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ABSTRACT

More than 15 years ago, the Basel Committee on Banking Supervision (BCBS) introduced into the system of prudential regulation for banks a risk-based framework (BaseII), allowing financial institutions to use internal models to calculate minimum capital requirements for major risk types [1]. In this context, the Regulators envisaged some prudential floors to the input parameters. In particular, Articles 160 (1) and 163 (1) in Section 4 of [2] lay down a floor for the IRB banks' internally estimated probability of default. Moreover, under Basel Standards review (Basel III) [3], this floor has been increased. In the consultative document [4] the BCBS provides the following rationale for the input floors (pag 6): << *Reliability of model estimates. Floors on individual model parameters can be applied in a targeted way to address concerns about the reliability of particular inputs for particular portfolios. For example, PD floors address the problem that in low-default portfolios, a large number of observations are needed to give confidence in the estimated PD.*>>. In [5] we exploit Monte Carlo simulations to quantify the bias induced by the estimation error in the regulatory risk measures and we explore an approach to correct for this bias. In this paper we further investigate along these by studying the reliability of the approach proposed in [5] when dealing with low probabilities of default. This in turn provides a framework for the calibration of the floors.

Keywords: Regulation; Basel II and III; Margin of Conservatism; Value-at-risk

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