

# Internal models – implementing, embedding and adding value to your business

**Kirsty Gray discusses the European Non-Life Forum which was held in Cascais, Lisbon in October 2008.**

**The Hotel Cascais Miragem, situated on the Atlantic coast only 30 minutes drive from Lisbon, was the venue for Watson Wyatt's annual European Non-Life Forum 2008.**

Clients from the UK, France, Spain, Italy, Belgium, the Netherlands, Switzerland, Poland and Russia joined members of Watson Wyatt's European Insurance and Financial Services practice for a day and a half of presentations, discussions and workshops on internal models.

Martin Pike, European practice director, IFS opened the event with a presentation entitled **'The carrot and stick – why bother with internal models?'** Luckily the carrot and stick metaphor seemed to translate well from English into other European cultures. The audience grasped the fact that management will gain a better understanding of their business by going through

the process of building an internal model, which should lead to a competitive advantage over companies who do not choose this route. The time, effort and cost involved in building an internal model should compare favourably against the alternative option of using the standard model to calculate capital, which will almost certainly result in a higher Solvency Capital Requirement (SCR) and will leave management without a good foundation for risk management and strategic decision-making.

Martin also stressed the need for companies to consider how best to change the whole culture of their business, with a greater emphasis on risk and capital measures, and suggested that extensive training was likely to be required. "Solvency II [was] not just for actuaries, but for the whole of the senior team, and Solvency II programmes [would] need to engage the whole business."

Simon Harris, team managing director, Moody's Investors Service then gave a presentation on **non-life insurance and capital from a rating agency view**. Simon explained Moody's

insurance rating methodology and how their approach to assessing capital has evolved over time. Companies in the future can expect rating agencies to carry out detailed assessments of their internal models both from a qualitative and quantitative point of view and integrate this with their perception of the company's risk management before deciding on the rating.

Simon also gave his view on the credit crunch, which stemmed from poor lending and extensive securitisation. In general, European insurers' exposure to sub-prime and other highly structured assets has been limited and underlying insurance business performance has remained strong. Refinancing and additional capital requirements have been modest and although there have been a few high-profile casualties, there has been limited direct rating impact on the industry to date, although there has been negative rating pressure due to the economic downturn. The question for the future is whether or not insurers can learn from the mistakes made in the banking world and avoid the same over-reliance on models.



Kirsty Gray

Delegates then adjourned to the bar where they were treated to a lesson on the history of port and enjoyed sampling a range of White, Tawny and Ruby varieties before heading off to Casa del Mar, one of the area's most popular seafood restaurants, for a lively dinner with local food and wine.

Manel de la Rosa, the Madrid non-life practice leader, opened the session the following day with a presentation on **embedding internal models**. To be able to use models to calculate solvency capital in place of the standard formula under Solvency II, companies must satisfy the 'use test' by integrating the model into business decisions on strategy, operations and management actions. Embedding the model will also be important to satisfy rating agency requirements for enterprise risk management (ERM).

Manel looked at the lessons which have been learned from other risk-based capital regimes, specifically the Individual Capital Adequacy Standards (ICAS) framework in the UK and the Australian Prudential Regulation Authority (APRA) in Australia. He found that one of the main aims of the regulators, encouraging a greater risk management culture in companies, seems to be being met. Senior management now have a greater knowledge and understanding of the model results and methodology and progress is being made in the quality of oversight and governance. Although decisions on reinsurance strategy and portfolio acquisitions or divestitures are being made using these models, significant work is still required to embed the models into firms' risk management frameworks and use them for day-to-day risk management decisions.

How firms can use models to help with **performance measurement and management** was the topic presented by Benoit Verbrigghe, a consultant from Watson Wyatt's Milan office. For best practice, executive compensation should be aligned with the risk framework in an organisation. Currently, the majority of performance measures are based on financial year profits with no consideration of the risk associated with the underlying business, performance over a longer-term or the alignment of corporate and individual interests.

However, with internal models, a range of methods exist to allocate risk capital to lines of business to reach a fair, consistent and applicable risk-adjusted performance measure. An example was provided of an organisation choosing operating ratio as the performance measure and equal percentile probability of impairment as the capital allocation method. Issues of dealing with group reinsurance arrangements, diversification benefits and long-term soft performance drivers were also discussed. The conclusion was that internal models are an excellent base to build performance measures at all levels of an insurance company.

In the next two sessions Pierre-Jean Vouette from Autorité de Contrôle des Assurances et des Mutuelles (ACAM) who is a member of the Committee of European Insurance and Occupational Pensions Supervisors (CEIOPS) presented on the **Regulator's perspective on Solvency II** and Richard Bulmer, a principal actuary from the UK, gave a **Solvency II Update** with a timetable of actions to enable companies to prepare for implementation.

The key messages were that there are strong incentives for companies to develop internal models to improve their risk management and that preparation should start now to ensure companies are able to meet the requirements in four years' time.



The key actions which need to take place now are:

- A gap analysis looking at people, systems and processes to identify what needs to be improved or changed to meet the needs of the business under Solvency II.
- A financial impact analysis. If companies have not participated in Quantitative Impact Study 4 (QIS4) then they should complete the spreadsheets on a best efforts basis to see the impact on their capital of the new calculations.
- A Solvency II implementation plan – identifying someone senior in the company as responsible for the Solvency II project.
- Risk management documentation.

Firms which start planning now and work with their regulators over the next four years to build internal models and develop their Own Risk and Solvency Assessment (ORSA) framework should be well placed for Solvency II when it is implemented.

### Developing an optimal business strategy

was the topic presented by Rob Collinson, a principal consultant from the UK. Rob spoke about how you can rank strategies objectively to support strategic decision-making using an internal model. The key is to be able to analyse the information in a short enough timescale to be useful to the business, and then be able to present the complex information in a way that is informative, easy-to-understand and includes the key features pertinent to the decision. Strategies which are broadly reasonable and attainable,

taking into account the risk appetite and capital available can be identified and used to inform strategic decisions.

Following the presentation, Rob ran an **optimisation workshop** to demonstrate some practical examples of different strategies and let the teams identify the optimal business decisions given a set of parameters within which they could operate.

Ryan Warren, a principal actuary from the UK, then presented on **mergers and acquisitions – deal pricing using an internal model**. He examined the key elements of the due diligence process and how models can be used to determine the economic value of an owner's interest in a business, the valuation of in-force business and the assessment of goodwill using an economic value and market consistent appraisal valuation framework.

This process can be used to identify synergies or diversification benefits from new books of business and to prioritise potential targets or books of business to sell. The benefits of this approach are that shareholder expectations regarding risk and reward can be identified and there is a clear link between profitability and valuation. It is expected that models will be used more often in the future to inform decisions in merger and acquisition deals.

The final topic of the forum was on **lessons arising from the sub-prime banking crisis**. This presentation was given by Graham Fulcher, the UK non-life practice leader. Drawing from a number of recent reports by regulators throughout the world including the Senior Supervisor's Group (SSG), the President's Working Group on Financial Markets (PWG), the Counterparty Risk

Management Policy Group (CRMPG) and the Financial Stability Forum (FSF), Graham highlighted the key factors which contributed to the crisis. These factors were broken down into four areas:

- **Model features** – firms which suffered significant losses exhibited excessive reliance on credit ratings, did not consider how hedges would perform in stressed conditions and did not take into account that correlations would be different in stressed, rather than benign, market conditions.
- **Model limitations** – firms which experienced significant problems tended to apply a mechanical risk management approach, accepting the estimates challenges based on other tools and expert judgement.
- **Impacts on models** – a combination of a benign macroeconomic environment – which meant that firms had not observed how products would behave during a significant market downturn – and competitive pressures to grow and maintain market share – which led to an erosion of sound underwriting practices – resulted in business volumes growing more quickly than investments in supporting infrastructure and controls.
- **Model uses** – in a number of firms, compensation and other incentives were not sufficiently designed to achieve an appropriate balance between risk appetite and risk controls, and risk management tended to be simply a monitoring function rather than part of the strategy and planning process.

In planning for Solvency II, companies should consider these factors and involve the risk management function from the beginning of the planning process to test how their targets fit with the firm's risk appetite.

### Summary

'Internal models – implementing, embedding and adding value to your business' was viewed as an important topic by the delegates who attended the annual Watson Wyatt European Non-Life Forum and the feedback on the quality and content of the presentations was extremely positive.

For further information on the topics discussed, copies of the presentations or to register for the 2009 European Non-Life Forum, please contact:

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