

Chapter 1

Commission Delegated Regulation (EU) 2018/959

Article 31 Identification of the loss distributions

For the purposes of assessing that an institution has an appropriate process for the identification of frequency and severity of the distributions of loss, as referred to in point (d) of Article 28, competent authorities shall confirm at least the following:

(a) that the institution follows a well specified, documented and traceable process for the selection, update and review of loss distributions and the estimate of their parameters;

(b) that the process for the selection of the loss distributions results in consistent and clear choices by the institution, properly captures the risk profile in the tail and includes at least the following elements:

(i) a process of using statistical tools, including graphs, measures of centre, variation, skewness and leptokurtosis to investigate the calculation data set for each operational risk category with the view to better understand the statistical profile of the data and selecting the most suitable distribution;

(ii) appropriate techniques for the estimation of the distribution parameters;

(iii) appropriate diagnostic tools for evaluating the distributions to the data, giving preference to those most sensitive to the tail;

(c) that, in the course of selecting a loss distribution, the institution carefully considers the positive skewness and leptokurtosis of the data;

(d) that, where the data are much dispersed in the tail, empirical curves are not used to estimate the tail region, but that instead sub-exponential distributions whose tail decays slower than the exponential distributions are used, unless exceptional reasons exist to apply other functions, which are in any case properly addressed and fully justified to prevent undue reduction of AMA own funds requirements;

(e) that, where separate loss distributions are used for the body and for the tail, the institution carefully considers the choice of the body-tail modelling threshold;

(f) that documented statistical support, supplemented as appropriate by qualitative elements, is provided for the selected body-tail modelling threshold;

(g) that, in the course of estimating the parameters of the distribution, the institution either reflects the incompleteness of the calculation data set due to the presence of minimum modelling thresholds in the model or that it justifies the use of an incomplete calculation data set on the basis that it does not adversely impact the accuracy of the parameter estimates and AMA own funds requirements;

(h) that the institution has in place methodologies to reduce the variability of estimates of parameters and provides measures of the error around these estimates including confidence intervals and p-values;

(i) that, where the institution adopts robust estimators in the form of generalisations of classical estimators, with good statistical properties including high efficiency and low bias for a whole neighbourhood of the unknown underlying distribution of the data, it can demonstrate that their use does not underestimate the risk in the tail of the loss distribution;

(j) that the institution assesses the goodness-of-fit between the data and the selected distribution by using diagnostic tools of both a graphical and a quantitative nature, which are more sensitive to the tail than to the body of the data, especially where the data are very dispersed in the tail;

(k) that, where appropriate, including where the diagnostic tools do not lead to a clear choice for the best-fitting distribution or to mitigate the effect of the sample size and the number of estimated parameters in the goodness-of-fit tests, the institution uses evaluation methods that compare the relative performance of the loss distributions, including the Likelihood Ratio, the Akaike Information Criterion, and the Schwarz Bayesian Criterion;

(l) that the institution has a regular cycle for controlling assumptions underlying the selected loss distributions, and that where assumptions are invalidated, including where they generate values outside established ranges, the institution has tested alternative methods and that it has properly classified any changes made to the assumptions, in accordance with Commission Delegated Regulation (EU) No 529/2014.