

# THE SOCIETY OF ACTUARIES IN IRELAND

## ACTUARIAL STANDARD OF PRACTICE LA-11

### STATEMENTS OF ACTUARIAL OPINION ON LIFE REINSURANCE BUSINESS

#### Classification

Mandatory

**MEMBERS ARE REMINDED THAT THEY MUST ALWAYS COMPLY WITH THE CODE OF PROFESSIONAL CONDUCT AND THAT ACTUARIAL STANDARDS OF PRACTICE IMPOSE ADDITIONAL REQUIREMENTS UNDER SPECIFIC CIRCUMSTANCES.**

#### Legislation or Authority

Requirements issued by the Central Bank of Ireland requiring Statements of Actuarial Opinion relating to life reinsurance business.

#### Application

Actuaries appointed by reinsurance undertakings to provide Statements of Actuarial Opinion relating to life reinsurance business pursuant to Requirements issued by the Central Bank of Ireland.

| <b>Version</b> | <b>Effective from</b> |
|----------------|-----------------------|
| 1.0            | 30.12.2007            |
| 1.1            | 30.12.2009            |
| 1.2            | 01.11.2010            |
| 1.3            | 30.12.2011            |

#### Definitions

“*ASP*” means Actuarial Standard of Practice

“*the Board*” means the Board of the Company

“*the Code*” means the Society’s Code of Professional Conduct

“*the Company*” means the reinsurance undertaking by which the Signing Actuary is appointed to provide an SAO

“*DAC*” means deferred acquisition costs

“*DAS*” means Data Accuracy Statement

“*financial reinsurance*” means business classified by the Board of the Company as Financial Reinsurance pursuant to the relevant Regulatory Requirements

*“finite reinsurance”* means business classified by the Board of the Company as Finite Reinsurance pursuant to the relevant Regulatory Requirements

*“Regulatory Requirements”* means relevant legislation and regulations, including in particular the European Communities (Reinsurance) Regulations, 2006 (S.I. No. 380 of 2006), as well as requirements and guidelines issued by the Central Bank of Ireland, including but not limited to the Requirements, as defined below

*“the Report”* means the report that the Signing Actuary must provide (in accordance with paragraph 1.7 of this ASP) to supplement the SAO

*“the Requirements”* means the Requirements issued by the Central Bank of Ireland requiring SAOs relating to life reinsurance business including (but not limited to) those issued in respect of composite reinsurance undertakings

*“SAO”* means Statement of Actuarial Opinion

*“should normally”* and, where the context requires, *“should”* indicate that members of the Society to whom this ASP applies must comply with a particular requirement or prohibition, unless the circumstances are such that the requirement or prohibition is inappropriate and non-compliance is consistent with the standards of behaviour, integrity, competence and professional judgement which other members or the public might reasonably expect of a member

*“the Signing Actuary”* means the actuary appointed by the Company to provide an SAO relating to life reinsurance business

*“the Society”* means the Society of Actuaries in Ireland

*“TRSM-L”* means Total Required Solvency Margin – Life as calculated in accordance with requirements specified by the Central Bank of Ireland

## **1 Introduction**

- 1.1 Reinsurance companies are required to provide to the Central Bank of Ireland each year for solvency purposes an SAO relating to their life reinsurance business, both gross and net of retrocession.
- 1.2 This ASP applies to the Signing Actuary appointed by the Company to provide such an SAO. The Signing Actuary must be familiar with the relevant version of the Requirements and any other instructions issued by the Central Bank of Ireland for this purpose. In addition, the Signing Actuary must have regard to any relevant Practice Note(s) issued by the Society. The Signing Actuary may seek

clarification from the Central Bank of Ireland on the interpretation of any Requirements and instructions issued by it.

1.3 The SAO states that:

- the total reserves, gross and net of retrocession, comply with Irish legislation (including legislation transposing relevant European Union insurance directives) and other relevant regulatory requirements;
- the TRSM-L, after allowing for retrocessions, has been calculated based on the applicable data in the Company's returns to the Central Bank of Ireland and in accordance with Irish legislation (including legislation transposing relevant European Union insurance directives) and other relevant regulatory requirements.

1.3.1 Insofar as the scope of the SAO includes allowance for retrocession, the Signing Actuary must consider retrocession as contemplated in paragraphs 4.2.7 and 5.4. However, the scope of the Signing Actuary's considerations is limited as described in paragraphs 2.3 and 2.4.

1.4 An actuary must not sign an SAO unless he or she possesses an appropriate practising certificate. The practising certificate must be valid as at the date the SAO is signed.

1.5 The nature of the opinion required by the Central Bank of Ireland places a high level of responsibility on the Signing Actuary. In accordance with the Code, the Signing Actuary must consider whether he or she has sufficient knowledge and experience to undertake the assignment, including knowledge of the business procedures of the Company, of the markets in which it operates and of the types of business underwritten by the Company.

1.6 Before agreeing to prepare an SAO, the Signing Actuary must consider the requirements of the Code in relation to conflicts of interest.

1.7 The SAO must be supplemented by a Report. Section 8 sets out the requirements for such a Report.

1.8 The Signing Actuary must explain in the Report his or her reasons for any non-compliance with any obligations which, under this ASP, he or she "should" or "should normally" meet.

## **2 The SAO**

2.1 A specimen SAO is provided in Appendix 1 to this ASP. While it is expected that this will be used as a model, modifications may be necessary to suit particular cases.

- 2.2 The SAO must cover all the life reinsurance business of the Company for all years of account. In respect of the technical provisions, an overall figure is required gross and net of retrocession in respect of:
- 2.2.1 gross reserves in respect of life reinsurance business before DAC;
  - 2.2.2 credit for DAC;
  - 2.2.3 total reserves in respect of life reinsurance business.
- 2.3 In the case of the net reserves and the TRSM-L calculations, the Signing Actuary is not required to consider the impact of possible unknown future defaults or impairments with respect to reinsurance recoveries. However, the Signing Actuary must seek confirmation from the Company as to whether there are any known defaults or impairments in reinsurance recoveries and, where applicable, the quantification of any such defaults or impairments, as decided upon by the Board, must be taken into account in the calculations.
- 2.4 The Signing Actuary is not required to consider or comment on the appropriateness and effectiveness of the investment policy approved of the Company, nor the appropriateness and effectiveness of the Company's retrocession programme. The Signing Actuary must make clear to the Company that the SAO refers only to the level of actuarial reserves and the calculation of the TRSM-L, and therefore the SAO does not constitute an opinion on the Company's overall solvency position.
- 2.5 The reserves must include an allowance for future inflation of claims costs.
- 2.6 The discount rates used by the Signing Actuary in his or her projections should normally be estimated by reference to interest rates on assets corresponding to the liabilities as regards currency and duration. If the rates used by the Signing Actuary are higher than any rates specified by the Central Bank of Ireland, attention must be drawn to this fact in the SAO and the Report.
- 2.7 If, following discussion with the Company, the Signing Actuary believes that an SAO can be provided but only with qualification, then he or she may still prepare the SAO, but modified to reflect the qualification, which must make clear to which figure or figures it relates.
- 2.8 If there are specific features of the business that present potential concerns, or significantly increase the uncertainty as to future outcomes, then a comment to that effect must be included in the SAO.

### **3 Relationships**

- 3.1 The Signing Actuary must not rely on the auditor unless there is a specific agreement for such reliance and such agreement is comprehensively documented and noted in the Report referred to in paragraph 1.7.
- 3.2 In providing the SAO, the professional responsibilities of the Signing Actuary under the Code override any responsibilities he or she might have as an employee or consultant.
- 3.3 The Signing Actuary must make clear at the outset that he or she may require frequent access to the Company's management and staff or consultants, and may wish to have access to work carried out by or for the Company, including any previous statements of actuarial opinion and related reports. However, since the Signing Actuary providing the SAO must take full responsibility for the opinion stated, he or she must be satisfied that all material used for that purpose is appropriate.
- 3.4 Although the Signing Actuary must submit the Report to the Company, he or she is not required to communicate formally with the Board in respect of the provision of the SAO.
- 3.5 The Signing Actuary may need to rely on or use the work of others. If there is a risk of confusion as to the division of responsibilities between the Signing Actuary and other persons or organisations, the respective responsibilities must be made clear in the Report.
- 3.6 Where the Company is required to obtain a separate SAO in respect of its non-life reinsurance business, the Signing Actuary must ensure that there is appropriate liaison with the actuary providing that separate SAO.

### **4 Data and Information**

- 4.1 There are two sets of data involved in the process of actuarial estimation and provision of an SAO:
  - 4.1.1 Data used for (a) the determination by the Signing Actuary of the Company's technical reserves and (b) the confirmation by the Signing Actuary of the calculation of the TRSM-L calculation; and
  - 4.1.2 The financial information extracted from the statutory returns or published financial statements as appropriate, in respect of which the SAO is being signed. These are audited documents and the summary financial information drawn from them must be separately verified by the Signing Actuary.

- 4.2 In relation to the data specified in paragraph 4.1.1:
- 4.2.1 The Signing Actuary must obtain a comprehensive understanding from the Company of the definition, accuracy, completeness and consistency of preparation over time of the data and information provided.
  - 4.2.2 The Signing Actuary must consider the nature of the risks in respect of which data and information of different types is submitted, and whether or not alternative, more extensive or more suitable data and information are necessary.
  - 4.2.3 In respect of some types of reinsurance business, a review of the current position of the reinsurance contracts based on current or recent ceding company data and information may be sufficient for the Signing Actuary to form an opinion. Where there is significant uncertainty, the Signing Actuary may require further data and information relating to the underlying cedants' business which are the subject business of the reinsurance contracts. This is particularly the case where the performance of such business has a material bearing on the Company's liabilities.
  - 4.2.4 The Signing Actuary must obtain a DAS from the Company confirming the accuracy and completeness of the data and information. A specimen DAS is provided in Appendix 2. The Signing Actuary must not sign the DAS as, under the Requirements, the Signing Actuary is required to act independently of the Company in providing the SAO. The Signing Actuary must ensure that all data and information on which he or she has relied is specified in the DAS. The Signing Actuary must ensure the DAS is sufficiently up to date when signing the SAO.
  - 4.2.5 The Signing Actuary is allowed to rely on the DAS, but must also consider the extent to which it is appropriate to carry out investigations to assess whether the data and information are sufficiently accurate and complete for the purpose of preparing the SAO.
  - 4.2.6 If there are any material discrepancies or anomalies in the data and information, the Signing Actuary must discuss these with the Company.
  - 4.2.7 The DAS contains reference to the treatment of inwards and outwards reinsurance disputes and failures. The Signing Actuary must obtain a sufficient knowledge and understanding of how the recording of actual and / or anticipated failures of recovery of retrocessions has affected the data and information supplied to him or her.
  - 4.2.8 Many of the data and information sources available for use in reinsurance have some degree of imperfection. This does not prevent the use of data and information from such sources (with appropriate caveats in the Report, if necessary), provided the Signing Actuary is satisfied that the data and information are appropriate and the results appear reasonable.

- 4.2.9 If the Signing Actuary encounters anything during the course of his or her work that gives rise to any material concerns with regard to the data and information, he or she must amend the reference to data and information in the wording of the SAO.
- 4.2.10 Should the data and information prove to be inadequate, the Signing Actuary must consider whether the use of such data and information might produce material biases in the results of the investigation and make appropriate allowances in his or her assessment of the liabilities. If such allowances are material, the SAO must be appropriately qualified and details of the allowances made must be included in the Report. If appropriate allowances cannot be made, the Signing Actuary must decline to provide an SAO.
- 4.3 In relation to the data specified in paragraph 4.1.2, if the time-scale is such that the Signing Actuary is unable to see the final version of the statutory returns before he or she signs the SAO, then he or she must obtain a draft of the statutory returns prior to signing, and a written undertaking from the Company that there will be no material changes between the draft and the final version. A specimen undertaking is given in Appendix 2. In these circumstances the paragraphs in the SAO entitled “Scope” and “Solvency Margin” must be amended to the form specified in Appendix 3.
- 4.4 If the Company advises the Signing Actuary of any changes to the data specified in paragraph 4.1.1 or paragraph 4.1.2, then he or she must consider the effect on the calculations, and determine whether the SAO needs to be amended and re-issued.

## **5 Valuation Principles**

### **5.1 General**

- 5.1.1 In order to be able to provide an SAO, the Signing Actuary must be satisfied that the reserves held by the Company represent a margin over best estimate. In this context, the term “best estimate” is intended to represent the expected value of the liabilities. The margin over best estimate is intended to reflect the inherent uncertainty in the underlying business and/or the data available to the Signing Actuary in determining the expected value of the liabilities.
- 5.1.2 The SAO refers explicitly to the inclusion of appropriate margins for adverse deviation of the relevant factors. The Signing Actuary must be satisfied that the margin in the reserves reported in the Company’s returns to the Central Bank of Ireland are adequate having regard to his or her own assessment of the risks inherent in the nature and conduct of the Company’s business.

5.1.3 If the Signing Actuary is using or relying on the Company's reserving processes, he or she must have reviewed those processes. He or she must also be familiar with the systems and controls in place and be satisfied that the appropriate reserving processes have been applied correctly and are adequately documented.

## **5.2 Reserving methodology**

5.2.1 The Signing Actuary must use or rely on reserving methodologies that are appropriate to the contracts in question, taking into account not only the principal benefits and how they may increase or decrease over time, but also any ancillary benefits, including surrender and paid-up values and any options and guarantees.

5.2.2 In deriving or reviewing the reserving methodology, the Signing Actuary is not required to consider each reinsurance contract individually. Rather, the Signing Actuary may group contracts with similar types of benefits that he or she considers to be sufficiently homogenous for the purpose of this exercise. In grouping contracts, the Signing Actuary must have regard to factors including currency, territory and contract terms.

5.2.3 A reserving methodology which is not in general use in the actuarial profession is not precluded, but a Signing Actuary who uses or relies on such a methodology must be prepared to justify it by reference to actuarial principles.

5.2.4 The Signing Actuary must be satisfied that the reserves after allowance for DAC represent a margin over best estimate, in accordance with the requirements of paragraph 5.1.

5.2.5 In view of the inherent uncertainty and complexity of certain reinsurance contracts, the Signing Actuary must consider whether one or more reserving methodologies should be used. The reserving methodology used may vary according to the contracts and the nature and triggers relating to the inward and outward cash flows being modelled.

5.2.6 Where the data and/or information available for a contract or contracts is/are inadequate, the Signing Actuary must consider whether there is a reserving methodology that will allow him or her to be satisfied that the requirements of paragraph 5.1 are met. He or she must be prepared to justify the reserving methodology used under such circumstances and must have regard to the guidance in paragraphs 4.2.8 to 4.2.10.

5.2.7 Where Regulatory Requirements refer to the method of calculation and assumptions used in the reserves not being subject to discontinuities from year to year arising from arbitrary changes, this requirement must not be interpreted to preclude changes to valuation interest rates which arise from changes in market yields, or changes to valuation expense, mortality or other assumptions, which arise from changes in the Company's actual or anticipated experience.



- 5.2.8 Where it is appropriate to hold an unearned premium reserve to cover unexpired risks, the Signing Actuary may assume, unless notified to the contrary by the Company, that in the calculation of the unearned premium reserve, the apportionment of premiums across periods of risk is accurate and representative of the risk profile of the business. Any such calculation must have regard to the requirements of paragraph 5.1.
- 5.2.9 Where it is appropriate to hold a reserve in respect of claims that have been incurred but not reported, the Signing Actuary must ensure that the methodology used to establish that reserve has regard to the risk profile and expected experience of the business in question. Any such calculation must have regard to the requirements of paragraph 5.1.
- 5.2.10 Where the reserves relating to a contract, calculated in accordance with the Requirements, are negative, the Signing Actuary must be satisfied that such reserves are recoverable in the event of a contract recapture.
- 5.2.11 It is recognised that the Company's total reserves may be negative. The Signing Actuary must be satisfied that, overall, such reserves are recoverable.

### **5.3 Lack of data for assumption setting**

- 5.3.1 In some cases, due to the nature of the reinsurance business, the available historical data may be insufficient to enable the Signing Actuary to determine appropriate assumptions for use in conventional projection techniques. In such circumstances, the Signing Actuary may have regard to the initial pricing assumptions for the relevant contracts, historic profit and loss experience, experience relating to other similar contracts, industry data and any other relevant data sources. However, the Signing Actuary must satisfy himself or herself that any such data used or relied upon are appropriate for the business written. The Signing Actuary must also have regard to the reserving methodology used and the requirements of paragraph 5.1.

### **5.4 Impact of outwards reinsurance**

- 5.4.1 The Signing Actuary must consider the underlying outward reinsurance and / or retrocession policies, including endorsements, alterations, future and additional premiums, commutation and cancellation or recapture provisions, profit sharing arrangements, letters of intent, offset provisions and any other documentation that may impact on the liability of the contract.
- 5.4.2 In order to estimate the expected recoveries from an outward retrocession programme, the Signing Actuary must obtain sufficient details of the programme and must consider whether it is necessary to conduct a review of the reinsurance contract documentation.

5.4.3 The Signing Actuary must not take credit for an outward reinsurance programme to the extent that the relevant benefits of such a programme have been included in the value of the Company's assets.

## **5.5 Valuation data lags**

5.5.1 The Signing Actuary must ensure that the reserves make appropriate allowance for delays in reporting by ceding companies.

5.5.2 The Signing Actuary may be asked by the Company to carry out some of his or her work as at a valuation date prior to the SAO valuation date. In all circumstances, the Signing Actuary must carry out sufficient work as at the SAO valuation date, in order to be satisfied that he or she can sign the SAO. He or she must have regard to all inwards and outwards contracts entered into up to and including the SAO valuation date.

5.5.3 The Signing Actuary must ascertain from the Company whether there have been any material events between the valuation date and the date of signing the SAO that impact on the reserves as at the SAO valuation date and make an appropriate adjustment to his or her projections for such events.

## **5.6 Review of documentation**

5.6.1 Reinsurance contracts may have complex features that will require careful interpretation and scrutiny in order to produce an appropriate reserve. In this context, the Signing Actuary must consider whether it is necessary to review relevant documents relating to inwards and outwards contracts, including endorsements, alterations, future and additional premiums, commutation and cancellation or recapture provisions, profit sharing arrangements, letters of intent, offset provisions and any other documentation that may impact on the liability of the contract.

5.6.2 For those contracts which are subject to a dispute, or in arbitration, and where the financial amounts are material, the Signing Actuary must satisfy himself or herself that the Company has obtained appropriate professional advice and must obtain written evidence of such advice. The Signing Actuary should normally rely on that professional advice in estimating the liability under such contracts.

## **5.7 Interest rate assumptions**

5.7.1 In reviewing or deciding upon the rates of interest used in setting the reserves, the Signing Actuary must have regard to the value placed by the Company on the assets covering the reserves and to the nature and term of the assets covering such reserves.

- 5.7.2 The Signing Actuary must take into account the rate at which future investment will be possible and must have regard to the yields obtained on the existing portfolio of assets and to the anticipated yield on future investments. Any such review or decision must have regard to the requirements of paragraphs 5.1 and 5.7.1.
- 5.7.3 For the purpose of determining the rates of interest used in reserving for a particular category of contract, assets may be notionally apportioned, where appropriate, between different categories of contracts.
- 5.7.4 The Signing Actuary must have regard to any deductions that should be made for investment expenses or tax.
- 5.7.5 In determining the appropriateness of any margin for adverse deviation as contemplated in paragraph 5.1, the Signing Actuary must pay regard to the relationship between the assets and the corresponding liabilities. The importance of this will vary widely from one situation to another, but experience suggests that this can be an area of particular importance.
- 5.7.6 The Signing Actuary must be aware of the possible effects of derivative instruments used by the Company when setting reserves. The appropriate interest rates used for reserving purposes must allow for the return on the assets held, as adjusted to reflect economic exposure under futures contracts and contracts for differences. Consideration must be given to the treatment of, and allowance for, financial options, particularly when close to an option date.
- 5.7.7 Where derivative contracts are held in connection with particular assets or liabilities, it will be generally appropriate to apportion these derivatives together with the corresponding assets and liabilities.
- 5.7.8 The Signing Actuary must have regard to the possibility of an asset default. When assessing the deduction to be made to the rates of interest used for reserving purposes to allow for default risk, it is appropriate to have regard to any differences in yield which arise from differences in the marketability of the asset in question as compared with the risk-free alternative. Provision for the possibility of default for credit-rated securities, including government and sovereign bonds, must be made on a prudent basis. Making this provision will require the exercise of professional judgement. In all cases, including but not limited to government and sovereign bonds, the Signing Actuary must consider (a) historical default rates of similar securities with a similar credit rating, taking into account differences in credit characteristics that may not be reflected in ratings and (b) alternative approaches, such as by reference to current and historical market based measures. Provision for the possibility of default for securities that are not credit-rated must be made on principles at least as prudent as those adopted for credit-rated securities.

5.7.9 The Signing Actuary must consider the direction of the margin adjustment to the interest rate (as contemplated in paragraph 5.1) where the reserves produced are negative reserves.

## **5.8 Claims decrement assumptions**

5.8.1 In reviewing or deciding upon the rates of mortality and morbidity to be used in setting the reserves, the Signing Actuary must take account of relevant trends in experience within the Company or the industry. Any such review or decision must have regard to the requirements of paragraph 5.1.

5.8.2 For assurance and sickness business, allowance must be made for the incidence of mortality and morbidity arising from known diseases, the impact of which may not yet be reflected fully in current mortality or morbidity experience.

5.8.3 The Signing Actuary is not required to allow for the emergence of unanticipated major new types or classes of claims.

## **5.9 Expense assumptions**

5.9.1 The Signing Actuary must ensure that the provision for maintenance expenses (including fixed expense and/or overhead obligations of the Company) has regard to how the contracts will be fulfilled in the future, taking account of whether the Company is open or closed to new business at the valuation date.

5.9.2 The Signing Actuary must allow for any contractual obligations imposed on the Company, including those arising from third party administration agreements, where a third party administrator is being used to fulfil the existing contracts.

5.9.3 Where there are service agreements with other companies (whether or not within the group structure), the Signing Actuary must consider whether any additional provision is appropriate for the contingency that such agreements might cease. This is particularly relevant where a subsidised or preferential agreement exists.

5.9.4 The Signing Actuary must make provision for the future increases considered likely in expenses for existing business, based, inter alia, on assumptions as to future rates of increase in prices and earnings which impact such expenses. Any such provision must have regard to the requirements of paragraph 5.1.

5.9.5 In providing for the expenses likely to be incurred in the future in fulfilling the existing contracts, it is permissible to take credit for the difference between the gross premium and the valuation net premium except to the extent that this difference is already taken into account in the valuation of reserves or the recoverability testing of DAC. The Signing Actuary must be satisfied, in this instance, that the provision on such an implied basis has regard to the requirements of paragraph 5.1.

5.9.6 In providing for the expenses likely to be incurred in the future in respect of collateral costs being funded by the Company, the Signing Actuary must have regard to relevant market information. Any such provision must have regard to the requirements of paragraph 5.1.

5.9.7 The Signing Actuary should normally ensure that the allowance for future maintenance expenses within the reserves is at least as great as the actual maintenance expenses of the Company as at the effective date of the SAO. The allowance for future maintenance expenses for the purposes of this paragraph may include approaches based on assumed future management actions, for example an assumption to transfer the business to another reinsurer, or to terminate treaties at an additional cost to the Company. Such approaches are acceptable subject to proper documentation of the basis together with the overarching requirement that the aggregate reserve is both prudent and meets the Regulatory Requirements.

## **5.10 Lapse rate and other assumptions**

5.10.1 In reviewing or deciding upon the best estimate lapse rates, the Signing Actuary must take account of the relevant historic trends in experience where available, both within the Company and in the industry, and any future expected impacts, internal or external, on such lapse rate experience going forward.

5.10.2 The Signing Actuary must consider how the best estimate lapse assumptions used in setting the reserves should be adjusted to take account of the requirements of paragraph 5.1. In particular, the direction and shape of any margin in the lapse assumptions must be considered.

5.10.3 In reviewing or deciding upon various other decrement assumptions not specifically mentioned, the Signing Actuary must follow the principles specified in paragraph 5.8 and this paragraph in relation to the claims decrement and lapse rate assumptions respectively.

## **5.11 Options and guarantees**

5.11.1 Provision must be made, having regard to the requirements of paragraph 5.1, to cover any increase in reserves under contracts caused by options being exercised under such contracts. The Signing Actuary must consider all options in both new and existing contracts to determine whether the reserves established make allowance for all known liabilities.

5.11.2 Where an optional benefit is of greater value than the basic benefit under the reserving assumptions, the Signing Actuary must make appropriate allowance within the reserves for the likelihood of the reinsurance contract holder exercising the option or for the proportion of underlying policyholders likely to exercise the option, having regard to the circumstances in which such options are likely to be

attractive to the reinsurance contract holder or the underlying policyholders. In this regard, past experience may only be taken into account to the extent that it is relevant under the reserving assumptions or where there is no market information and such past experience is likely to give a reasonable estimate of future experience and is appropriate in the context of possible future changes in circumstances. The appropriateness of the allowance should be assessed with regard to the requirements of paragraph 5.1.

- 5.11.3 Many options are long-tem and need careful consideration in that context. In addition many options may be significantly “out of the money”. The Signing Actuary must have regard to the fact that economic circumstances or the behaviour of the reinsurance contract holder or the underlying policyholders may change over time as reinsurance contract holders or policyholders become more aware of the value of their options. The Signing Actuary must also be aware that reinsurance contract holders may be more rational and knowledgeable than the underlying policyholders in assessing the value of the option(s) available to them.
- 5.11.4 Options may be valued using a variety of techniques. Where an option offers a choice between a number of non-discretionary financial benefits and where there is a wide range of possible outcomes, the Signing Actuary should normally model such liabilities stochastically, where those liabilities are material in the context of the overall position of the Company. Where the Signing Actuary does not model such liabilities stochastically he or she must justify his or her decision in the Report referred to in paragraph 1.7.
- 5.11.5 The type and calibration of the stochastic models used will depend to a significant extent on the underlying option being valued and the nature of the guarantee involved.
- 5.11.6 The Signing Actuary must benchmark the stochastic model to relevant market asset prices. Where the exact assets are difficult to calibrate against, the nearest available asset may be a suitable alternative. However, the Signing Actuary must take care with any interpolation or extrapolation of asset prices for the purposes of calibration. In benchmarking to asset prices, the Signing Actuary must take into account the relative “moneyness” of the option. Where no market exists, historical data may be used as a suitable alternative.
- 5.11.7 Dependencies between assets may be determined from historical data where no market data exists. The Signing Actuary must take into account the quality of the historical data and the extent of fluctuation in correlations over the period, in particular, the correlations in stressed conditions.
- 5.11.8 The Signing Actuary may base the risk-free rate used for the purposes of the model, on relevant zero coupon yields or swap curves. He or she must be prepared to justify whichever is chosen.

- 5.11.9 If the option is significantly “out of the money”, the Signing Actuary must recognise that there will be limited historical observations of the more extreme tail outcomes, even for the most common economic variables. A considerable degree of uncertainty will therefore exist as to the behaviour of the tails of distributions. The Signing Actuary must check that the model and assumptions produce a sufficient number of adverse scenarios. If necessary, stress testing, can assist in assessing the behaviour of options in adverse circumstances.
- 5.11.10 In carrying out such modelling, the Signing Actuary must take into account, on a prudent basis, the choices likely to be made by reinsurance contract holders or the underlying policyholders in each scenario.
- 5.11.11 The Signing Actuary must ensure that the degree of prudence used in the valuation of options and guarantees is appropriate having regard to the availability of market prices and historical data.

## **6 DAC**

- 6.1 The Signing Actuary must ensure that the credit for the DAC asset in the SAO complies with the relevant Regulatory Requirements.
- 6.2 The signing actuary must ensure that the DAC asset held is recoverable out of future margins. In addition, the Signing Actuary must ensure that future margins which will be used to recover the DAC asset have not already been included in the derivation of the reserves.
- 6.3 The methods and assumptions used to test for recoverability of the DAC asset must be consistent with those used for the valuation of the reserves in respect of the calculation of the corresponding classes of business in accordance with section 5 of this ASP.
- 6.4 When testing for recoverability of the DAC, the Signing Actuary is not required to consider each reinsurance contract individually. Rather, the Signing Actuary may group contracts with similar types of benefits that he or she considers to be sufficiently homogenous for the purpose of this exercise. In grouping contracts, the Signing Actuary must have regard to factors including currency, territory and contract terms.
- 6.5 The Signing Actuary must consider any contract features that may limit the recoverability of DAC due to early redemption of the reinsurance contract, in addition to the experience relating to the underlying business.
- 6.6 The Signing Actuary must assess whether or not the credit for the DAC asset in the SAO is less than or equal to the expected amount recoverable having regard to paragraphs 6.1 to 6.6. This does not preclude the Signing Actuary from signing an SAO that includes a lower amount of DAC.

## **7 TRSM-L**

- 7.1 It is the responsibility of the Board to classify the liabilities in accordance with the definitions and guidance set out in the relevant Regulatory Requirements. However, for the purposes of confirmation of the TRSM-L calculation, the Signing Actuary must be familiar with the Board's criteria for the classification of reinsurance liabilities, including finite and financial reinsurance.
- 7.2 The Signing Actuary must ensure that the solvency margin for each respective class of business is determined in accordance with the relevant Regulatory Requirements, which may include the use of an internal model agreed by the Company with the Central Bank of Ireland. Where such an internal model is used, then, for the purposes of the SAO, the Signing Actuary must verify that the TRSM-L, as stated in the SAO, has been calculated by correctly applying the model to the relevant data but he or she is not required to opine on the appropriateness of the model assumptions or methodologies.
- 7.3 For certain life reinsurance contracts, the reinsurance undertaking may separate premiums, claims and technical provisions under such contracts for the purpose of determining the required solvency margin. Where such separation occurs, the Signing Actuary must satisfy himself or herself that it has been done in accordance with the relevant Regulatory Requirements.
- 7.4 In accordance with Regulatory Requirements, the TRSM-L may be reduced to allow for retrocessions. The Signing Actuary must ensure that he or she has reviewed the retrocession programme put in place by the Company and that he or she considers that the application of this programme is sufficient to support the credit for retrocessions incorporated in the calculation of the TRSM-L.

## **8 The Report**

- 8.1 In accordance with paragraph 1.7, the Signing Actuary must document his or her work and conclusions in a Report addressed to the Company. The Report must be signed and dated by the Signing Actuary. The Report should normally be provided no later than two months after the date the SAO is signed.
- 8.2 The Report must be prepared, and must state that it has been prepared, in accordance with the versions of this ASP and ASP LA-12 current at the effective date of the Report.
- 8.3 The Report must state that it may be made available by the Company to the Central Bank of Ireland, and the extent, if any, to which it may be distributed to third parties other than the Central Bank of Ireland. It must be made clear that the Report should not be used for purposes for which it is not intended.



- 8.4 The Signing Actuary must ensure that the Report is clear and appropriate to the circumstances and its expected audience (which may be expected to include the management and the Board of Directors of the Company, and the Central Bank of Ireland). The Signing Actuary must therefore ensure that the Report is written in appropriate terms so that its readers will be able to understand its basic assumptions, conclusions and recommendations. An executive summary or overview drawing attention to important issues should normally be included.
- 8.5 If the Signing Actuary uses industry or benchmark data in the course of estimating the technical reserves, the source and relevance of such data must be stated in the Report.
- 8.6 Relevant data summaries should normally be included in or with the Report either in hard copy or electronic form.
- 8.7 The Report should normally include a statement of movement in the net and gross of retrocession reserves (including DAC), with a statement of broad reasons for the movement in the Signing Actuary's estimate between the last and current analysis.
- 8.8 Occasionally, the Signing Actuary may be required to make a judgement about a future event for which he or she can gain no guidance from historic events. If such judgements have been made, the Report must draw particular attention to the issue, outline how the particular assessment has been made and indicate the potential impact if the actual experience is different from the assumptions made.
- 8.9 This Section 8 must be read in conjunction with the following paragraphs of this ASP, which include specific requirements relating to the content of the Report: paragraphs 2.6, 3.1, 3.5, 4.2.8, 4.2.10 and 5.11.4.

## Appendix 1

### Statement of Actuarial Opinion on Life Reinsurance Business

To: Central Bank of Ireland

Statement of Actuarial Opinion – Company XYZ

#### Identification

I, ABC, am an actuary employed by XYZ ("the Company"), or

I, ABC, am associated with the Firm of GHI Consulting Actuaries who have been retained by XYZ.

#### Qualification

I am a Fellow of the Society of Actuaries in Ireland and possess a Practising Certificate issued by the Society of Actuaries in Ireland and valid as at the date of this Opinion to provide opinions required on elements of the statutory returns in respect of life reinsurance business.

#### Scope

I have examined the reserves and Total Required Solvency Margin – Life listed below for Company XYZ as at (end of current financial year), as reported in the Company's returns to the Central Bank of Ireland.

#### Life reinsurance reserves

|  | <b>Gross of<br/>retrocession<br/>€000s</b> | <b>Net of<br/>retrocession<br/>€000s</b> |
|--|--|--|
| Gross reserves in respect of life reinsurance business before Deferred Acquisition Costs ("DAC") : [A] |  |  |
| Deferred Acquisition Costs : [B]   |  |  |
| Total reserves in respect of life reinsurance business : [A]- [B]                                      |  |  |

## **Solvency margin**

The Total Required Solvency Margin – Life of the Company, in respect of life reinsurance business as at (end of financial year) reported in the Company’s returns to the Central Bank of Ireland was €...

[In cases where the Company also writes non-life reinsurance business, the following should be added: The Company’s returns to the Central Bank of Ireland also include total reserves of €... and a Total Required Solvency Margin – Non-Life of €... in respect of non-life reinsurance business. I have not examined the reserves or Total Required Solvency Margin – Non-Life relating to non-life reinsurance business.]

## **Retrocession Programme**

For the purposes of this Opinion, I have reviewed the application of the retrocession programme put in place by the Company.

[Additional Comments

*Other comments may be added at the discretion of the Signing Actuary*

These additional comments do not constitute a qualification of my opinion.]

## **Variability**

The future life reinsurance liabilities have been assessed in accordance with the relevant regulatory requirements. Thus, the calculation of the liabilities has taken into account best estimate projections of future premiums, claims, expenses and investment returns in addition to appropriate margins for adverse deviation of the relevant factors affecting these projections. Actual experience will not develop exactly as projected and may, in fact, vary significantly from the projections. I have not anticipated the emergence of major new types or classes of claims.

## **Reliances & limitations**

I have relied upon data and information prepared by the responsible employees of the Company. These data and information have not been checked by me, although the Company has confirmed that the data and information supplied to me are accurate and complete. I consider that the data and information are an appropriate basis for the purposes of this Opinion. My examination included the use of such actuarial assumptions and methods and such tests of the calculations as I considered necessary.

My investigation of the retrocession programme has been concerned solely with the quantitative elements. Therefore, it has not taken into account any unexpected liability to the Company arising from legal disputes over the terms of treaties or other contractual terms, nor does it make any allowance for the possible failure of counterparties to make payments due from them under the terms of the retrocession programme.

## **Opinion**

In my opinion, subject to the above comments [*include if applicable*: and except for any qualifications stated below], the total reserves identified above, gross and net of retrocession, comply with Irish legislation (including legislation transposing relevant European Union insurance directives) and any other relevant regulatory requirements.

Except for any qualifications stated below, I am satisfied that the Total Required Solvency Margin – Life, after allowing for retrocessions, identified above, has been calculated based on the applicable data in the Company's returns to the Central Bank of Ireland and in accordance with Irish legislation (including legislation transposing relevant European Union insurance directives) and any other relevant regulatory requirements.

### **[Qualifications on Opinion**

*Other comments may be added at the discretion of the Signing Actuary.]*

I have complied with the relevant actuarial standards of practice issued by the Society of Actuaries in Ireland in relation to the provision of this statement of opinion.

An actuarial report, supporting the findings expressed in this statement of opinion, has been [will be] provided to the Company.

This statement of opinion is solely for the use of, and to be relied upon only by, the Company and the Central Bank of Ireland.

Signed:

Name:

Fellow of the Society of Actuaries in Ireland

Date:

Address:

## Appendix 2

### Specimen Data Accuracy Statement

I, [Name], [Title], hereby affirm that regarding [Company Name] as at [valuation date]:

- the data and information provided to [Signing Actuary's name and firm] for the Statement of Actuarial Opinion as follows:

[List of Data and Information provided]

were prepared under my direction and, to the best of my knowledge and belief, are accurate and complete [except where advised otherwise]; and

- the classification of the reinsurance contracts and treaties, both inwards and outwards, and the data and information used in the Total Required Solvency Margin – Life calculation, as provided to [Signing Actuary's name and firm] were prepared under my direction and, to the best of my knowledge and belief, are accurate and complete [except where advised otherwise] and comply with relevant Irish legislation (including legislation transposing relevant European Union insurance directives) and any other relevant regulatory requirements.

Signed: \_\_\_\_\_ Date: \_\_\_\_\_

### Specimen undertaking on draft statutory returns

I, [Name], [Title], hereby undertake to provide to [Signing Actuary's name and firm], prior to the submission to the Central Bank of Ireland of the final statutory returns relating to [Company Name] for the year ended [Valuation date], full details of any changes between the draft and final versions of those returns and full details of any differences between the data underlying the draft and final returns.

Signed: \_\_\_\_\_ Date: \_\_\_\_\_

Note: Where appropriate, the Data Accuracy Statement and the undertaking on draft statutory returns may be merged into one document.

### **Appendix 3**

#### **Alternative version of the paragraphs in the SAO entitled “Scope” and “Solvency Margin”**

##### **Scope**

I have examined the reserves listed below for Company XYZ as at (end of current financial year), as reported in the Company's draft returns to the Central Bank of Ireland [(except for immaterial differences, possibly due to rounding)/(except for rounding differences)]. The Company has confirmed that there was/will be no change to the draft statutory returns before submission.

##### **Solvency Margin**

The Total Required Solvency Margin – Life of the Company as at (end of financial year) as reported in the Company's draft returns to the Central Bank of Ireland was €..... The Company has confirmed that there was/will be no change to the draft statutory returns before submission.

## **EXPLANATORY NOTE**

### **ACTUARIAL STANDARD OF PRACTICE LA-11, VERSION 1.3**

*This Explanatory Note does not form part of the ASP.*

Version 1.3 incorporates changes to Section 5.7.8.

The changes include a specific reference to sovereign bonds and require the consideration of alternative approaches, such as market based measures, in all cases (including, but not limited to, government and sovereign bonds) when calculating the provision for the possibility of default.

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