



Abstract

To assist the client in maintaining control over its ever-increasing use of credit risk models and resulting 'model risk', Avantage Reply was asked to develop, implement and manage on an interim basis the client's independent unit for model review validation. A governance framework and scope of responsibilities of the new model validation unit was developed and implemented, as well as the work plan for the review of the credit risk models required to fulfil the unit's independent oversight and support activities. In addition to bringing increased understanding of and comfort with model risks, Avantage Reply also provided the client with knowledge of leading industry practices and access to a tested model evaluation methodology.

Credit Risk Operating Model

THE CLIENT

The client headquartered in the UK, is one of the world's top 10 financial services Groups. In the UK, the client is the leading provider of corporate banking services and is a market leader in the provision of retail banking, wealth management, consumer finance and insurance.

THE CHALLENGE

Under certain approaches of the Basel II Accord, banks are required to calculate their regulatory capital requirements on the basis of default probabilities estimated from internal credit ratings. As a result, the use of credit risk models for underwriting, managing, and pricing has grown tremendously in the last several years and is forecast to grow further in the near future. Accompanying this growth has been the potential increase in 'model risk' – the risk for damage to profitability or reputation arising from the reliance upon erroneous model results or the overly broad application of a model to areas beyond its intended design.

Model risk and inconsistencies in tackling technical issues can be considerably reduced through the design and implementation of a comprehensive validation governance and work plan. In this context, the client required the assistance of Avantage Reply to plan, implement and manage on an interim basis the client's independent unit for model review validation.

APPROACH AND SOLUTION

Avantage Reply initially developed and implemented a model management and governance framework that defined the role and responsibilities of the new model validation unit. The scope of responsibilities included the development of guidelines for modelling issues, model development and deployment lifecycle. The unit is also responsible for monitoring the compliance of models with the prescribed guidelines. Independent model validation was focused on two different stages of the model cycle: the final stage of testing the construction of a new or re-developed model; and the periodic validation reviews of an existing model.

Avantage Reply developed a plan of work for the review of the existing and new credit risk models. The plan was translated into resource planning and deployment required to fulfil its independent oversight and support activities. The

team performed credit model evaluations using a five-step process that focuses on key areas of risk:

- Review the policy guiding the development, implementation, and use of each model;
- Gain an understanding of, and test, the sources of input data and key modeling assumptions;
- Examine each modeling application closely to understand its theoretical foundation, processing, and output;
- Test the mathematical functions in the modeling application; and
- Review and test the use of each model's output to determine whether results are being applied in a manner consistent with the model's intent.

RESULTS AND BENEFITS

In addition to bringing objectivity to the model review and helping the client to leverage scarce resources, Avantage Reply provided knowledge of industry practices to help keep the client well informed regarding the definition of models and the application of their results. More importantly, the client gained an independent external perspective on its credit risk models that not only helped increase the level of assurance that the models were being used effectively but also provided additional insight into leading industry practices. Some of the potential benefits:

- Increased understanding of and comfort with model risks;
- Improved ability to respond to auditor's and regulators' requirements;
- Enhanced knowledge of industry practices;
- Access to a tested model evaluation methodology; and
- Access to independent benchmarking data and tools.

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