IRB Repair:

Margin of Conservatism framework

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Margin of Conservatism

Introduction

Motivation

- The Targeted Review of Internal Models (TRIM) is a large-scale project conducted by ECB to reduce inconsistencies and unwarranted variability in risk-weighted assets for banks using internal models.
- ECB conducted the TRIM exercise between 2016 and 2020 and executed 200 on-site investigations at 65 significant institutions.
- The third update on TRIM outcomes contained an overview of the percentage of institutions with findings in several modelling areas.
- For both risk parameters – PD and LGD – the figures highlighted a significant number of institutions with findings related to the determination of margin of conservatism (MoC).

TRIM Findings
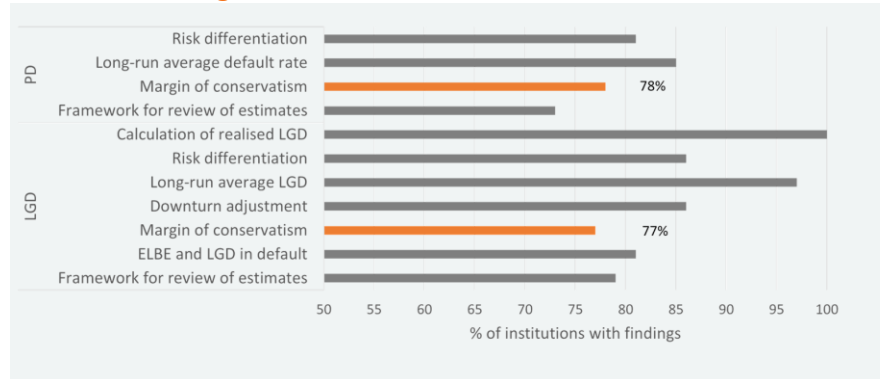
Definition Margin of Conservatism

- According to the Capital Requirements Regulation No. 575/2013 (CRR), institutions are required to add to their risk parameters MoCs that are related to
    - the expected range of estimation errors (Article 179(1)(f)) and
    - the extent of possible changes in underwriting standards and rating systems ((Article 180(1)(e)).

- MoCs of different categories A, B and C (see also page 2) are added together to reflect possible biases in risk parameters.

Impact on Risk Parameters

Composition of capital requirements

Capital Requirement = Constant x EaD x PD x LGD x M

Risk parameters

Composition of (un-)corrected risk parameters

uncorrected parameter = Modeled parameter

MoC-corrected parameter = Modeled parameter + MoC A + MoC B + MoC C

Further Regulatory Requirements

- In addition to the requirements of CRR, the "Guidelines on PD estimation, LGD estimation and the treatment of default exposures" (EBA-GL-2017-16) describe how institutions should implement an MoC-framework covering the following areas:
    - quantification (para.. 42 - 48),
    - documentation (para. 49) and
    - monitoring (para. 50 –52)

Margin of Conservatism

MoC process

The process of estimating the impact of individual deficiencies, which results in a MoC, comprises a total of four steps. These are presented and described below.

List of Deficiencies

- Initially, "all relevant deficiencies in methods, processes, controls, data or IT systems need to be listed" (EBA Guidelines).
- Additionally, institutions should identify all deficiencies related to the estimation of risk parameters that lead to a bias in the quantification of parameters.

Categorization

Deficiencies are required to be categorized into:
- **Category A**: data and methodological deficiencies
- **Category B**: deficiencies related to relevant changes to underwriting standards, risk appetite, collection and recovery policies and other sources of additional uncertainty
- **Category C**: general estimation error
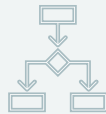
Adjustments

- It needs to be evaluated if an appropriate adjustment to mitigate or remove the deficiency is possible.
- The implementation of the adjustment should lead to a more accurate estimate of the risk parameter.
- The reasoning behind the selection of the appropriate adjustment should be documented.

Quantify MoC

- For all deficiencies that could not be completely eliminated by adjustments, a MoC must be quantified.
- Therefore, appropriate methods to quantify the impact of deficiency must be found and applied. For different types of deficiencies, the methods to be used may vary.
- Finally, the MoC is added to the best estimate of the risk parameter.

Overarching and ongoing tasks

Documentation
- The application of the four steps process need to be properly documented into the relevant model documentation. In addition, model development technical standards should contain all the methodological aspects related to MoC definition.

Monitoring
- Institutions are required to monitor the level of deficiencies on a regular basis.
- After the initial assessment of deficiencies or uncertainties, institutions must establish a plan for the rectification of deficiencies of categories A/B/C and the reduction of estimation errors.
- The plan for rectifications should be implemented in a reasonable timeframe and be proportional to the materiality of the estimation error and the affected rating system.

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