



**MONTE
DEI PASCHI
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BANCA DAL 1472

Update AIRB models Internal Audit Review

Direzione Chief Audit Executive
Area Revisione Specialistica
Servizio Financial and Model Risk Audit

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Summary

During 2018, the MPS Group received the official results of the TRIM General Topics, of the Internal Model Investigation (IMI40) and a draft version of the TRIM-2017-ITMPS-2939 report. Based on the results of the aforementioned inspections, the MPS Group has planned a model change activity with the aim at addressing the resolution of the various findings detected by the supervisor. The main areas of intervention concerned: the recalibration of rating models, the introduction of RWAs on defaulted assets and a series of substantial changes on the LGD model both in terms of the bad debt module and the danger rate module.

In compliance with Article 8, subsection (e), of the “Commission Delegated Regulation (EU) No 529/2014”, the Internal Audit Function has performed an independent review activity that will be submitted together with the application package.

The results of the activities make it possible to state that **the initiatives undertaken in order to address the requests of the Supervisory Authority are considered satisfactory and the related findings can be considered resolved.**

Hereinafter a brief detail of the main verification activities carried out is reported.



Audit Review Results (1/2)

PD Calibration

- The review activities on the criteria for determining the calibration population allowed to confirm that the choice of the depth of the historical series observed guarantees an adequate level of variability of the observed default rates providing, at the same time, an appropriate mix between expansion and recession cycles as required by the legislation (finding #9 TRIM2017). The treatment of multiple defaults and the removal of the so-called “technical past due” were consistent with the requirements of the Supervisory Authority (finding #15 TRIM2017).
- The procedures for calculating the Anchor Points (simple average of the default rates) were replicated independently with a particular focus on the specific treatment for forborne exposures (finding #8 IMI40). Auditability of the process is guaranteed and within the limits of the review activities, no critical issues have been detected.

Expected Loss Best Estimate (ELBE)

- The model changes performed by the Risk Management Function in order to include the RWAs on defaulted assets in the capital requirement have been considered appropriate and compliant with the requirements of the supervisor. The approach adopted by the bank estimates the ELBE as the long-term LGD to which an add-on for unexpected losses is added in order to determine the LGD in default.
- The Unexpected Loss component is no longer included in the calculation of the ELBE thus solving the findings raised during the IMI40 (finding #21) and TRIM2017 (finding #19).



Audit Review Results (2/2)

LGDS Module

- As regards the time-to-workout parameter estimation and the treatment of incomplete workout, the analyzes allow to conclude that the methodology used for the estimation of this parameter is substantially adequate. The methodology for estimating future recoveries of open positions appears to adequately meet the requirements set out in the EBA guidelines (finding # 18 TRIMI 2017, finding # 14 IMI40).
- Checks on the methodology for assigning indirect costs in the case of loss without this expense make it possible to consider the requests deriving from the finding # 12 IMI40 to be satisfied while, in response to finding # 17 TRIMI2017, the filters currently present in the model in production have been removed.
- The modification of the methodology used to estimate the economic downturn effect is also in line with the expectations of the Supervisory Authority (finding # 13 IMI40).

LGD Danger Rate Module

- The most important changes introduced in the Danger Rate module concern: the definition of a third absorbing state with a general revision of the entire process of assigning the final status and the calculation of the LGD for states other than bad loans (finding # 1 TRIMI2017), the update of the definition of default and the treatment of multiple defaults and the criteria for applying the effect of economic downturn.
- The changes introduced to the criteria for the identification of the Default and the removal of the classification of the "technical past due", which address the resolution of the finding # 15 TRIMI2017, produce an overall conservative effect in terms of RWA.
- The methodology adopted to capture the downturn effect in the Danger Rate module is similar to that observed and analyzed for the LGD downturn of the bad loans module. The identification of the recessive periods (2009 and 2010) and the attribution of the default to these phases of the cycle is consistent with what is defined in the EBA guidelines and, within the limits of the review activities, no critical issues have been detected.
- Finally, the entire calculation process relating to the calculation of the LGD for states other than bad loans was replicated independently and the results are consistent with those estimated by the Risk Management function and in accordance with the methodological documentation provided in a draft version.

