

The debate on quantitative operational risk modeling has only started at the beginning of the last decade and the best-practices are still far from being established. Estimation of capital requirements for operational risk under Advanced Measurement Approaches of Basel II is critically dependent on the choice of risk measure, which quantifies the risk exposure based on the underlying simulated distribution of losses. Despite its well-known caveats Value-at-Risk remains a predominant risk measure used in the context of operational risk management. We describe several serious drawbacks of Value-at-Risk and explain why it can possibly lead to misleading conclusions. As a remedy we suggest the use of coherent risk measures – and namely the statistic known as Expected Shortfall – as a suitable alternative or complement for quantification of operational risk exposure. We demonstrate that application of Expected Shortfall in operational loss modeling is feasible and produces reasonable and consistent results. We also consider a variety of statistical techniques for modeling of underlying loss distribution and evaluate extreme value theory framework as the most suitable for this purpose. Using stress tests we further compare the robustness and consistency of selected models and their implied risk capital estimates calculated with VaR and ES statistics.