



Design robust and efficient framework that measures the risk profile of new products, activities, processes and systems

In general, operational risk exposure increases when a firm engages in new activities, develops new products, enters new markets, or implements new business processes or IT systems. The level of risk can escalate when new products, activities, processes, or systems transition from a basic level to a level that represents a material source of revenue to the firm or becomes a business-critical operation. The risk management control infrastructure should keep pace with the changes to and growth rates of products, activities, processes and systems. Indeed, the Basel Principles for the Sound Management of Operational Risk specifies the following for financial institutions:

From Principles for the Sound Management of Operational Risk, June 2011, BIS:

Principle 7: Senior management should ensure that there is an approval process for all new products, activities, processes and systems that fully assesses operational risk.

As a result, such approval processes should consider the following:

- ▶ Inherent risks in any new activity
- ▶ Expected changes to the operational risk profile, appetite and tolerance
- ▶ The necessary controls, risk management processes, and mitigation strategies
- ▶ The residual risk
- ▶ Changes to relevant thresholds or limits
- ▶ The procedures and metrics to quantify, monitor, and manage the risk of the new activity and
- ▶ Appropriate investments in terms of personnel and IT infrastructure.

How can an approval process measure the risk profile of a new product, activity, process or system robustly and efficiently? One of the main problems is that no historical data exists for this new venture and the firm's existing risk register may not be relevant. Additionally, external risk data may not be easily obtainable or scalable. In short, using historical losses to compute a forward-looking view of the risk profile remains a difficult issue. problem.

SOLUTION

The MC+ system utilises a statistical modelling method where key risk scenarios resulting from the complexity of the products are placed at the centre of analysis. The model uses subjectively-defined, forward-looking expert estimates and uncertainties around these to build hypothetical but plausible risk scenarios. The methodology is robust because the powerful Monte Carlo (MC) methodology runs a large number of iterations. It is also efficient as it only requires a few inputs, i.e. no large data sets. For each risk scenario, the user only needs to input a limited number of expert opinions.

Furthermore, the MC+ tool utilises processes which the regulators require for modelling losses in the advanced measurement approach (AMA) for operational risk capital requirements.

BENEFITS of MC+

- ▶ Fulfil regulatory requirements with a robust solution that quantifies the risk profile of the new product, activity, process or system and determines the economic capital needed
- ▶ Compute the individual and aggregate components of risk as well as the risk-adjusted return of the complex product
- ▶ Identify the key drivers of the risk premia and measure the sensitivities
- ▶ Run what-if analyses to investigate which controls will improve capital efficiency and mitigate risks
- ▶ Deploy and implement the methodology within *days* rather than weeks or months resulting in time- and cost-saving efficiencies.