

Best Practice in Model Risk Quantification

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Model Risk – the risk of using a model - is a rapidly growing area of risk management in Banks particularly in credit risk model management. Model Risk has direct impact on model and strategy management, IRB credit risk capital calculation, IFRS9 and stress testing, and many other areas of risk modelling.

If Model Risk is to be managed like other risks, then it should be quantified, aggregated and used for the allocation of risk across the bank's model portfolio. However, the credible quantification and aggregation of Model Risk turns out to be difficult in practice and in theory. What is a Model Risk "event" and what is the "loss"? Do we assess Model Risk top-down or bottom-up? Can we aggregate Model Risk and what is its place on the Balance Sheet?

While a general methodology or theory is far from established, many research papers, industry initiatives and best-practice proposals have addressed these questions to some degree. Successful ideas range from qualitative scorecards and heatmaps of Model Risk by analogy with classical credit risk grading; through to sophisticated quantification of model specification error by analogy with VaR; through to marginal and copula methods by analogy with Operational Risk.

This talk surveys the state of the art today and finds common principles, generalisable methods, practical approximations and workarounds that make the quantification of Model Risk accessible to all model managers.

These common principles are also the forerunners of general industry standards and this talk considers some candidate universal Model Risk Quantification standards and looks forward to future developments in this exciting and rapidly developing area.