

15

MODEL RISK

IN BRIEF

Model risk is defined as the potential for adverse consequences from decisions based on incorrect or misused model outputs and reports.

Many choices made within the Group are based on quantitative decision support tools (models). Model risk is defined as the risk of adverse consequences (including financial consequences) due to decisions reached based on results of internal models. The source of model risk may be linked to errors in development, implementation or use of these models and can take the form of model uncertainty or errors in the implementation of model management processes.

15.1 MODEL RISK MONITORING

The Group is fully committed to maintaining a solid governance system in terms of model risk management in order to ensure the efficiency and reliability of the identification, design, implementation, modification monitoring processes, independent review and approval of the models used. An MRM (“Model Risk Management”) Department in charge of controlling model risk was created within the Risk Department in 2017. Since then, the model risk management framework has been consolidated and structured and is based today on the following device.

Actors and responsibilities

The model risk management system is implemented by the three independent lines of defence, which correspond to the responsibility of the business lines in risk management, to the review and independent supervision and evaluation of the system and which are segregated and independent to avoid any conflict of interest.

The device is as follows:

- the first line of defence (LoD1), which brings together several teams with diverse skills within the Group, is responsible for the development, implementation, use and monitoring of the relevance over time of the models, in accordance with model risk management system; these teams are housed in the Business Departments or their Support Departments;
- the second line of defence (LoD2) is made up of governance teams and independent model review teams, and supervised by the “Model Risk” Department within the Risk Department;
- the third line of defence (LoD3) is responsible for assessing the overall effectiveness of the model risk management system (the relevance of governance for model risk and the efficiency of the activities of the second line of defence) and independent audit of models: it is housed within the Internal Audit Department.

Governance, steering and monitoring

A MRM Committee chaired by the Risk Director meets at least every three months to ensure the implementation of the management system and monitor the risk of models at Group level. Within the second line of defence and the “Model risk” Department, a governance team is in charge of the design and management of the model risk management system at Group level.

As such:

- the normative framework applicable to all of the Group’s models is defined, applied when necessary to the main families of models to provide details on the specifics, and maintained while ensuring the consistency and homogeneity of the system, its integrity and its compliance with regulatory provisions; this framework specifies in particular the definition of expectations with regard to LoD1, the principles for the model risk assessment methodology and the definition of guiding principles for the independent review and approval of the model;
- the identification, recording and updating of information of all models within the Group (including models under development or recently withdrawn) are carried out in the model inventory according to a defined process and piloted by LoD2;
- the monitoring and reporting system relating to model risk incurred by the Group in Senior Management has been put in place. The appetite for model risk, corresponding to the level of model risk that the Group is ready to assume in the context of achieving its strategic objectives, is also formalised through statements relating to risk tolerance, translated under form of specific indicators associated with warning limits and thresholds.

Model life cycle and review and approval process

For each model, risk management is based on compliance with the rules and standards defined for the entire Group by each LoD1 player, it is guaranteed by an effective challenge from LoD2 and a uniform approval process.

The need to examine a model is assessed according to the level of model risk, its model family and applicable regulatory requirements. The independent review by the second line of defence is triggered in particular for new models, periodic model reviews, proposals to change models and transversal reviews in response to a recommendation:

- it corresponds to all the processes and activities which aim to verify the conformity of the functioning and use of the models with respect to the objectives for which they were designed and to the applicable regulations, on the basis of the activities and controls implemented by LoD1;
- it is based on certain principles aimed at verifying the theoretical robustness (evaluation of the quality of the design and development of the model), the conformity of the implementation and use, and the relevance of the monitoring of the model;
- it gives rise to an Independent Review Report, which describes the scope of the review, the tests carried out, the results of the review, the conclusions or the recommendations.

The approval process follows the same approval scheme for all models, the composition of governance bodies being able to vary according to the level of model risk, the family of models, the applicable regulatory requirements and the Business Units/Service Units in which model is applicable. Responsible for LoD2, the approval process consists of two consecutive instances:

- the Review Authority which aims to present the conclusions identified by the review team in the Independent Review Report and to discuss, allowing for a contradictory debate between LoD1 and LoD2. Based on the discussions, LoD2 confirms or modifies the conclusions of the Review Report, including the findings and recommendations, without being limited thereto;
- the Approval Authority, a body which has the power to approve (with or without reservation) or reject the use of a model, changes made to the existing model or continuous monitoring of the relevance of the model along the time proposed by the LoD1, from the Independent Review Report and the minutes of the Review Authority.

