single one, as this needs to be seen in the context of the many thousand risk factors which are typically in use in an internal model. Instead, the proportion of proxies should be monitored on an ongoing basis but unrelated to this CP. We note that the introduction of proxies which have a significant or even material impact on the internal model are captured in the process shown in table 1.

Table 3: Proposed inclusion / exclusion of Annex 3 items, Part II

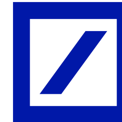
Reference	Description	Proposed treatment	Justification for proposed treatment if different from CP
Annex 3, Part II, Title I	*Changes requiring competent authorities' approval ('material'). Changes to the models falling under any of the categories listed below shall be classified as material:*		
(1)	changes in the calculation of the effects of changes in market risk factors on instruments such as including	Remove.	A simple categorisation as "material" is not commensurate to



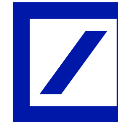
Reference	Description	Proposed treatment	Justification for proposed treatment if different from CP
	additional sensitivity measures or a move from Taylor-approximation to full revaluation, according to Article 356 of Regulation (EC) No xxxx/20xx [CRR];	Define a new metric as the percentage of risk factors used in an internal model subject to the model change. Only if the percentage of affected risk factors is larger than 20%, then a model change is viewed as material (10% for significant).	the impact such model changes may have. An impact quantification in terms of capital or RWA may no longer be appropriate, therefore a better metric is the proportion of "risk" affected by a change.
(2)	changes in the aggregation scheme such as where a simple aggregation scheme is replaced by an improved one, according to Article 356 of Regulation (EC) No xxxx/20xx [CRR];	Remove. See Part II, Title I, (1)	See Part II, Title I, (1)
(3)	inclusion of material risk factors beyond those necessary when the model is extended to new product types;	Remove. See Part II, Title I, (1)	See Part II, Title I, (1)
(4)	changes to external data sources or the IT data landscape, in particular to the interfaces which result in amendments in the calculation of the internal model;	Remove. See Part II, Title I, (1)	See Part II, Title I, (1)
(5)	out-sourcing or in-sourcing of components which are material to calculating risk or validating the model, such as obtaining market data relevant to calculating risk and P/L, or the switch from license-based use of a system ('computational module') to use of an application service provider ('ASP');	Remove. See Part II, Title I, (1)	See Part II, Title I, (1)
(6)	comprehensive technical or methodological changes to the risk management process such as migration of the calculation of VaR to another technical infrastructure, according to Article 357(1)(a) of Regulation (EC) No xxxx/20xx [CRR];	Remove. See Part II, Title I, (1)	See Part II, Title I, (1)
(7)	change in the assumptions regarding the loss given default rate (LGD) for models capturing IRC,	Remove	If this model change has significant or material impact,



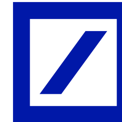
Reference	Description	Proposed treatment	Justification for proposed treatment if different from CP
	correlation trading or advanced CVA risk according to Articles 363(1), 367(3)(e) and373(6)(a) of Regulation (EC) No xxxx/20xx [CRR];		then it would be captured under the quantitative threshold. The assumption regarding a single risk factor (LGD) otherwise does not merit a separate treatment to all others.
(8)	changes to the approach for identifying the stressed period in order to calculate a Stressed VaR measure, according to Article 354(2) of Regulation (EC) No xxxx/20xx [CRR].	Include	This element of the internal model capital charge is quite fundamental so we agree that this item should be pre-approved.
Annex 3, Part II, Title II	*Changes requiring ex ante notification to competent authorities. Changes falling under one of the categories listed below shall be classified as changes requiring notification to competent authorities prior to their implementation:*		
(1)	changes in the fundamentals of statistical methods according to Article 354 of Regulation (EC) No xxxx/20xx [CRR], including any of the following: (a) changes in the assumptions about the joint distribution of risk factors ('general distribution model'); (b) introduction of variance reduction methods; (c) changes to the algorithms to generate the random figures;	Remove. See Part II, Title I, (1)	This model change is captured under the same principle as Part II, Title I, (1)
(2)	changes in how the effects of risk factor changes are calculated such as change from analytical to simulation-based pricing model, according to Article 356 of Regulation (EC) No xxxx/20xx [CRR];	Remove. See Part II, Title I, (1)	See Part II, Title I, (1)
(3)	changes in the assumptions or the modelling of risk factors incorporated in the internal VaR model according to Article 356(2) of Regulation (EC) No xxxx/20xx [CRR], including a move between zero rates, par rates or swap rates, or an extension of risk factors where there was previously only one risk factor such as more grid-points on a curve of interest	Remove. See Part II, Title I, (1)	See Part II, Title I, (1)



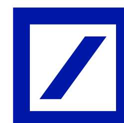
Reference	Description	Proposed treatment	Justification for proposed treatment if different from CP
	rates or an extended surface of implied volatilities;		
(4)	changes in the effective length of the historical observation period, including a change in a weighting scheme of the time series according to Article 354(1)(d) of Regulation (EC) No xxxx/20xx [CRR];	Include	This element of the internal model capital charge is quite fundamental so we agree that this item should be pre-notified.
(5)	changes in the calculation of the effects of changes in market risk factors on instruments, including changes in pricing models used to calculate sensitivities to modelled risk factors or to re-valued positions for the value-at-risk model or for the purpose of back-testing, according to Article 356 of Regulation (EC) No xxxx/20xx [CRR];	Remove. See Part II, Title I, (1)	See Part II, Title I, (1)
(6)	changes in the statistical method to estimate volatilities or correlations between risk factors according to Article 356(3) of Regulation (EC) No xxxx/20xx [CRR];	Remove. See Part II, Title I, (1)	See Part II, Title I, (1)
(7)	changes in the definition or methodology of appropriate proxy risk factors for the VaR and the stressed VaR model according to Article 356(2)(e) of Regulation (EC) No xxxx/20xx [CRR];		
(8)	change of the period on which the stressed VaR calculation is based ('stressed period') according to Article 354(2) of Regulation (EC) No xxxx/20xx [CRR];	Include	This element of the internal model capital charge is quite fundamental so we agree that this item should be pre-notified.
(9)	changes to the criteria for mapping positions to relevant risk factors according to 356(1) of Regulation (EC) No xxxx/20xx [CRR];	Remove. See Part II, Title I, (1)	See Part II, Title I, (1)
(10)	changes in the methodology for defining appropriate proxy spreads, including regarding the advanced CVA approach according to Article 373(6) of Regulation (EC) No xxxx/20xx [CRR];	Remove. See Part II, Title I, (1)	See Part II, Title I, (1)
(11)	change between internal and external rating used for IRC and / or correlation trading models according to	Include	This element of the internal model capital charge is quite



Reference	Description	Proposed treatment	Justification for proposed treatment if different from CP
	Article 361 of Regulation (EC) No xxxx/20xx [CRR];		fundamental so we agree that this item should be pre-notified.
(12)	changes in the methodology used for assigning exposures to individual exposure classes in the IRC and / or correlation trading models according to Article 363(1) and (2), Article 367(2) of Regulation (EC) No xxxx/20xx [CRR];	Remove. See Part II, Title I, (1)	See Part II, Title I, (1)
(13)	change of methods for estimating exposure or asset correlation for IRC and / or correlation trading models according to Articles 363(2) and 367(2) of Regulation (EC) No xxxx/20xx [CRR];	Remove. See Part II, Title I, (1)	See Part II, Title I, (1)
(14)	changes in the implementation of internally developed and implemented pricing models or use of proxy models;	Remove. See Part II, Title I, (1)	See Part II, Title I, (1)
(15)	change in the validation methodology and/or process according to Article 357(1)(h) of Regulation (EC) No xxxx/20xx [CRR];	Remove. See Part II, Title I, (1)	See Part II, Title I, (1)
(16)	changes to the valuation method with regard both to the economic profit and loss and to the clean profit and loss, such as move from mark-to-model to mark-to market, or vice versa, according to Article 355(3) and 358(2) of Regulation (EC) No xxxx/20xx [CRR];	Remove.	The valuation approach for balance sheet purposes is a proprietary approach. The bank needs to ensure that backtesting of the internal model outcome against the P&L is of good quality. But this must not lead to a dependency of the valuation approach for the internal capital models.
(17)	change to the organisational and operational structure of risk management and internal governance process, according to Article 357(1) of Regulation (EC) No xxxx/20xx [CRR] including any of the following: (a) organisational changes;	Remove.	This is a criterion which is unrelated to the model change process. Rather, regulators should agree to what level they would like to be informed about organisational and operational



Reference	Description	Proposed treatment	Justification for proposed treatment if different from CP
	(b) the limit setting framework; (c) the reporting framework; (d) stress testing changes; (e) the new product process; (f) internal organisation and staff changes;		changes outside this CP.
(18)	transfer of significant product groups to another position keeping or front office system according to Article 357(1) of Regulation (EC) No xxxx/20xx [CRR];	Remove. See Part II, Title I, (1)	See Part II, Title I, (1)
(19)	changes in the IT environment, including any of the following: (a) applying vendor pricing models; (b) Outsourcing of central data collection functions; (c) Change of the market data provider for input data for the risk model; (d) Opening or closing down of trading locations.	Remove. See Part II, Title I, (1)	See Part II, Title I, (1)



Annex 2

Responses to consultation questions:

Q1: Are the provisions included in this draft RTS that specify the principles of categorisation of extensions and changes, sufficiently clear? Are there aspects which need to be elaborated further?

The categorisation provisions are sufficiently clear but would benefit from some further work on calibrating the scope. It would also be helpful to get some indication about the expected timescales for approval, or otherwise, of a change request.

In Article 2, paragraph 3 we share the view prohibiting changes being sliced to reduce materiality. In the Credit Risk context however, we feel it may be necessity to aggregate the impact of changes to judge the overall picture on materiality. For example, with a decrease of Probability of Default and increase of Loss Given Default for a rating system, the changes regarded individually might both exceed certain materiality thresholds whereas the combined impact may be negligible. In the context of classification of changes in the IRB, there can be benefit in measuring the materiality of combined changes in aggregate.

DB would also request clarity on which change processes need to be conducted on a sub-group level and which only at the parent level. We do not see benefit in conducting changes at the sub-group level resulting in multiple national supervisors being involved in approving the same change request.

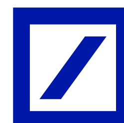
A further concern that DB has relates to Article 2, paragraph 5 which says that "institutions shall implement the approved extension or change on the date specified in the new permission…".This provision would require significant adjustment in order to become operationally feasible for a bank. In practice, implementation timelines must be fluid and flexible to allow new, more urgent changes to be prioritised. Ensuring reasonable timelines are adhered to by banks and that resources are efficiently allocated could be accomplished by mandating banks to implement an approved extension within a specified timeframe post approval. We suggest that 12 months would be appropriate.

Q2: Are the provisions included in this draft RTS on the calculation of the quantitative threshold for the IRB approach sufficiently clear? Are there aspects which need to be elaborated further?

In DB's opinion the provisions on the calculation of the quantitative threshold for the IRB approach are clear.

Q3: Do you support the calculation proposal of the quantitative threshold for the IRB approach in terms of design of the metrics and level of thresholds? (Please also take into account the arguments provided in Tables 2 to 5 of the Impact Assessment)

In DB's view the requirements in Article 3, paragraph 1(c)(ii) requing a 15% decrease as a benchmark across all positions would be disproportionately stringent for an internal rating system attracting a low level of RWA. We suggest that a 15% threshold should only be applied if the internal rating system in question consumes more than, say, €1bn RWA. DB feels that the thresholds outlined in Article 4, paragraph 1(a)(iv) are also too stringent and will result in more changes being captured than would be helpful for supervisors. The same applies to the 5% threshold applied to changes requiring prior notification. For example, a change of a Conversion Factor or Loss Given Default factor from 50% to 47% currently constitutes a change requiring notification prior to implementation and a lead time of three months. We do not believe that this is the level of calibration that the CP intends. This would



not only be unnecessarily burdensome for banks, but would risk overwhelming supervisors with change requests of an immaterial nature.

We believe that provisions in Annex 1, Part 2, Title 1, 1(a), 2(d), 2(f) and 4 should be subject to prior notification instead of prior approval.

Also in Annex 1, Part 2, Title 1 provisions under (2)(f) and (2)(g) would be more appropriately designated as requiring notification post implementation. Finally in the same section we would suggest that qualitative and quantitative criteria should be combined for provisions (1)(b), (2)(d), (2)(e), (6)(d).

Q4: Do you support for the IRB approach the three month period for notification of the changes before implementation?

DB believes that in the context of non-material changes to which this article refers, the three month notification period is too long. In our opinion this timeframe will negatively impact the efforts of banks to continuously improve risk measures with several initiatives at the same time. DB believes that a one month notification period would achieve the correct balance between the necessary supervisory oversight and allowing banks to respond rapidly where changes are needed.

DB would also request clarity about which approvals will be given in writing and which will trigger an onsite audit. It must be kept in mind that changes to the IRB approach can only be properly audited once implemented, and therefore approval prior to auditing is necessary.

Q5: Are the provisions included in this draft RTS on the calculation of the quantitative threshold for the AMA sufficiently clear? Are there aspects which need to be elaborated further?

Based on the assumption that the term “own funds requirements” is referring to Operational Risk Regulatory Capital, we find the provisions here sufficiently clear. If this is not the case, then we would ask for clarity to be provided.

Q6: Do you support the calculation proposal of the quantitative thresholds for the AMA in terms of design of the metrics and level of thresholds? (Please also take into account the arguments provided in Tables 2 to 5 of the Impact Assessment)

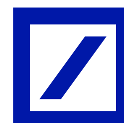
We believe that the calculation proposal and the threshold are reasonable.

Q7: Do you support for the AMA the three month period for notification of the changes before implementation?

We believe that a one month notification period is sufficient.

Q8: Do you support that for the AMA no quantitative differentiation between changes requiring notification prior vs. post implementation is made?

We are supportive of this provision.



Q9: Are the provisions included in this draft RTS on the calculation of the quantitative threshold for the IMA sufficiently clear? Are there aspects which need to be elaborated further?

We believe that the provisions in this section are sufficiently clear.

Q10: Do you support the calculation proposal of the quantitative thresholds for the IMA in terms of design of the metrics and level of thresholds? (Please also take into account the arguments provided in Tables 2 to 5 of the Impact Assessment)

We are comfortable with the proposed threshold. However, please note that DB has considerable concerns around the criteria which lead model changes and extensions to be categorised as material. See Annex 1 and Tables 1 and 2 for proposed changes to the RTS.

Q11: Do you support for the IMA the one month period for notification of the changes before implementation?

DB believes that one month is unnecessarily long and would significantly slow down the continuous internal model enhancement programme. For items requiring notification a lead time of two weeks should be sufficient.

We note that there are numerous criteria on the notification list which will have no impact or only a tangential impact on the model results. We believe that this list could be rationalized to avoid unnecessary requirements which might be disproportionate to the potential impact of the changes. Please see Annex 1 and Tables 1-3 for proposed changes to the RTS.

Q12: Do you support for the IMA the 60-day observation period for the purpose of comparing the modelling result before and after a proposed change?

Whilst DB understands that the motivation for a 60-day observation period is to link it to how RWAs are averaged, we consider a 60-day testing period inappropriate.

Potential fluctuations in the impact can be measured accurately over a far shorter time period. A 60 day testing period for a single change would mean that in practice banks would have multiple changes being testing in parallel, using different code versions which would require significant additional IT development for full realign after implementation.

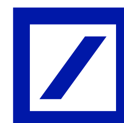
For further detail please see Annex 1 and proposed amendment 8 above.

Q13: Do you support that for the IMA for those modelling approaches which are only required to be calculated once a week (stressed VaR, IRC, CRM) to compare only twelve numbers for Article 7 paragraph 1(c)(iii)?

DB does not see added value in 12 consecutive weeks of testing. Our experience shows that two weeks (with one impact per week) is sufficient.

Q14: Do you support that for the IMA no quantitative differentiation between changes requiring notification prior vs. post implementation is made?

We do not support this position. Notification prior to implementation slows down model enhancements and is unnecessarily burdensome. With the growing complexity of IT dependency introduced with Basel 2.5 and Basel 3 to follow, the amount of testing has dramatically increased. Additional constraints brought about by requesting pre-approval for so many standard changes would put model development at risk.



Q15: Are the provisions included in this draft RTS on the documentation requirements sufficiently clear? Are there aspects which need to be elaborated further?

DB's understanding of the EBA mandate under articles 138(5), 301(3)(a) and 352(3)(a) of the CRR, is that its scope is limited to finding a suitable definition of materiality. Therefore, we question whether documentation standards as outlined in Art. 9 of the CP should be included in this consultation.

However, should it be deemed that the documentation of model changes is indeed part of the CP scope, we suggest the following modifications:

- Art. 9, (1) d (Technical and process documents). We agree that technical documentation on underlying (methodology) analysis is appropriate for certain model changes. We do not believe however that documentation describing how model changes are implemented, are relevant to the model change approval process. Therefore, we propose that a reference to "process documents" is removed.
- Art. 9, (1) e (Reports of independent validation function). We agree that such pre-implementation validation is appropriate for material model changes. However, we do not believe that the independent validation function has to undertake pre-implementation validation for non-material model changes. Instead, the regular (post-implementation) validation cycle would investigate such model changes. We note that even non-material model changes have to go through the appropriate approval governance within the bank (but not necessarily an independent validation).
- Removal of Art.9, (1) h (Record of current and past version of internal models). A model inventory and its changes over time should be part of the regular interaction between a bank and its supervisor and be independent of the individual model changes.
- Removal of Art.9, (1) i (Details of planned changes). Communication of planned model changes should be part of the regular interaction of a bank with its supervisor and be independent of individual model changes.

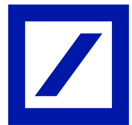
Q16: Do you support the view that costs arising for institutions from the documentation requirements included in the draft RTS are not expected to be material? If not, could you please indicate:

- the main cost driver: i) additional IT equipment, ii) additional ongoing Staff/hours, iii) other (please specify).

- the % increase in total yearly costs to internal models management for credit/operational/market risk induced by the proposed documentation requirements (specify whether the costs arise only for some of the risk categories covered by the provisions).

- indicative monetary amount related to those additional costs (specifying currency and unit)

Costs arising from documentation requirements are expected to be very significant. An extremely onerous requirement, for example, is Article 9(2) with reference to 1(e), where reports by the independent review / validation function would be required for any model changes (including staff re-organisation). This would lead to a multiplication of the current

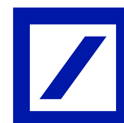


work load and associated costs. Similarly, Article 9(2) requires a number of detailed documentation elements which are excessive for model changes of low capital impact.

Additionally, the fact that the approval process may cover several years adds substantially to the administrative and communication workload. From DB's experience on the AMA side, a development and implementation model change requiring regulatory approval cannot be expected to be completed in less than two years.

Q17: Do you support the view that the additional costs, for institutions, of computing the quantitative impacts of the implemented model extensions/changes are expected to be non-material, given that institutions already carry out impact analysis in the current framework? If not please indicate:

- the main cost driver: i) additional IT equipment, ii) additional ongoing Staff/hours, iii) other (please specify).



- the implied % increase in total yearly costs of internal model management for credit/operational/market risk induced by the quantitative impact analysis (specify whether the costs arise only for some of the risk categories covered by the provisions).

- indicative monetary amount of these additional costs (specifying currency and unit).

DB anticipates a significant increase in costs resulting from the preparation of additional ex-ante/ex-post submissions. The main driver of such costs would be labour hours and systems enhancements.

If Art.9 sentence 2, reference to 1(g) results in 60 days of parallel run, costs would rise exponentially with the number of model changes which are in the pipeline at any point in time. This would amount to multiples of the current costs.

Q18: Do you support the view that, for institutions, the costs of ex-ante/ex-post notification of extensions/changes are expected to be non-material? If not, please indicate:

- the main cost driver: i) additional IT equipment, ii) additional ongoing Staff/hours, iii) other (please specify).

- the % increase in total yearly costs of internal models management for credit/operational/market risk induced by the notification requirements (specify whether the costs arise only for some of the risk categories covered by the provisions).

- an indicative monetary amount of these additional costs (specifying currency and unit).

Based on the currently proposed quantitative thresholds and qualitative criteria, a higher number of changes will require regulatory approval and notification prior to implementation. This will have significant impact on internal change processes and thus increase costs. Moreover, the currently proposed period of three months (IRB, AMA) or one month (AMA) for changes requiring notification prior to implementation and no specified period for changes requiring approval prior to implementation will slow down change processes and significantly increase headcount requirements and IT costs.