



# **The Actuarial Profession**

making financial sense of the future

consultation response

## **SOLVENCY II**

**Response to HM Treasury / FSA discussion  
paper:**

**Solvency II: a new framework for prudential  
regulation of insurance in the EU**

**April 2006**

# **Response of the UK Actuarial Profession to the HM Treasury / FSA Discussion Paper on Solvency II**

## ***Introduction***

This paper addresses the questions in sections 4, 5 and 6 of the discussion paper. The paper reflects mainly the perspective of general insurance actuaries in the UK though some comments from life insurance actuaries in the UK have also been incorporated. Given that the Discussion Paper asks high-level questions, the answers that we provide would be relevant for both life and non-life.

## ***Chapter 4 – Estimating Liabilities***

### ***4.1 Should hedgeable risks in technical provisions be valued using financial markets data?***

In our view, if such data is genuinely available, i.e. there is a deep and liquid market, then yes. However, some risks are correlated. For example in non-life, bodily injury claims and inflation are correlated and in life, persistency risks and economic situation are also correlated. Firms should have regard to available financial data in evaluating these risks.

### ***4.2 What are the implementation challenges in a confidence interval approach to setting prudential margins in technical provisions?***

In our response to the EC call for advice from CEIOPS (annex to MARKET/F/UL D(2004) 19589), with further comment arising from CEIOPS paper CP 04/05, we stated:

“We consider that setting provisions using a confidence level, whether 75% or 90% (CP04/05 paragraph 8.100 – 8.101), without disclosure of the mean discounted value, may be undesirable as the size of the provisions will be affected by the size of the company, other things being equal. This would reduce comparability between companies.

We are unconvinced that the current methods for assessing provisions to a given level of confidence are robust, and consider that this may give a misleading impression of the accuracy of the provisions. Furthermore, since reported earnings are sensitive to changes in total provisions, consideration should be given to designing the rules to achieve as much consistency as possible in companies’ total provisions, both over time and between companies. Whilst earnings are not a primary focus of the Solvency II project, we consider that the “behavioural” response to the framework needs to be considered at this stage.”

We are still of this opinion. The recent discussion at the Faculty and Institute of Actuaries about reserving issues (<http://www.actuaries.org.uk/files/pdf/sessional/sm20060327.pdf>) highlighted the many issues linked to setting provisions with the accuracy of a given margin of confidence that regulators may require, including:

- Lack of robust methodologies
- Lack of clarity about how to allow for model error and parameter error
- Difficulties of explaining results

We would add that any new approach to setting prudential margins in provisions will face challenges to a greater or lesser degree. This is true of the cost of capital approach, although using Pillar 1 capital as the basis will reduce the challenge substantially.

Within the profession, a GIRO working party has been set up for the purpose of contributing to the work of the International Actuarial Association (IAA). GIRO is the UK profession's general insurance conference, which takes place in the autumn each year. The brief for this working party includes the following:

- Work with the IAA to address some of the questions in the IAIS request, as they relate to general insurance. (Other members of the IAA are addressing life insurance). The focus will be on a couple of product lines in order to develop and illustrate the relevant issues for risk margins. It should be noted that there are three broad approaches to risk margins on the agenda; confidence levels or percentiles, judgmentally prudent assumption sets, and a cost of capital approach
- Maintain a dialogue with interested parties as the work proceeds. That would include regulators such as yourselves, as well as the IASB
- Report to GIRO in September 2006 on the work done and the conclusions to date
- If it is judged useful by interested parties, to continue work after September with a view to presenting a paper for public discussion in 2007
- It should be noted that the working party does include IAA members from outside the UK, and will spend some of its efforts on assimilating and using the work which has already been done in this area in jurisdictions such as Australia, which have already implemented risk-related solvency regimes.

In general, industry can often need a push from regulation to make research into new methodologies happen. An example here is the range of practical solutions that actuaries have developed in the context of the ICAS regime.

Finally, it is worth noting that the percentile approach is really the maximum of the (say, 75<sup>th</sup>) percentile and half of the standard distribution. And it could be that this structure results in an actual risk margin higher than 75<sup>th</sup> percentile.

#### ***4.3 If a confidence interval approach were followed should the confidence level vary between business lines?***

We consider that this question highlights one of the main drawbacks of the confidence level approach. Even if confidence levels were the same between business lines, there would be issues with combining classes because different sizes of account would have different prudential margins.

In answer to the question, it depends on whether the exercise is aiming to target the tail of the distribution or to calibrate the risk margin to reflect the price of risk. Different classes will be differently skewed towards adverse outcomes, and this will affect where the margins should be.

**4.4 How well would the cost of capital approach to valuing the non-hedgeable risks in technical provisions fit with your firm's current approach to estimating these risks? Are there other options Solvency II should consider?**

As a profession, we are unable to speak on behalf of individual firms. However, it is clear that there is a cost to taking on non-hedgeable risks and we consider that the cost of capital approach would allow for this. The working party referred to above will be considering this issue.

The above also applies to hedgeable risks, where the cost will need to be passed onto customers.

**Chapter 5 – Solvency Requirements and Supervisory Intervention**

**5.1 What are your views on an appropriate role and structure for the MCR?**

Our view is that the MCR should be reasonably simple to calculate, it should be independent and should be a non-manipulable calculation.

The technical provisions should be the amount that would be required by an adequately capitalised entity to take the obligations away. Thus the MCR should be the minimum capital to allow the business to be run for, say, a year before the block can be sold. This means consistency between a provision that is market based (i.e. cost of capital, not confidence level) and a prudently assessed cost of closedown reserve.

**5.2 What evidence can you provide about the extent of diversification across risks which could inform the calibration of the SCR?**

We suggest that the work done by Watson Wyatt to calibrate the UK ECR is reviewed, as this will include diversification. We would also refer you to some papers from Australia, which are attached, which contain some discussion of this important issue. The CRO Forum undertook some work on this issue in 2005 which was submitted to CEIOPS. The Groupe Consultatif has also published a recent paper on this issue, which is available from their web site at [http://www.gcactuaries.org/documents/diversification\\_oct05.pdf](http://www.gcactuaries.org/documents/diversification_oct05.pdf).

A key point to note is that dependencies in the tail are the major issue, and that the IAA is researching this.

**5.3 Is the calibration of the SCR at a 99.5% probability over a one-year time horizon appropriate?**

The question of principle over regulatory capital is whether, for example, it should be based on:

- (1) The current position in the underwriting cycle
- (2) A longer term view reflecting capital requirements over the next few years (or the full cycle)
- (3) The capital required at the point of greatest strain in the cycle
- (4) Some combination of the above - e.g. the maximum of (1) and (2)

It could be argued that the time period for modelling should vary by company according to many factors including:

- (1) The time lag taken to recognise business is adverse
- (2) The mechanisms available for responding to capital strain
- (3) The frequency of regulatory review of companies
- (4) The modelling uncertainties introduced by looking over longer time horizons.

A one-year approach will not allow for future development of the underwriting cycle, which can have a pronounced effect on underwriting profitability and reserve strength. A three-year approach, with perhaps a 98.5% probability, would go some way to mitigating this.

A one-year time horizon ignores year on year correlations and year on year reserve deficiencies. However, using a market value approach to liabilities will allow for this.

We consider that when setting margins for provisions, an insurer should look forward to the expiry of those provisions, including premium reserves. For capital purposes, insurers should allow for one year of new business, but allow for servicing that business until the last claim is expected to be paid.

Whatever framework is used the quality of its implementation and the skills of all those involved will only improve through working with it over a period of time, so we would suggest a framework with scope to improve over time as knowledge increase.

If we are to have the "fair value / enough for a willing and suitable party to take on the liabilities" objective, then this objective must be borne clearly in mind when carrying out calibration. It should be remembered that in the commercial world, large players will not give away all their diversification benefit, and that some risks, especially those whose downsides are correlated across insurance risks or even insurance portfolios, are essentially unattractive and will require a very large price.

There is an issue about whether to use VaR or TailVaR – we consider that these approaches will give different answers across the EU.

#### ***5.4 What is the right approach to validation criteria for internal models given the need to balance consistency between different Member States' supervisors with flexibility for firms?***

We consider that a simple approach is best, with material risks being considered in detail, benchmarks being used and, perhaps most importantly, the regulator testing how models are challenged and used by business.

The issue of calibrating a model correctly is as key and as difficult as selecting a model. Therefore the data used to parameterise a model should be validated. We would also suggest minimum standards for model structure and parameterisation to assist in validation.

## **Chapter 6 – Risk management in practice**

### **6.1 What risks are more appropriately handled through Pillar 2 rather than through the Pillar 1 SCR?**

We consider that the risk of management incompetence should be covered in Pillar 2, along with the risk of Pillar 1 formulae not fitting the company well. In line with our comments above, Pillar 2 may need to cover allowance for the underwriting cycle. Strategic risks, such as the rate of growth, corporate governance, management incentives, will require a qualitative understanding from the regulator. The regulator will also need to understand and believe risk management policies and how these link to management interventions in adverse circumstances.

### **6.2 What (if any) is the appropriate role of supervisors in prescribing stress and scenario tests within Pillar 2?**

We consider that there may be scope for the supervisors to prescribe specific scenarios of a generic nature, perhaps relating to storm or flood events, or to real events such as an energy crisis, in order to enable comparison between firms.

This is an important role for the supervisors and we would refer you to the example of Lloyd's realistic disaster scenarios, which have provided a fair comparison between syndicates.

However, there may also be merit in considering this in the context of one-off investigations on specific issues. In any event supervisors should ensure that the stress tests are relevant and the number of scenarios required is proportionate.

### **6.3 Is it appropriate to adjust the SCR in order to incentivise better risk management processes?**

We consider that this should be allowed for in Pillar 1 under the SCR calculation. However, the regulator should have the scope to increase capital requirements for firms that do not have good risk management in place.

### **6.4 Would any quantitative rules be required to encourage firms to manage assets prudently given that the SCR will respond to the risk profile of the company's investments?**

The SCR should allow for concentration risk, and there is a link to the prudent person regime. We consider that rules are not needed, but that the regulator needs the power to intervene in certain circumstances. A properly founded and calibrated model should cover this. However, firms could disclose concentrations of assets under Pillar 3.

## Conclusion

We have one comment on the questions in Chapter 7 – Cross Cutting Issues and Disclosures. For question 7.4, *What tests should supervisors apply to allow recognition of diversification benefits across a group and the fungibility of capital across entities within in group?*, we consider that if a group is taking benefits it should also take on responsibility. So, if a subsidiary is in difficulties, the parent should intervene if credit has been taken for the diversification benefit of having that subsidiary.

If you have any questions about our response, please contact:

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