


GENERAL INSURANCE BUSINESS : ACTUARIAL REPORTS

(NORP 1)

1. INTRODUCTION



1.1 General insurance business in the U.K. is carried on under the terms of the Insurance Companies Act 1982. Actuaries have no statutory responsibility for general insurance under this Act.

1.2 These Notes on Recommended Practice have been produced to assist actuaries working in the field of general insurance. They are restricted to general points that an actuary <sup>should</sup> ~~must~~ take into account in reporting on reserves or on the financial soundness of a general insurance company. The notes do not cover other aspects of reporting in which an actuary may be involved, e.g. ratemaking. The intention is to issue further notes on reporting in a specific context as the requirements for such reports are identified.

1.3 In general insurance, unlike life assurance, there is not a long tradition of actuarial involvement in the U.K. In these circumstances it is especially important to give consideration to the nature of the brief given to the actuary. The report may have been commissioned from the actuary specifically in a professional capacity. For an actuary who is an employee of an insurer, there may be some difficulty in identifying the capacity in which he/she prepares the report. The report may be in a form which does not indicate that the writer is acting in an actuarial capacity. However it may be difficult to prevent the report's recipient from referring to it as an actuarial report. In these circumstances it would be advisable for the actuary to take this NORP into account.

1.4 There may be circumstances in which a report has been commissioned where the actuary has a statutory responsibility. Typically these rare instances may relate to some overseas regulatory authorities requiring statements on U.K. branches or subsidiaries. The actuary may also be concerned with reporting on an overseas company or branch to the local management or authorities. The actuary <sup>be</sup> ~~should ensure that~~ he/she ~~is~~ familiar with the legislation concerned <sup>whether or not</sup> and the report is in accordance with any local professional code of practice.

1.5 A report written in a professional capacity should state:

- (a) who has commissioned the report;
- (b) where this is different from (a), the addressee of the report;
- (c) the terms of reference given;
- (d) The extent to which the report meets those terms of reference and any departure from or extension to those terms;
- (e) where appropriate, the date of the last similar report and any changes in the bases *used or key assumptions made*;
- (f) the name of the actuary and that he/she is a Fellow of the Institute of Actuaries (or the professional actuarial body which is appropriate).

1.6 Examples of the varying briefs which could be received by actuaries are given below:

- (i) A report commissioned by the management of <sup>an insurance</sup> a company to recommend the level of outstanding claim reserves to be established in the insurer's accounts, both statutory and, if different, financial or fiscal. Such reports may give some discretion to management on the final choice of the reserving amount. The actuary may need to comment on the suitability or otherwise of the chosen reserves as a basis for making decisions on premium rating.
- (ii) A report commissioned by management *or by* shareholders to *provide an independent check of* audit a reserve estimation and to establish its reasonableness. For the purpose of this independent check the actuary *ought* ~~would need~~ to have full access to the insurer's data and, where appropriate, worksheets of the original computations.
- (iii) A report commissioned by an insurer to provide supporting evidence for outside bodies (e.g. tax authorities, potential purchasers, supervisors, ~~etc.~~).
- (iv) A report relating to the totality of technical reserves rather than being limited to outstanding claims.
- (v) A report commissioned by supervisors, potential purchasers, reinsurers, investment analysis firms etc., without the knowledge or assistance of the insurer to provide a view on the strength of the reserves. Typically such a report would be based on published data.

- (vi) A report for supervisors on the financial strength of an insurer which will provide sufficient evidence for the supervisor to act (or provide comfort not to act).
- (vii) A report to company management or its shareholders on the capital considered necessary to establish the insurer as being financially sound.

1.7 Reports on technical reserves may relate to

- (i) business accounted for on <sup>an</sup> annual or <sup>a</sup> deferred annual basis:
  - . outstanding claims (see section 3)
  - . unexpired risks (see section 4)
  - . technical reserves (which includes both outstanding claims and unexpired risks)
- (ii) business accounted for on a fund accounting basis:
  - . the outstanding liability (combined reserves) in respect of closed and open years, separately or in aggregate (see section 5).

2. GENERAL POINTS

2.1 There is no universally accepted terminology used within general insurance and the actuary must ensure that the words used are clearly understood by the recipient of the report.

2.2 Where appropriate, recognition must be given to the guiding accounting principles and these must be clearly stated in the report.

2.3 The word 'solvency' is capable of a number of interpretations. Where the actuary is reporting on the solvency or financial strength/soundness of an insurer, the word 'solvency' should <sup>not</sup> ~~only~~ be used <sup>without</sup> ~~subject to~~ further clarification, e.g. a company is <sup>if</sup> solvent ~~when~~ it satisfies the minimum solvency requirements.  
*said to be*

2.4 Following the E.C. directives, actuaries may use the words provisions and reserves interchangeably. They must, however, be aware of the distinction under the ~~Companies Acts~~, *relevant legislation*.

2.5 Reports on reserves may be produced in terms of point estimates or ranges of acceptability. So far as it is possible, reports should indicate the sensitivity of the estimates to variations from the stated assumptions. There may be situations where the actuary should indicate that the reserving basis ~~excludes~~ *does not* provision for unforeseen events, e.g. retrospective legislation.

2.6 It would be normal practice for the actuary to consider and, where appropriate, comment on

- (i) the nature and accuracy of the data and the steps taken to verify the accuracy of the data;
- (ii) the effect of changes in underwriting practices, claims handling, data processing, accounting procedures and known or potential changes in the legal and social environment.

2.7 The actuary should give due consideration to the categorisation of the business into homogeneous groups, as far as practical <sup>and, where appropriate</sup>. ~~Any report should~~ *comment on* clearly state the degree of grouping or sub-division of the data (including grouping by currency) and comment if necessary on the limitations imposed by this grouping.

2.8 The reserves may be established:

- separately for gross reserves and for reinsurance recoveries, or
- as net reserves.

Especially where the gross account is protected by excess of loss reinsurance the actuary may feel more confident about the net position than the gross. This confidence may be attached to the gross position provided that there is a caveat on the dependence on reinsurance.

2.9 Where separate gross and reinsurance recovery reserves are being ~~calculated~~ *estimated*, and similar principles are not being used for both these reserves, the actuary should comment on the appropriateness of the different principles.

2.10 Where a report covers the position net of reinsurance, the actuary should consider the nature and spread of the reinsurance arrangements and ~~make or~~ <sup>comment</sup> ~~recommend that consideration should be given to, an allowance for the~~ non-performance of such reinsurance. *on the extent to which the possible* ~~has been taken into account~~

2.11 Where appropriate the actuary should report on the extent to which the expected basis used in establishing the estimates compares with the actual experience.

2.12 The actuary should consider the relevance of cross-funding, i.e. whether a liability is sufficient in aggregate but one part is deficient. For example:

- (i) unexpired risks by outstanding claims or vice versa;
- (ii) combined reserves for one cohort year by another year or years;
- (iii) one class of business by another class of business.

Given the purpose of the report, and where appropriate, the actuary should indicate the degree to which cross-funding exists.

### 3. OUTSTANDING CLAIM RESERVES

3.1 These reserves cover, unless specifically excluded:

- known (i.e. reported) outstanding claims
- claims incurred but not reported (IBNR)
- reopened claims
- future claims handling expenses.

3.2 The reported and IBNR reserves may be established:

- (a) On a case by case basis for the reported claims and (normally) a statistical estimate for IBNR. The case estimates would be the responsibility of a claims expert.
- (b) As (a), but with some of the estimates for reported claims being on a statistical basis, e.g. an adjusted average of previous settled-amounts (less payments to date).

(c) Either separately or jointly on a statistical basis. If a joint reserve for reported and IBNR claims is calculated, but it is necessary to show a separate reserve for IBNR, the latter would need to be calculated on a statistical basis and the reserve for reported claims would be obtained as a balancing item. If, on the other hand, case estimates were to be deducted from the joint reserve, the result would be a reserve for IBNR with an adjustment to allow for under or over-provision in the case estimates.

3.3 The reopened claim reserve may be calculated as an explicit item or it may be contained as an allowance in the reported and IBNR claim reserve.

3.4 Where there is a reserve for future claims handling expenses, this should be consistent with the reporting objectives. For example, in reporting on the business as a going concern, these reserves should cover only the variable and overhead costs of the claims department *function*.

3.5 The results produced by statistical methods will be dependent on the methods and assumptions used. The actuary <sup>should</sup> must have regard to <sup>significant</sup> the sources of <sup>which variation from</sup> significant error <sup>comment on</sup> in these assumptions and methods and where appropriate, <sup>likelihood</sup> should demonstrate the size and probability of the potential <sup>difference</sup> error. <sup>On any event</sup> Even if this is not appropriate, any professional report should state whether the assumptions made are reasonable and in line with the current state of knowledge.

3.6 There is a number of methods available to the actuary for the statistical estimation of claims. The choice depends on the class of business, data available and the judgement of the actuary. Particular points to consider are:

- (i) homogeneity or changing mix of data, including the currencies underlying the claims
- (ii) effect of large claims including catastrophe claims from a single event;
- (iii) cyclical or temporary trends;
- (iv) handling and administration procedures etc.

3.7 In particular, consideration should be given to the basis of projection and the effect of actual experience varying from that expected. For example, if the actual experience is worse than expected, the actuary <sup>should</sup> ~~must~~ consider whether the method assumes that:

- (i) the future payments on the existing claims will be proportionately worse;
- (ii) the future payments on the existing claims are unaffected by the bad experience to date; or
- (iii) the future payments on the existing claims will be better than <sup>previously</sup> expected as the original estimate of total claims remains unchanged.

<sup>different assumptions</sup>  
These <sup>h</sup> reflect different underlying philosophies.

3.8 In arriving at the estimates of future payments on the existing claims, the actuary <sup>should</sup> ~~must~~ consider the impact of future inflation ~~and the~~ escalation of claim costs. A 'full undiscounted claim reserve' must contain an allowance for future claim escalation at a rate considered appropriate for the claims in question. Where no explicit allowance is made for inflation, the actuary <sup>should</sup> ~~must~~ <sup>ensure</sup> ~~be satisfied~~ that the implicit allowance is sufficiently prudent.

3.9 Any report <sup>amount at offer</sup> by the actuary should make clear whether or not the reserves have been <sup>discounted</sup> ~~discounted~~, either explicitly or implicitly and, if explicitly, the rate of discount used and the extent to which the nature of the covering assets has been taken into account.

3.10 If an opinion is given on reserving levels the actuary should make clear that the opinion is in accordance with any such guiding accounting principles as are applicable. If the actuary is required to give an opinion on the sufficiency or adequacy of the reserves, recognition <sup>should</sup> ~~must~~ be given to the need for conservatism.

#### 4. UNEXPIRED RISK RESERVES

##### 4.1 These reserves cover:

- the unearned premium reserve (UPR);
- an additional amount for unexpired risks not covered by the UPR.

This combination constitutes the reserve for unexpired risks.

4.2 The UPR may be a reserve net of an allowance for deferred acquisition costs, or it may be gross with these deferred costs shown as an asset.

4.3 The calculation of unearned premiums should normally be a standard accounting calculation. The actuary should consider the appropriateness of the approximations made in these calculations, in particular those relating to:

- (i) the incidence of risk over the policy duration;
- (ii) the grouping of base dates, e.g. daily, monthly, quarterly or at mid-year;
- (iii) the treatment of non-annual premiums;
- (iv) the choice of base date, e.g. debit of premium, inception of policy.

Where <sup>the</sup> a date of debit calculation is <sup>based on date of debit</sup> applicable, consideration should be given to the prudence of ignoring unbooked premiums and lapses and, where appropriate, to establish the appropriate estimates.

4.4 The amount of acquisition costs deferred will depend upon the philosophy underlying any appropriate accounting principles used including any statutory constraints. The actuary must identify these principles before commenting on the appropriateness of any quantification of the deferred amount.



4.5 The unexpired risk reserve may be considered to be the amount necessary to cover the future outgo arising on the exposure to risk still existing at the accounting date. This amount may be considered as the product of the unearned premium and an appropriate claim ratio. This claim ratio should allow for claims handling expenses. If the claim ratio is based on historic ratios, exceptional influences should be removed, suitable adjustment made for rate changes and the ratios projected forward. The projected ratio should then be adjusted to allow for known events between the accounting date and the computation date.

4.6 Where a measure of exposure such as vehicle years is available, the unexpired risk reserve may be calculated as the product of the outstanding exposure, projected claim frequency and projected average claim amount, including handling costs.

4.7 The additional amount for unexpired risks should be the excess, if any, of the unexpired risk reserve over the unearned premium reserve (net of deferred acquisition costs). This amount may be further reduced in accordance with the guiding accounting principles by anticipating future investment income (to the extent that it has not already been anticipated) in the outstanding claim and unearned premium reserves, making clear the extent to which the nature of the covering assets has been taken into account.

## 5. COMBINED RESERVES

5.1 In view of the various types of fund accounting methods which exist, the actuary must have regard to the accounting concept involved. In particular the actuary needs to consider:

- (i) the definition of the cohort and
- (ii) the duration at which a profit is first allowed to emerge, i.e. the point of first closure.

5.2 The calculation of the estimated outstanding amount at the point of closure may cover not only outstanding claims, notified or otherwise, but also outstanding handling expenses, premiums and commissions. The actuary should consider whether each of these items requires a separate calculation or whether one aggregate figure will suffice. The terminology IBNR may be used but it should be recognised that it may be essentially different in character from that used in annual accounting bases.

5.3 The guidance given under section 2 and, where the context permits, in sections 3 and 4 is equally applicable. The factors associated with fund accounts may be especially complex, both in regard to the nature of the business and the administrative arrangements associated with the accounting basis.

5.4 The basis for the calculation of open year funds is a cash accumulation amount augmented by the additional amount considered necessary to ensure the sufficiency of the reserves. The very nature of the funded business often means that information is not available on which a satisfactory estimate may be made. The actuary however can:

- (i) establish a model of an expected emergence of premiums, claims, commission and expenses in the open years or of the development of claim ratio patterns;
- (ii) take adverse divergences from this model as the additional amount required to support the open year fund.

The model may be based on past experience and on views on current levels of profitability.

## 6. FINANCIAL STRENGTH AND SOUNDNESS

6.1 An actuary may be called on to report on whether a company has satisfied the statutory solvency requirements. Where this relates to a past accounting date, then the report would refer to an assessment of the technical reserves and a check on whether the shareholders' capital and reserves are sufficient to comply with the regulations in force.

6.2 Where the actuary is concerned in reporting on the continuing solvency of an insurer over a period, i.e. on the financial soundness of the insurer, due consideration <sup>should</sup> ~~must~~ be given to:

- (i) expected volume, nature and profitability of new/renewed business;
- (ii) fluctuations of all types relating to claims experience;
- (iii) fluctuations <sup>in and ability to realise</sup> ~~in~~ asset values; and
- (iv) suitability of the reinsurance arrangements;

in projecting the experience over the period to establish whether or not the shareholders' capital is adequate and whether the company is likely to continue to be able to satisfy the statutory solvency requirements.

6.3 In addition the actuary should ~~take the security offered by the insurer into account. When asked to comment on such security, an actuary must~~ recognise that there may be aspects of a subjective nature which are not necessarily within the actuary's brief. <sup>It would be appropriate for a</sup> Any report <sup>to</sup> ~~should~~ identify <sup>the</sup> wider <sup>issues</sup> considered. These may include:

- (i) departures from expected profit margins through bad management, etc.;
- (ii) security of reinsurance arrangements; and
- (iii) possibilities of fraud.

<sup>Furthermore</sup> In ~~addition~~, and within the competence of the actuary, is the possible discovery of deficiencies in the technical reserves. Any report by the actuary should recognise these issues and describe the vulnerability of the insurer to these risks. The report may consider ways of managing the risks involved. In particular the actuary may be willing to indicate the amount of shareholders' capital considered commensurate with acceptance of the risks. This advice may take into account the availability of fresh capital as required.