



Banc Ceannais na hÉireann
Central Bank of Ireland

Eurosystem

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Guidance for (Re)Insurance Undertakings on the Head of Actuarial Function Role



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1. Introduction

1.1 Background

- 1.1.1 The European Union (Insurance and Reinsurance) Regulations 2015¹ (the "2015 Regulations") transpose Directive 2009/138/EC (the "Solvency II Directive")² into Irish law. The 2015 Regulations came into effect on 1 January 2016.
- 1.1.2 Regulation 50 of the 2015 Regulations requires (re)insurance undertakings to establish and maintain an effective actuarial function as part of the overall system of governance and also sets out the main tasks of the actuarial function.
- 1.1.3 The tasks of the actuarial function are further expanded in Article 272 of Commission Delegated Regulation 2015/35 (the "Delegated Regulation") and various guidelines published by the European Insurance and Occupational Pensions Authority (the "EIOPA Guidelines")³.
- 1.1.4 The Central Bank of Ireland (the "Central Bank") has also issued requirements in relation to the actuarial function under Solvency II, (i.e. the Domestic Actuarial Regime and Related Governance Requirements, the "Central Bank Requirements") which set out governance related requirements and require undertakings to ensure that a Head of Actuarial function (the "HoAF") is appointed to be responsible for the actuarial function and for the tasks carried out by that function. The HoAF is a pre-approved controlled function role (PCF-48)⁴.

1.2 Objective of the Guidance

- 1.2.1 This Guidance is intended to assist (re)insurance undertakings by providing an overview of the issues that the Central Bank expects to be considered when completing certain tasks outlined in Regulation 50 of the 2015 Regulations and the Central Bank Requirements (i.e. the tasks in respect of expressing opinions on the underwriting policy and the reinsurance arrangements and the contribution to the effective implementation of the risk management system). The Guidance does not purport to address every aspect of these tasks and it is intended

¹ S.I. No. 485 of 2015

² Directive 2009/138/EC of the European Council and of the Parliament of 25 November 2009

³ The principle EIOPA Guidelines of relevance to the actuarial function and calculation of the TPs are the EIOPA Guidelines on the System of Governance (28 January 2015 - EIOPA-BoS-14/253), the Guidelines on valuation of technical provisions (EIOPA-BoS-14/166 EN).

⁴ As per the Central Bank Reform Act 2010 (Section 20 and 22) (Amending) Regulations 2015.

that this Guidance will be updated periodically as approaches to the issues set out in this Guidance develop over time.

1.3 Applicability

- 1.3.1 Certain aspects of this Guidance may not be relevant or material to every undertaking, due to the nature, scale and complexity of the undertaking. In addition, an undertaking may decide to adopt different practices to those covered in this Guidance in ensuring compliance with the 2015 Regulations and Central Bank Requirements. However, where they do so, the undertaking is expected to be in a position to explain the reason for proceeding as they have to the Central Bank, upon request.

2. General Expectations of the Head of Actuarial Function Role

- 2.1.1 The skills and experience of the HoAF can provide a different perspective than that of other experts within the undertaking and this perspective, when communicated to the Board, can help to ensure that the Board is fully informed.
- 2.1.2 The HoAF is expected to make appropriate enquiries in order to provide informed opinions to the Board. This is not intended to imply that the HoAF is expected to duplicate the work of others or assume responsibilities that rest more appropriately with other functions. Where work has been performed by others which, in the opinion of the HoAF, might assist him or her in meeting his or her responsibilities, he or she may decide to consider this work for the purposes of meeting his or her responsibilities.
- 2.1.3 Each undertaking is expected to ensure that the HoAF has the necessary access to such information and resources, including appropriate authority and reporting lines, as he or she may require for the purpose of providing the opinions and performing the tasks allocated to him or her, in particular those specified under the 2015 Regulations and the Central Bank Requirements.
- 2.1.4 Where the operational structure of an undertaking provides that the HoAF has responsibility for some of the tasks upon which he or she is expected to provide an opinion (e.g. some risk management responsibilities), the undertaking is expected to appropriately manage the potential conflict of interest that arises therefrom.
- 2.1.5 The HoAF is expected to identify any significant deficiencies or areas for improvement in the information made available to him or her by the undertaking, for the purposes of assisting him or her in the task of expressing opinions on the underwriting policy and the reinsurance arrangements and the contribution to the effective implementation of the risk management system.
- 2.1.6 Where the HoAF has a material concern regarding any issue covered by his or her work, he or she is expected to draw the Board's attention to that.
- 2.1.7 The HoAF is also expected to indicate any material limitations and the extent and basis of any material reliance on work performed by others in meeting the responsibilities addressed by this Guidance paper.

3. Guidance on Certain Tasks of the Head of Actuarial Function Role

3.1 Opinion on the Overall Underwriting Policy

- 3.1.1 Regulation 50(1)(g) of the 2015 Regulations requires the actuarial function to express an opinion on the overall underwriting policy and the Central Bank Requirements allocate responsibility for this opinion to the HoAF. Article 272(6) of the Delegated Regulation outlines the conclusions that should, at a minimum, be included as part of that opinion.
- 3.1.2 The Central Bank considers that, in expressing an opinion on the overall underwriting policy, it is appropriate for the HoAF to consider all material underwriting and pricing policies and processes. The Central Bank expects the opinion to cover all material lines of business written in all territories in which the undertaking operates. The opinion is expected to highlight when market pressures or the current position in the underwriting cycle mean that profitability targets are not being achieved in some lines or territories. The HoAF is expected to clearly set out the scope of his or her opinion in the context of the undertakings specific circumstances and operations.
- 3.1.3 It is not expected that the HoAF will perform reviews of controls and processes regarding underwriting that the Risk Management Function or the Internal Audit function would be expected to carry out.
- 3.1.4 Depending on the nature, scale and complexity of the undertaking, the HoAF is expected to consider the following issues in expressing his or her opinion on the overall underwriting policy, making enquiries of other functions as appropriate:
- a. Based on the experience analysis carried out by the actuarial function and the review of key assumptions as actual experience emerges, how the actual profitability compares to that expected;
 - b. The interrelationships between the underwriting policy, the reinsurance arrangements and the technical provisions (TPs). Changes in underwriting policy and practice, for example, may not only affect the calculation of TPs, but also the adequacy of reinsurance arrangements. Consequently, the HoAF is expected to identify any important interrelationships between underwriting policy, reinsurance and TPs and highlight any known inconsistencies in approach or underlying assumptions;

- c. Whether the product pricing, the underwriting policy for acceptance of risks and the risk appetite statement are all consistent with each other;
- d. The principal risk factors influencing the profitability of business to be written during the next year, including the potential impact on future profitability of external factors such as inflation, legal risk, changes in business volumes and changes in the market environment;
- e. The degree of variability surrounding the estimate of expected profitability;
- f. The consistency of this degree of variability with the risk appetite of the undertaking;
- g. Whether appropriate allowance is made in the pricing and underwriting for any options and guarantees;
- h. The appropriateness of the undertaking's approach to identifying and managing excessive concentrations of risk;
- i. The frequency with which the undertaking re-prices its products, re-evaluates the assumptions used in its pricing and considers market trends. Where the undertaking uses external data, whether this data is adjusted for the undertaking's own business;
- j. The likely financial impact of any planned material change to business plans, reinsurance arrangements, terms and conditions of contracts, underwriting standards and/or distribution channels;
- k. Whether the potential for anti-selection across underwriting has been considered and how this risk is being managed;
- l. Any known issues in relation to the appropriateness, completeness and accuracy of the data (both internal and external) used to underpin the underwriting process and any adjustments made to it;
- m. At a high level, the appropriateness of the methods and models used in the underwriting process, for example at a line of business level;
- n. Any known areas of inconsistency between the underwriting policy and the assumptions underlying the business plan for example in relation to profitability and volumes of sales assumed;
- o. The controls and processes around any deviations from the technical price, non-standard terms, special deals and/or price match, in particular where this may lead to inconsistencies with the Risk Appetite

Statement. The materiality of such instances is also expected to be considered;

- p. The undertaking's exposure to cross subsidies within its pricing assumptions together with a quantification of the exposure; and,
- q. How the profitability of the products is monitored and reported.

3.2 Opinion on the Adequacy of the Reinsurance Arrangements

- 3.2.1 Regulation 50(1)(h) of the 2015 Regulations requires the actuarial function to express an opinion on the adequacy of reinsurance arrangements and the Central Bank Requirements allocate responsibility for this opinion to the HoAF. Article 272 (7) of the Delegated Regulation outlines, at a minimum, the analysis that should be included as part of that opinion.
- 3.2.2 It is not expected that the HoAF will perform reviews of controls and processes regarding reinsurance arrangements that the Risk Management or Internal Audit Function would be expected to carry out. However, his or her analysis is expected to include, but not be limited to, the consideration of any known issues relating to reinsurance arrangements and it should identify the relevant issues for consideration by the Board. Where the HoAF has a material concern regarding the reinsurance arrangements he or she is expected to highlight this and provide clear recommendations thereon to the Board.
- 3.2.3 This Guidance applies to all forms of reinsurance contracts and also includes inter alia alternative risk transfer arrangements (e.g. catastrophe bonds, industry loss warranties, special purpose vehicles ("SPVs"), etc.).
- 3.2.4 In expressing his or her opinion on the adequacy of the reinsurance arrangements the HoAF is expected to take into account the important elements of all material agreements, contracts, letters, understandings, etc. which are relevant to the treatment of reinsurance, and not solely the terms of the original reinsurance contracts. The undertaking should provide all material and relevant documentation to the HoAF. This may include summaries of the key elements of original reinsurance contracts and known agreements etc. The HoAF may rely on such summaries where he or she considers this to be appropriate.

- 3.2.5 Depending on the nature, scale and complexity of the undertaking and the reinsurance arrangements in place, the HoAF is expected to take account of the following issues in providing his or her opinion on the adequacy of those reinsurance arrangements, making enquiries of other functions as appropriate:
- a. The effectiveness of the undertaking's reinsurance arrangements in mitigating the volatility of its own funds;
 - b. Material interrelationships between the underwriting policy, reinsurance and TPs. Changes in underwriting policy and practice, for example, may not only affect the calculation of TPs, but also the adequacy of reinsurance arrangements. Consequently, the HoAF is expected to identify any important interrelationships between underwriting policy, reinsurance and TPs and highlight any known inconsistencies in approach or underlying assumptions;
 - c. Implications of the reinsurance strategy for underwriting. The opinion is also expected to consider how any currently planned significant changes in underwriting may impact on the undertaking's reinsurance needs in future;
 - d. The nature and impact of reinsurance arrangements, including:
 - i. The economic effect of the reinsurance in place on the estimation of TPs net of reinsurance recoverable and the level of risk mitigation (specifically of insurance risk) achieved and in particular whether risk mitigation is achieved in extreme scenarios;
 - ii. Whether the capital relief achieved through the use of reinsurance is commensurate with the level of insurance risk transfer implied by the reinsurance;
 - iii. Whether the primary benefit of the reinsurance is to reduce the Solvency Capital Requirement (the "SCR") whilst ignoring similar risks or the same risks at different probability or attachment levels. In these instances, the opinion should include a comment on the appropriateness of this practice;
 - iv. The consistency of the reinsurance programme with the Risk Appetite Statement, the availability of additional capital and in particular whether the reinsurance cover provided is consistent with the likely availability of additional capital.

- e. The effect of reinsurance on net to gross results over time, in particular on the volatility of net results or reserves compared to gross results or reserves;
- f. Any known material liquidity issues in the current reinsurance arrangements including any historic issues with receiving recoveries;
- g. The level of credit risk introduced through the use of reinsurance. Credit risk is expected to be considered both in terms of a default event and credit downgrading. This is expected to take into account the capital strength of material reinsurance providers, including intra-group providers, and any collateral which has been provided;
- h. The level of concentration risk entailed by the current reinsurance structure. Concentration risk is expected to be considered in terms of concentration to individual companies and groups. Where concentration risk is significant, has the undertaking considered whether alternative cover would be available if a reinsurer were to withdraw from the market or increase prices, or if a particular type of reinsurance were to become too expensive;
- i. Any review or work done by the Risk Management Function (or other party with appropriate expertise) on the effectiveness of using intra-group reinsurance services, including, inter alia, comparison to market prices, concentration of risk to group, availability of required types and levels of reinsurance from group, suitability of standard group practice for the undertaking;
- j. Whether the cover provided by the reinsurance matches the risks of the underlying policies, including duration, exclusions, policyholder options and whether the reinsurer has the right to cancel cover or change prices or terms not matched in the underlying policy;
- k. Whether the reinsurance contracts cover latent or unknown risks which may emerge later and which may trigger benefit payments to policyholders;
- l. Whether the undertaking intends entering a material new line of business for which it does not have existing reinsurance, or in respect of which it will heavily rely on a reinsurer for data, system development or other areas;
- m. Where secondary services (e.g. provision of data, modelling expertise, facilities or administrative work) are a significant factor in

setting the reinsurance strategy, then the opinion should consider the adequacy of those secondary services provided;

- n. Whether the reinsurance strategy implicitly assumes that it will be possible to renew reinsurance in a number of years' time on the same basis as that used for current purchasing;
- o. How the reinsurance strategy takes basis risk into account and whether there is any basis risk⁵ entailed by the usage of SPVs;
- p. Where the reinsurance cover makes references to indices, industry losses or any other form of proxy for the actual insurance loss suffered, the HoAF is expected to consider the appropriateness of this proxy. He or she is also expected to consider the level of mismatch risk implied by any such arrangements;
- q. Material implications of the reinsurance strategy for the TPs, for example in relation to the calculation of reinsurance recoverables and how aggregate features such as aggregate deductibles or catastrophe cover are taken into account in reserving; and,
- r. Where an internal model is used, the HoAF is expected to consider any material issues which may affect the treatment of reinsurance within the internal model. There is no expectation that the HoAF provides full assurance as to the treatment of reinsurance within the internal model; instead the opinion is expected to highlight any material known issues related to the treatment of reinsurance within the internal model.

3.2.6 Where, in the opinion of the HoAF, the undertaking's reinsurance arrangements deviate materially from the reinsurance arrangements typically associated with the underwriting risks of the undertaking, he or she is expected to consider and, where appropriate, recommend alternative possible reinsurance structures which he or she feels may be more suitable to the undertaking's needs. This may be limited to representative examples of alternative structures e.g. there is no need to provide multiple structures which differ only due to different attachment points.

3.2.7 The opinion is expected to include an assessment of how the reinsurance coverage could respond under a number of stressed scenarios. Where these scenarios are covered in the Own Risk and

⁵ "Basis risk" is defined in Article 1(25) of the Commission Delegated Regulation.

Solvency Assessment (the "ORSA"), the HoAF may limit their considerations to a review of these scenarios:

- a. A description and discussion of reverse stress testing carried out. Such stress testing could focus for example on the level of shock required to use up all reinstatements or to cause default of a significant reinsurer;
 - b. A discussion of any material insurance risks not covered by reinsurance. Examples could include multiple smaller catastrophe events not covered by reinsurance, poor attritional experience across multiple lines, poor experience not covered due to exclusions etc.;
 - c. Applicable market events are expected to be taken into account in deciding the range of stress tests covered. The stress tests are expected to include, but not be limited to, significant stress events the undertaking has experienced historically;
 - d. The HoAF is also expected to consider whether the following items may be material for the reinsurance programme in question, and if so, these are expected to be stress tested:
 - i. Stress tests which target contract wording disputes e.g. in relation to pay-outs for PPOs, disputes over the extent of coverage provided, disputes over liability etc.;
 - ii. The ability of a significant reinsurer to make payments in a stressed scenario; and
 - iii. The feasibility and effectiveness of any proposed management actions or other risk mitigation techniques taken into account in stress testing.
- 3.2.8 The discussion of stress tests is expected to include a look-across, where applicable, to the other possible alternative reinsurance structures identified as part of the considerations mentioned in paragraph 3.2.6. For example, where an alternative structure would give a significantly different response to a stress test, it is expected that this would be identified.

3.3 Contribution to the Effective Implementation of the Risk Management System

- 3.3.1 Regulation 50(1)(i) of the 2015 Regulations requires the actuarial function to contribute to the effective implementation of the risk

management system, in particular with respect to the risk modelling underlying the calculation of capital requirements, and with respect to the ORSA process. The Central Bank Requirements allocate responsibility for this to the HoAF and also provide for an opinion on each ORSA process by the HoAF. The following sections set out some of the issues that are expected to be considered by the HoAF in carrying out his or her responsibilities in this respect.

3.3.2 The Calculation of Capital Requirements

3.3.2.1 The HoAF is expected to provide the Risk Management Function with his or her perspective on the elements of the SCR calculation that are within his or her area of expertise. Examples of such areas include, TPs, pricing, known data issues, results from actual vs. expected analyses, etc. The provision of this information to the Risk Management Function is expected to be documented.

3.3.2.2 The HoAF is expected to consider the Risk Management Function's assessment of the appropriateness of the internal model or standard formula for the undertaking. In that regard the HoAF is expected to comment on any material limitations or omissions that he or she identifies in that assessment, based on his or her knowledge of TPs, reinsurance, pricing, etc. He or she is also expected to consider the Risk Management Function's assessment of the materiality of deviations from the assumptions underlying the internal model or standard formula. Finally, the HoAF is expected to identify and comment on any material improvements that, in his or her opinion, are required to the assessment.

3.3.2.3 In terms of the SCR calculations, the HoAF is expected to consider whether they are consistent with:

- i. the underwriting policy;
- ii. the assumptions and methodologies underlying the TPs; and
- iii. the undertaking's reinsurance programme.

3.3.3 The Opinion on the ORSA Process

3.3.3.1 In order to provide his or her opinion to the Board on the ORSA process the HoAF is expected to:

- a. Assess the range of risks considered, including both risks which are quantified and those which are discussed qualitatively only. In doing

so the HoAF is expected to identify any material risks which in his or her opinion are not covered in the ORSA;

- b. Review the range of stress and scenario tests included in the ORSA. The HoAF is expected to give an opinion on whether the range and nature of stress tests reflects the risks to which the undertaking is exposed over the planning horizon;
- c. Consider any material limitations of stress and scenario testing carried out. In particular, the HoAF is expected to consider whether the range of stress and scenario tests, and the design of individual tests, is severe enough to provide a reasonable understanding of the risks to which the undertaking is exposed. It is not necessary for the HoAF to re-calculate any stress tests;
- d. Opine on the timeline covered within the ORSA and whether it enables the undertaking to identify and assess long and short term risks;
- e. Consider the adequacy of the method used to project the SCR over the time horizon of the ORSA;
- f. Consider the suitability of the risk measure and confidence level used for the determination of the undertaking's overall solvency needs in the ORSA and in particular its consistency with the risk appetite. Where appropriate the HoAF could consider the one-year view taken under the SCR and the ultimate run off of the business. This does not include an expectation that the HoAF confirms the calculation of the overall solvency needs or assesses the solvency position; and
- g. In cases where the ORSA's base case is based on a business plan, consider the appropriateness of the business plan for the purposes of conducting an ORSA assessment and determining the undertaking's overall solvency needs. In particular, where the business plan includes stretch targets, the HoAF is expected to consider whether the stresses to the business plan are sufficiently strong to highlight downside risks to which the undertaking is exposed. The HoAF is also expected to consider whether any management actions assumed in the business plan are feasible and likely to have the desired effect. Where applicable, the HoAF is expected to suggest additional or modified stress tests which could be carried out.



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