

DIRECTED RISK RESEARCH PROBLEM STATEMENT

Risk Theme	Risk Analysis	Problem Nr.	PS16009		
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PROJECT TITLE: Emerging best practice in Model Risk Management

PROJECT GOAL

Investigate emerging best practice in model risk management, including methodologies to quantify model risk.

HIGH LEVEL DESCRIPTION OF PROBLEM

Banks rely heavily on financial risk models to make business decisions and manage risk. These models include application scorecards for e.g. deciding on new or amended credit facilities, behavioural scorecards for e.g. ongoing monitoring of customer credit worthiness, capital-demand models to comply with minimum regulatory capital requirements and estimate economic capital requirements, expected loss models for credit impairments and operational loss provisions, and stress testing models to test risk appetite, budgets and capital planning. As a consequence banks are exposed to model risk should model results deviate from the “true” result.

In terms of Pillar II of the Basel Framework, banks are required to demonstrate that all material sources of risk are accounted for in its risk management practices as well as capital demand estimates. To this end the South African Reserve Bank (SARB) recently engaged various South African banks about their model risk management practices including quantification of model risk exposures. Various other host regulators are also increasing scrutiny in respect of model risk management. It is noted from the literature that, apart from the USA Fed, there is currently limited guidance from regulators on model risk management and quantification.

Therefore, in light of the increased focus from regulators on model risk management and the quantification thereof, research on emerging themes in model risk management will be beneficial to the banking industry.

PROJECT OBJECTIVES

The objectives of this project are:

- Investigate best practices in model risk management
- Propose methodologies for quantifying model risk of various financial risk categories’ risk models.

OUTPUTS REQUIRED

- Research paper(s) discussing various approaches to model risk management and methodologies for estimating model risk.

STRATEGIC VALUE TO DIRECTED RISK RESEARCH

This research will contribute conceptually and possibly also materially to the risk analysis field.

References

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Glasserman, P. and Xu, X. (2013). Robust risk measurement and model risk. *Quantitative Finance* **14**(1), 29-58. (<http://dx.doi.org/10.1080/14697688.2013.822989>).

Morini, M. (2011). *Understanding and Managing Model Risk*. Wiley, Chichester.

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Additional reading material

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Quell, P. and Meyer, C. (2016). *Risk Model Validation*. Risk Books, London.