Guidelines
on changes to IRBA systems and other borrower-related internal risk measurement systems

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Preliminary remarks

The Solvency Regulation has given institutions, for the first time, the option of using, subject to a supervisory authorisation process, internal rating systems, internal models approach for equity risk, the Internal Assessment Approaches (IAA), the Internal Models Method (IMM) and model-based volatility adjustments to calculate the regulatory capital requirement for credit risk. For simplicity, these borrower-related risk measurement systems will be referred to hereinafter as “IRBA systems”.¹

Substantial changes to IRBA systems require an intensive dialogue between institutions and supervisors at an early stage. Authorisation, and the recognition of suitability on which this is based, is granted only

¹ The IMM and model-based volatility adjustments can also be used by institutions using the Credit Risk Standardised Approach (CRSA).
to the IRBA systems explicitly designated in the application. A restrictive interpretation would imply that an IRBA system is an instrument for risk assessment which has once been developed by an institution and then, after approval by the Federal Financial Supervisory Authority (BaFin), is used continuously and unchangingly to calculate the regulatory capital requirement for credit risk. Pursuant to article 60 (1) of the Solvency Regulation, an (authorised) rating system comprises all of the methods, processes, controls, data collection and IT systems that support the assessment of credit risk, the assignment of IRBA exposures to grades or pools (rating), and the quantification of default and loss estimates for a given type of IRBA exposure. Consequently even a slight change in one of these components would formally create a new rating system, thus rendering an existing authorisation or recognition of suitability obsolete. This applies accordingly to internal models approach for equity risk, IAA procedures, the Internal Models Method and model-based volatility adjustments.

However, an IRBA system is an integral part of risk management and as such is subject to constant change. Institutions using IRBA systems are therefore required by the Solvency Regulation to regularly review the adequacy of their IRBA systems and to modify them if this is necessitated by, for instance, validation results. Therefore, supervisors expect when authorising IRBA systems that an institution will deal appropriately with future changes necessary.

Unless these changes are so profound as to call the system’s suitability into question entirely, an existing recognition of suitability shall remain valid in accordance with the principle of appropriateness.

These guidelines shall structure the interaction related to model changes and encourage an early dialogue between institutions and supervisors. The following categorisation makes it easier for institutions and supervisors to deal properly with changes to IRBA systems and to foster a consistent supervisory practice.

For this purpose supervisors make a distinction between these four categories.

1 Extensions
2 Major changes
3 Significant changes
4 Insignificant changes
For **extensions** and **major changes**, a renewed recognition of suitability is necessary before they can be applied. For extensions, in particular, this requires an examination pursuant to article 44 (1) sentence 2 read in conjunction with article 10 (1) sentence 9 of the German Banking Act.

**Significant changes** do not require a renewed recognition of suitability but are to be agreed with BaFin informally. The idea is to support the rapid implementation of changes and to give institutions the legal certainty they need with regard to the impact of the changes on authorisation.

**Insignificant changes** only need to be communicated to supervisors at regular reporting intervals.

All changes must be documented adequately.

Owing to the variety of possible changes, there is no universal definition for the above categories which can be applied unambiguously to each case. BaFin therefore calls on institutions to define criteria appropriate to distinguish between these four categories considering their particular situation and to document them in a model change policy, ie an internal guideline for dealing with IRBA system changes.

### 1 Extensions and changes to IRBA systems

Extensions and changes to IRBA systems include modifications in the mathematical-statistical methodology as well as changes to all other factors which are relevant to fulfilling the Solvency Regulation’s suitability requirements.

The following, non-exhaustive list of examples shall serve to indicate what falls under the terms extension, major change, significant change or insignificant change; a reasoned deviation from the classification of the examples below within the institution’s model change policy is possible. Each institution shall individually lay down definitional criteria in its IRBA model change policy (see section 2). The classification of a specific modification to an IRBA system determines the communication requirements vis-à-vis supervisors (see section 3).

#### 1.1 Examples of extensions

- Extension of the scope of application of internal rating systems
  - Extension to customer or product groups not covered by the authorisation
  - Abandonment of previous partial use for specific locations or portfolios
• Estimation of additional risk parameters for internal rating systems (shifting from the “foundation IRB approach” to the “advanced IRB approach” through own estimates of LGD etc)
• Extending the scope of application of an internal model approach for equity risk
• Extending the use of the IAA to additional exposure classes
• Extending the use of IMM to additional business segments (e.g. new categories of underlyings of derivatives)

1.2 Examples of major changes
• Fundamental changes in the rating methodology or parameter estimation for IRBA systems such as changeover from scorecard approaches to simulation models, integration of hitherto discrete parameter estimations in one unified system with interdependent estimates
• Changes to rating systems – for instance, adding new risk factors or omitting previously included risk factors; major shifts in weight between sub-modules (e.g. quantitative to qualitative) or adding new sub-modules – where this leads to major changes in the results
• Fundamental change in the organisational environment and processes of a rating system
• Change in lending practice or loan processing, where they can cause major changes to the risk parameters
• Inclusion of additional types of collateral if their treatment differs from procedures that have already been examined
• Change in the bases for authorised IAA modules

1.3 Examples of significant changes
• Changes in the methodology of internal rating systems (parameter estimation or rating) which go beyond modifications made during scheduled validation and are not already covered by section 1.2
• Changes in the bank’s internal methods of identifying defaults and recording losses
• Process changes (including competencies) which affect the division of tasks between “front office” and “back office”
• Changes in the way the rating system’s results are incorporated into risk management (limit system, reporting system)
• Structural changes in the validation procedures
• Inclusion of additional types of collateral if their treatment is analogous to procedures that have already been examined

• Changes in the rules for overrides in IRBA systems

• Fundamental change in IT systems, such as those for ratings, collateral management, reporting or the calculation of capital; migration from licensed software used on the institution’s own hardware to implementation based on application service provision (ASP)

1.4 Examples of insignificant changes

• Changes to rating systems caused by scheduled validation – for instance, changes in weights, adding new risk factors or omitting previously included risk factors – provided this changes the results only marginally

• Restructuring within the back office or within the front office without shifting tasks between these two entities

• IT releases which do not affect the procedure and the methodology of calculations (e.g. adjusting masks, error correction)

• Minor changes in the system architecture and data flows

• Changes in the assignment of competencies provided the back office’s tasks are not infringed

• Changes in the detailed setup of stress tests

2 Internal IRBA model change policy

The IRBA model change policy is the bank’s individual framework for implementing IRBA system changes. Its purpose is to specify the criteria for categorising changes as listed above, to describe the process for implementing the changes and to list the responsible parties.

The institution is required to communicate its IRBA model change policy to BaFin and the Deutsche Bundesbank. This policy will be reviewed by BaFin, which also reserves the right to classify specific changes not indicated as major by the institution as major changes or even as extensions and to treat them accordingly.

Institutions participating in pool projects are also required to have a model change policy of their own. However, model changes related to jointly developed elements of IRBA systems can be treated under an overarching pool guideline as part of the institution’s model change policy.
3 Communication with BaFin and the Deutsche Bundesbank

The category in section 1 to which an IRBA system change belongs determines how the institution needs to communicate this to BaFin and the Deutsche Bundesbank.

The requirements in this section are also valid for model changes carried out across all institutions participating in a specific pool project. However, the respective changes can be announced centrally naming the institutions affected. If an authorization is needed, the application has to be filed by the institution itself where the further procedure follows the treatment in place for pool projects.

3.1 Communicating extensions or major changes

An application for permission from BaFin to use the extended or altered IRBA system to calculate the regulatory capital requirement needs to be filed in advance in writing. A copy of the application is to be sent to the Deutsche Bundesbank.

The application has to include documentation which describes the change and documents its effects. This includes the methodology and the commented outcomes from benchmark calculations. The planned approach for productive use is also to be described.

BaFin will decide whether the planned changes can be authorized. Usually the decision will be based on the results of an examination pursuant to section 44 (1) sentence 2 read in conjunction with section 10 (1) sentence 9 of the Banking Act. Applying to BaFin for authorisation well in advance of its planned implementation is therefore advisable.

Only after renewed recognition of suitability by BaFin the risk parameters derived from the extended or altered IRBA systems may be used for the calculation of minimum capital requirements. To obtain a renewed recognition of suitability in case of major changes, adequate test calculations or approximations are sufficient. A parallel run of two IRBA systems in production is not required from a supervisory perspective. For existing business, risk parameters derived from the previous IRBA system may enter into the calculation of minimum capital requirements for a restricted period of time.

Extensions may make it necessary to submit a new application for authorisation (see section 1 of the "Guidelines for applications to use the IRBA for calculating minimum capital requirements").

3.2 Communicating significant changes

The institution shall informally announce the planned change to BaFin and the Deutsche Bundesbank prior to implementation and simultaneously submit paperwork which describes this change and documents its effects. This should include, where necessary, the
methodology and the commented outcomes from benchmark calculations.

Only after BaFin has informed the institution that, based on the submitted documents, the supervisors have no misgivings about the implementation of the change should the institution use the requested change for regulatory purposes.

If the submitted documentation gives rise to misgivings or if BaFin believes that this is a major change which would require a renewed recognition of suitability, BaFin will communicate this to the institution and coordinate the further procedure with the institution.

**3.3 Communicating insignificant changes**

Insignificant system changes can be implemented by the institution without contacting BaFin beforehand. These changes must have a complete and transparent audit trail and are to be communicated to BaFin and the Deutsche Bundesbank cumulatively at least once a year.