The Actuarial Profession

making financial sense of the future

General Insurance Reserving

Actuarial Best Estimates and Proxy Methods

A commentary from Actuarial Profession’s

General Insurance Reserving Oversight Committee (GI ROC)

January 2008

GI Board: Reserving Oversight Committee

GI Reserving – Actuarial Best Estimates and Proxy Methods

January 2008

Comments from the UK Actuarial Profession's General Insurance Board's Reserving Oversight Committee (ROC) on Proxy Methods, and on the Board for Actuarial Standards' GI Proxy Methods Experts Group's report ("the BAS Report") to the FSA on GI Proxy Methods (published September 2007), in the context of proposed Solvency II requirements regarding reserving.

ROC Membership

Lis Gibson (Chairman)

Caroline Barlow
Neil Bruce
Steven Fisher
Neil Hilary
Ian Hilder
Richard Winter

Introduction

The GI Board and CEIOPS have asked the Reserving Oversight Committee to provide their comments on behalf of the Actuarial Profession on the subject of Proxy Methods, and the BAS Report. There has been some concern expressed that the UK Actuarial Profession may appear to be endorsing the use of Proxy Methods as described in the BAS Report and it is in the particular context of that concern that we make these brief comments.

In formulating our comments, we have recognised that BAS is responsible for technical actuarial guidance, and we have not sought to provide comments on the sections of the BAS Report which deal with the technical aspects of Proxy Methods and benchmark data. Rather, we have reviewed and commented on the principles behind the potential use of Proxy Methods and the practical and professional issues which we believe fall within the remit of the Actuarial Profession.

The BAS Report explains its purpose and context as follows:

> "One of the cornerstones of Pillar I is an Actuarial Best Estimate of technical provisions. In discussions between CEIOPS (the Committee of European Insurance and Occupational Pensions Supervisors) and the Groupe Consultatif (which represents actuarial associations in the European Union) it was observed that some companies in Europe do not have Actuarial Best Estimates of their technical provisions, either because of lack of knowledge or lack of data. It is envisaged that supervisors and actuarial associations will, where appropriate, encourage insurers to improve expertise and collect any necessary industry-wide data to allow Actuarial Best Estimates of technical provisions to be produced. In the interim, however, there

> is a need to find practical solutions ("Proxy Methods"), especially for smaller firms, where Actuarial Best Estimates are not available. Various member states have been asked to form Expert Groups to consider what Proxy Methods may be possible or appropriate in the absence of Actuarial Best Estimates. Against this background, the Financial Services Authority ("FSA") asked the Board for Actuarial Standards ("BAS") to set up an Expert Group to consider proxy methods for General Insurance ("GI") technical provisions from a UK perspective. This report sets out the thinking of that Expert Group."

Our comments will be in the same context.

Summary of Our Comments and Recommendations

Solvency II requires claims provisions to be (Actuarial) Best Estimates, defined as being the (discounted) mean of the distribution of possible outcomes.

Proxy Methods are relatively simple methods which can be applied mechanically without a high degree of judgement, when either insufficient data is available to allow the use of more sophisticated actuarial methods, or where companies do not have access to the necessary actuarial expertise.

Proxy Methods should make use of such data as is available, but there may be a need to supplement them with the use of suitable benchmark data. If insufficient benchmark data is available, there may be a need to arrange for the collection of such data to support the use of Proxy Methods.

Where Proxy Methods are utilised, the intention should still be to produce a Best Estimate of the provisions required. The uncertainty associated with a paucity of data or the absence of appropriate judgement should be reflected in the risk margin rather than in the claims provisions themselves. Consideration of risk margins is beyond the scope of this note.

Best Estimates should be produced using the judgement of a suitably qualified and experienced person. By virtue of their training and professional standards, suitably experienced qualified actuaries are ideally suited to exercise this judgement.

A regulatory framework which caters for the setting of reserves in the absence of appropriate judgement is exposed to failure and potential abuse, as the mechanical application of methods does not take into account all aspects of the business.

The real issue is not so much "proxy methods" as "proxy judgement".

Appropriate judgement can sometimes be exercised by experienced insurance professionals who have not qualified as actuaries.

It would be practical and reasonable for a regulatory framework to provide transitional arrangements or exceptions for smaller companies, allowing suitable non-actuaries to produce reserves using their experience and judgement.

We recommend that a European benchmark database be created in time for the implementation of Solvency II, to make development data, benchmark development factors and benchmark prior loss ratios available to the market for as many business groups as possible.

We set out a recommended approach for companies exempt from the actuarial best estimate basis to follow, which includes the nomination of an alternative expert, training and the use of central benchmarks as a safety net.

Overview of our Understanding of the BAS Report

The BAS report has been written on the premise that Proxy Methods are methods for calculating claims provisions which are used by companies who do not use actuaries to assist in setting their technical provisions.

It is our understanding of the BAS report that Proxy Methods are essentially defined by the authors to be methods used to calculate reserves utilising some or all of

- Various historical data
- Planning and pricing information
- Industry benchmarks
- Judgement of insurance professionals, such as claims managers and underwriters

as a substitute for actuarial judgement.

The BAS Report sets out some examples of methods which might be used by actuaries as part of their overall methodology, subject to the use of actuarial judgement, to produce best estimates, or could alternatively be used by non-actuaries as a “proxy” for actuarial judgement.

The BAS Report sets out some advantages and disadvantages of Proxy Methods as used by non-actuaries as a proxy for actuarial judgement. They explain that on some occasions the judgement of other professionals may be adequate. They also explain that the use of these methods by actuaries applying judgement is fine.

The BAS Report makes an assumption that when Proxy Methods are used, a degree of prudence should be built in. They believe that this is the intention of CEIOPS, although they do also acknowledge that this is inconsistent with the Solvency II requirement for Best Estimates. They do not explain how such caution is to be introduced or measured, or how this may subsequently be allowed for in the calculation of risk margins.

The BAS Report appears to make no reference to the discounting of technical provisions. However, the Solvency II requirement for a discounted Best Estimate means that further consideration may need to be given to this aspect.

The BAS Report also sets out some disadvantages of the use of Proxy Methods, including the dangers of naïve interpretations of past data or benchmarks and the potential need to allow for future trends beyond the data. They conclude

> "In short, methods based on the application of benchmark ratios / factors, be they market derived or from other sources, may produce very unstable results. Such methods are best used to validate more sophisticated approaches and to inform judgements, rather than being used in isolation as a basis for setting provisions."

The BAS Report concludes that Proxy Methods cannot be relied upon to provide a meaningful estimate of future claim costs without appropriate judgement and understanding, and that such methods are best used to validate more sophisticated approaches and to inform judgements, rather than being used in isolation as a basis for setting provisions. They also appear to conclude that reliance on the judgement of other insurance professionals may sometimes be a valid proxy for reliance on the judgement of actuaries.

Our Thoughts on Proxy Methods

The request for consideration of Proxy Methods was prompted by the observation that "some companies in Europe do not have Actuarial Best Estimates of their technical provisions, either because of lack of knowledge or lack of data". Solvency II requires claims provisions to be (Actuarial) Best Estimates, defined as being the (discounted) mean of the distribution of possible outcomes. We note that a previous paper prepared on behalf of the Actuarial Profession sets out the considerations to be taken into account in setting such best estimates.

Essentially the calculation of Best Estimate claims provisions depends on all of:

- The availability of suitable credible data
- The application of appropriate calculation methods
- The application of judgement based on experience and knowledge of the business and market conditions.

Our interpretation is that Proxy Methods may be required when either insufficient data is available to allow more sophisticated actuarial methods to be applied, or where companies do not have access to the necessary actuarial expertise, knowledge or experience required to apply more complex methods or to exercise judgement as to the appropriateness of different methods or the validity of the answers produced. Thus Proxy Methods are likely to be relatively simple methods which can be applied mechanically without a high degree of judgement.

It is likely that for smaller companies and for companies which have not previous applied actuarial methods, there will be issues regarding the availability of sufficient data. For smaller companies (or indeed for small lines of business within larger companies), the volume of business may mean that the data available is sparse, or that the experience is volatile. For companies without previous actuarial involvement, there may be a lack of suitable historical data to use as the basis for projections, and the nature of the company's systems may make it difficult to reconstruct such historical data. In these circumstances, there will be a need for Proxy Methods, which should make use of such data as is available but may need to supplement it with the use of suitable benchmark data. If insufficient benchmark data is available, there may be a need to arrange for the collection of such data to support the use of Proxy Methods.

We believe that where Proxy Methods are utilised, the intention should still be to produce a Best Estimate of the provisions required. There will of course be a need to consider the credibility of the data available, and to supplement this with suitable benchmark data where necessary and feasible. We acknowledge that lack of appropriate data will increase the uncertainty associated with the projections, and there may be a tendency to take a more cautious view to compensate for this. However, unlike BAS, we believe that this uncertainty should be reflected in the risk margin rather than in the claims provisions themselves. (We also note that there is a need to consider how Proxy Methods for the calculation of risk margins can be developed, but that is outside the scope of this note.)

We believe that ideally Best Estimates should be produced using the judgement of a suitably qualified and experienced person. Article 47 of the EC Draft Directive (quoted in section 5.1 of the BAS report) clearly envisages the existence of an actuarial function to provide this expertise. By virtue of their training and professional standards, we believe that suitably experienced qualified actuaries are ideally suited to exercise this judgement.

Whatever methods, models or benchmarks are applied, the absence of experienced judgement and interpretation may render the results potentially misleading. A regulatory framework which caters for the setting of reserves in the absence of appropriate judgement is therefore exposed to failure and potential abuse.

Most, if not all, reserving methods can however be used by anyone, with or without appropriate experience or judgement. Sometimes using judgement-free methods can provide useful objective benchmarks and can assist in illustrating the context in which judgement is being exercised, and the scale of uncertainty. However, regulatory reserves should not be based on judgement-free methods. We believe that the real issue is not so much “proxy methods” as “proxy judgement”.

We believe that appropriate judgement can sometimes be exercised by experienced insurance professionals who have not qualified as actuaries. We believe that it would be practical and reasonable for a regulatory framework to provide transitional arrangements or scale-based exceptions allowing suitable non-actuaries to produce reserves using their experience and judgement.

Our Recommendations to CEIOPS

In order for proxy methods to be a viable alternative to the full standard actuarial approach for calculating best estimates, we make the following recommendations:

We recommend that a European benchmark database be created in time for the implementation of Solvency II. The benchmarks should include the aggregated premium, paid claim and incurred claim development data from the relevant classes of business. The data required to populate such a database would of course have to be collected in such a way as to comply with European Competition Law. The most natural way for this would be via the statutory returns which would need to be designed accordingly.

We recommend that on an annual basis aggregate market premium, paid claims and incurred claims development patterns, and average market loss ratios be calculated using full data and appropriate actuarial judgement and made available to the market as benchmarks. This could be financed by charging insurers and advisors a small fee for annual access, perhaps with insurers of below a minimum size being granted free access.

We recommend that any insurance companies below a particular size, to be decided, “very small companies”, be granted perpetual exemption from the need to use a qualified actuary to produce actuarial best estimate reserves, provided they continue to qualify in terms of their size. We recommend that they have an alternative approach as set out below.

We recommend that companies above the “very small” threshold but below a second threshold, “small companies” be granted a transitional period during which they can follow the alternative to an actuarial best estimate reserving basis, but after which they must revert to the actuarial best estimate basis.

We recommend that transitional arrangements need to be set in place to collect appropriate data.

The Recommended Alternative Approach

We recommend that very small and small companies who opt for the alternative to actuarial best estimate reserving, must nominate their proxy reserving expert, and state that person’s relevant skills and experience. That person must attend a course (say of 2 or 3 days, to be run centrally) and must provide evidence that they are suitably experienced to provide a proxy to actuarial judgement in the context of their company.

The nominated expert will be required to perform and report on certain calculations such as chain ladder factors to ultimate, ultimate loss ratios and average claim sizes, using the centrally produced industry benchmarks described above, on the classes relevant to their company. This should not be positioned as directing or even encouraging the adoption of these benchmark results as their reserve estimates. The nominated expert must explain their own reserving figures in the context of the results using the industry benchmarks, setting out the similarities and differences and reasons for them.

We believe that this is a practical way to provide a minimum standard, which should not be unduly onerous for small and very small companies, especially mono-lines.