Summary of papers on Actuarial Function Report (AFR)

ACTUARIAL ASSOCIATION OF EUROPE INSURANCE COMMITTEE (AAE IC)

NON-LIFE WORKING GROUP (NLWG)

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For Discussion

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1.0	5th Sept 2016	Kartina Thomson	NLWG members	Formalise the working draft

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Introduction

The purpose of this paper is to provide practical insight and guidance on the requirement and expectation of the production of the Actuarial Function Report (AFR) for non-life insurance firms to address the requirements of Article 48 of the Solvency II Directive.

There are three levels of Europe-wide regulation behind Solvency II:

- The Directive;
- The Delegated Acts (Level 2 text);
- The Level 3 guidance.

The Directive establishes a system of governance for Insurers: "Member States shall require all insurance and reinsurance undertakings to have in place an effective system of governance which provides for sound and prudent management of the business. That system shall at least include an adequate transparent organisational structure with a clear allocation and appropriate segregation of responsibilities and an effective system for ensuring the transmission of information." (Commission Directive 2009/138/EC, Article 41, paragraph 1).

Scope and Limitation

This paper summarises the information gathered across various publications on AFR across United Kingdom, Ireland and Netherlands. It is a good diverse set of information and as a working document, additional papers and other sources of information can be added to enrich the quality of this paper.

It is also worth noting that whilst a significant aspect of this paper is relevant across Insurance firms, the focus is on Non-Life Insurance firms.

Executive Summary

The AFR covers specific sections:

- Effective actuarial function to the calculations of technical provisions;
- Opinion on overall underwriting policy;
- Opinion on overall reinsurance arrangements;
- Contribute to the effective implementation of the risk management system.

It is important to ensure independence of the AF to avoid conflicts in interest.

It is interesting to note that whilst there is regulatory level standard as defined in the Directive, there is also an exploration on the industry best practice, especially if the source of information is not from a national regulator. It is also useful to note that there is consistency in the guidance from national regulators.

Next Steps

Whilst this paper is a good source of information, in order to maximise the use of this working document, it is beneficial to explore other sources of information from other European states, both from a local regulatory and local actuarial association perspectives. The AAE IC is invited to comment and decide on the usefulness of this proposal, in the context of other priorities.

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Publications

1. Central Bank of Ireland (CBI)

<u>Source:</u> Consultation on Guidance for (Re)Insurance undertakings on the Head of Actuarial Function (HoAF) Role – Consultation paper 103[1]

Summary

The CBI has issued a consultation paper to gather comments from interested stakeholders on the Guidance for (Re)Insurance Undertakings on the Head of Actuarial Function Role paper. The main focus of the paper is providing guidance on the responsibilities of the HoAF role as well as what is expected of the AF.

Some key areas highlighted in the paper are given below:

Opinion on underwriting policy

- HoAF should express an opinion on material underwriting, pricing policies and processes covering all lines of businesses that the undertaking operates in. The paper provides a more detailed list of areas the HoAF is expected to express his/her opinion.
- The AF is not expected to perform reviews of underwriting controls and processes. These should be carried out by Risk Management or Internal Audit.

Opinion on reinsurance arrangements

- Reinsurance guidance applies to all forms of reinsurance contracts and alternative risk transfer arrangements (e.g. cat bonds, special purpose vehicles).
- Similar to underwriting policy, the responsibility of reviewing the control and processes of reinsurance arrangements lies with the risk management or internal audit teams. HoAF should however identify any known issues relating to reinsurance arrangements so that it can be considered by the Board.
- The AF is expected to take into account the important elements of all known agreements, contracts, letters and not just the original reinsurance contracts.
- The HoAF is expected to consider a number of points stated in the guidance in order to form an opinion on the adequacy of the reinsurance arrangements and make enquires and put forward any challenges as appropriate.

Other areas of responsibility for the HoAF

- Provide opinion on each ORSA process.
- Provide the risk management function with his/her perspective on the elements of the SCR calculation that are in his/her expertise. i.e. TPs, pricing, data issues.
- Review the Risk Management/Internal Audit function of the assessment of the appropriateness of the internal model/standard formula for undertaking, as well as identify any limitations in the assessment.

[1] Consultation on Guidance for (Re)Insurance undertakings on Head of Actuarial Function Role, Consultation paper 103 – Link to paper (correct as of August 2016) https://www.centralbank.ie/regulation/poldocs/consultation-papers/Documents/CP103%20Guidance%20for%20Re(Insurance)%20Undertakings%20on%20the%20Head%20of%20the%20Acturial%20Function%20Role/CP103%20Guidance%20for%20(Re)Insurance%20undertakings%20on%20the%20Head%20of%20Actuarial%20Function%20Role.pdf

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2. Institute and Faculty of Actuaries

<u>Source 2:</u> The Institute of Actuaries set up an Actuarial Function Working Group to explore the work that is expected to be carried out by an actuarial function in order to fulfil the requirements of Article 48 of the Solvency II Directive. Five outputs were produced, two of which are accessible papers.

Objectives

Main objectives of the working group:

- Suggest the content and structure of the AF report.
- Organisational structure of the AF, vary depending on scale and nature of organisation.
- Role of AF Holder and recommended qualifications.
- Consider purpose, requirements and expectations of AF from a non-regulatory perceptive.
- Consider conflicts of interests and appropriate segregation of responsibilities.
- Consider the extent of liaison with non-actuaries to fulfil some requirements of the Solvency II Directive.

Summary

Paper 1 - Application of the Solvency II actuarial function to general insurance firms, AF Working Party (2015 Report)[2]

The purpose of the paper is to provide insights and suggestions around the requirements of the Solvency II Directive and it is made clear that the paper's intentions is not to advise but simply to make suggestions and observations that may be useful and interesting to the reader. The paper considers only the requirements of the Actuarial Function. Some interesting points found in the paper are as follows:

Key points

- Regulatory level and Best Practice level is mentioned throughout the paper to highlight what is required by regulators and what goes beyond the minimum requirements.
- A survey was conducted to IFoA members to gather views on whether the AF and the AFR should concentrate on delivering the statutory minimum or go further to reflect industry best practice. Some interest points to take away from the results are:
  - Results showed that roughly the same number of respondents agreed and disagreed on the argument that AF and AF report should be keep to the statutory minimum and a similar number of respondents did not have an opinion.
  - 44% of 43 respondents felt that their company had made no significant progress in producing what they believed would be a fully compliant report.
  - 66% felt familiar with requirements regarding providing an opinion on their insurer's reinsurance arrangements however were unsure how to meet them.
- The paper states that the tasks of AF should be defined by a Terms of Reference (ToR). Content for ToR is also suggested.
- The purpose of an AFR is explained and a structure for the report is also suggested. The report then dedicates the following few chapters to provide further insight into each section of the AFR example structure.
- The paper talks about the background needed for the role of HoAF (in other words PRA's Chief Actuary) and often references the Solvency II Directive.

[2] 2015 Report: Application of the Solvency II actuarial function to general insurance firms, Actuarial Function Working Party, Institute and Faculty of Actuaries – Link to paper (correct as of August 2016) https://www.actuaries.org.uk/practice-areas/general-insurance/disbanded-research-working-parties/actuarial-function

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- A section of the paper covers the structure of Governance expected at a firm and highlights needs of independence to avoid conflicts in interest.
- Stakeholder section of the paper covers the primary and secondary stakeholders of an AF and talks through each of the stakeholder's role, their requirements from the AF and the expected interaction with the AF.
- A whole section is dedicated to providing examples of an organisation's AF structure. The diagrams present are really useful and enables the reader to think about what structure is required for their firm.
- The Working Party recognises that Article 48 of the Directive is primarily to ensure good practice, getting the most out of the actuarial skills available, and for insurers to meet requirements without being unduly burdensome.

Technical Provisions

The requirements are reasonably well understood and may not go much further than existing reserving actuary interaction and reporting with the Board. There are, however, additional considerations and assessments required under Solvency II which may not have been addressed previously, such as reporting on the appropriateness of Information Technology systems.

It may be useful or necessary to include additional informative detail which goes beyond the Regulatory Level of sophistication. For example, this might include:

- Background on the business to set the context of the report, for example, classes of business written, maturity of business, etc.
- Whether the business is stable, growing or contracting and any changes in the underlying portfolio.
- Shock events during the year, such as large catastrophes, political events, etc.
- Looking beyond the one year time horizon.
- Operational issues.
- Details of staff changes.

Given their explicit inclusion in the Directive and Delegated Acts, the AFR should explain how the AF has:

- Coordinated the calculation of technical provisions.
- Assessed whether the methodologies and assumptions used in the calculation of the technical provisions are appropriate for the specific lines of business of the undertaking and for the way the business is managed, having regard to the available data.
- When comparing best estimates against experience, reviewed the quality of past best estimates and used the insights gained from this assessment to improve the quality of current calculations.
- The comparison of best estimates against experience shall include comparisons between observed values and the estimates underlying the calculation of the best estimate, in order to draw conclusions on the appropriateness, accuracy and completeness of the data and assumptions used as well as on the methodologies applied in their calculation.
- Informed the Board of the reliability and adequacy of the calculation of technical provisions.

Definition of an opinion

An opinion in this sense is therefore not a formal signing-off of the underwriting policy or reinsurance arrangements in the style of, say, a Statement of Actuarial Opinion. It is more a view on the practices and

outcomes in these areas from applying the actuarial skillset.

Opinion on Underwriting Policy

The opinion provided should be supported by reasoned analysis. This may include:

- Comparison of actual profitability and premium rate movements on each business segment compared to business planning expectations.
- Ability to make profit targets, for example, return on equity both at a best estimate and under stressed scenarios (e.g. inflationary claims environment, etc.) or via a loss distribution.
- Explanation on consideration of external and internal influences on premium rates.

The AF should be assessing the adequacy and sustainability of the business model of the undertaking and, through the AFR, provide the Board with informed and reasoned comments to this effect. In arriving at the opinion the actuary should have regard to the risk appetite of the Insurer and whether this is being adhered to in practice.

Opinion on Adequacy of Reinsurance

In order to support the opinion on the adequacy of reinsurance arrangements the AF may wish to consider:

- Analysing the historical use and outcomes of the reinsurance programme.
- Forecasting gross and net profit distributions.
- Identifying any perceived limitations in reinsurance.
- The process for deciding on the creditworthiness of reinsurers.

This analysis should allow the function to assess the adequacy and suitability of the reinsurance cover for the business model of the undertaking. In arriving at the opinion the actuary should have regard to the goodness of fit for the stated risk appetite of the insurer, both in regard to the level of reinsurance cover in place and the resulting credit risk of the reinsurers used.

Paper 2 –Role of the Actuarial Function under Solvency II, AF Working Party (October 2011)[3]

This paper specifically focuses on the AF's responsibilities in relation to technical provisions but does not consider the technicalities of the valuation of the technical provisions. The paper breaks down Article 48 and talks about each section separately. At time of writing, Level 2 and Level 3 of the regulations were still in draft form.

The authors of the paper recognise Solvency II sets out a list of responsibilities that the AF should fulfil. It is felt that the requirements do not restrict firms from defining their own organisational structure, subject to meeting the minimum regulatory requirements.

Below highlights the **key interpretations** from the paper broken down into the different parts of Article 48, Solvency II Directive: '*Insurance and reinsurance undertakings shall provide for an effective actuarial function to:*'

[3] Role of actuarial function under Solvency II (GIRO 2011), Actuarial Function Working Party, Institute and Faculty of Actuaries – Link to paper (correct as of August 2016) https://www.actuaries.org.uk/practice-areas/general-insurance/disbanded-research-working-parties/actuarial-function

'(a) coordinate the calculations of technical provisions'

Key points

- It is in the view of the authors that there is 'high degree of freedom' for an undertaking to organise and structure their Actuarial Function.
- It is also interpreted that the AF can be involved in all parts of calculating TPs **or** chooses to play a limited role and look only at elements of TPs.
- No definition referring to the physical structure of the AF is mentioned, therefore the AF can comprise of one person or a team.
- The underlying tasks and preparatory tasks that the AF should perform in order to meet the responsibility are not defined and therefore unrestricted.
- The Level 2 draft (The delegated Acts) welcomes the idea that the outcome of the calculations of TP will need to be reviewed and this should be carried out by a function or person subject to there being **no conflicts of interest.**

'(b) Ensure the appropriateness of the methodologies and underlying models used as well as the assumptions made in the calculation of technical provisions'

Key points

- AF is expected to be involved in writing and reviewing the reserving policy along with Board and other interested parties.
- AF is expected to be largely responsible for the choice and implementation of the technology platform for carrying out the estimation of reserves.
- Under Solvency II, the Board **cannot** include any margin in the technical provisions but they are allowed to disagree with the AF regarding the appropriateness of the assumptions.
- If the Board and the AF cannot reach an agreement, even after an iterative cycle of investigation and review, it is understood that Solvency II Directive **implies** that the AF is responsible for setting the final technical provisions as since without the ability to do so will mean that they cannot ensure the methodologies and models are appropriate. **Despite this implication**, the authors of this paper believes that this is not the intention of Solvency II and the responsibility of setting the TPs ultimately sit with the Board.
- Authors expect the **underlying basis** to estimate the Solvency II technical provisions to be **the same** as that used for estimating the reserves for the financial statements, as it is felt that it would be irrational and add no value to the AF to have two independent sets of underlying assumptions with one for Solvency II and the other for financial statements.
- Once TPs are established, back testing is viewed as a good tool to validate the methodology and assumptions used. This could include actual v expected analysis. Significant deviations (sometimes purely due to volatility) should be investigated and actions should be carried out to improve the methodology and assumptions. Patterns of deviation should be tested for to identify if there are any consistent under or over estimating.

'(c) Assess the sufficiency and quality of the data used in the calculations of technical provisions.'

Key points

- The extent of the actuaries' responsibilities for internal data is not explicitly stated in this part of the Article. It is in the view of the authors that it is not feasible or appropriate for the AF to be involved in

every step of the data processing.

- As the AF is a key user of the internal data, they are in a position to assess: the general quality of data and the impact of any data deficiencies relevant to the assessment of TPs and setting underwriting policy. This assessment will need to be reported to the Board as part of the reporting process.
- If external data is to be used by the AF, depending on use, a level of validation of the data is required. For example, if external data is only used to benchmark internal analyses or assumptions then a lower level of validation is required when compared to using external data to write a whole new class of business.

'(d) Compare best estimates against experience.'

Key points

- Under this section (and explained in the Level 2 draft) it is expected of the AF to perform actual v expected analyses to confirm the appropriateness of the data, methodology and assumptions used in calculating TPs.
- Any differences between the best estimate and past experience are expected to be explained to management and the risk function, and the likely impacts on both the capital requirements and the Solvency ratio.
- The last of this section provides a list of consequences to capital and solvency ratios given an upwards revision of the technical provision.

'(e) Inform the administrative, management or supervisory body of the reliability and adequacy of the calculation of the technical provisions.'

Key points

- The Working Party express their view that currently most insurers produce an annual actuarial report addressed to the board covering recommended and booked claims reserves, however due to Solvency II requirements the AFR goes beyond this current reporting practice and a breakdown of the expected content of the AFR is provided.

'(f) Oversee the calculation of technical provision in the cases set out in Article 82.'

Key points

- In this section, the level at which calculations should be carried out is considered, for example the choice between at an aggregate level or at a more micro level. It is also mentioned that an alternative method of calculating TPs should be devised.

'(g) Express an opinion on the overall underwriting policy'

Key points

- The Working Party believe that many firms have benefited from actuaries engaging more closely with underwriting and decision makers as they are able to provide a valuable actuarial perceptive. It is felt that the new requirements under Solvency II are able to present the opportunities for **better engagement** between actuaries and underwriters.

'(h) Express an opinion on the overall reinsurance arrangements'

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Key points

- It is stressed here that the AF should have an opinion on reinsurance arrangements as these arrangements directly impact the calculations of the technical provisions, the level of liabilities and capital requirements.
- This section goes on further to explain what the authors feel the role of the AF is and the areas the AF should expect to give an opinion on. I.e. Appropriateness of the reinsurance programme to mitigate the company's reserving and underwriting risks.

'(i) Contribute to the effective implementation of the risk-management system referred to in Article 44, in particular with respect to the risk modelling underlying the calculation of the capital requirements set out in Chapter VI, Sections 4 and 5, and to the assessment referred to in Article 45.'

Key points

- This section talks through the information around risk management in Article 48 and then refers to the Level 2 draft to highlight the need to produce the AFR and outlines the key activities that the AF should undertake in order to co-operate with the risk management function.

'Section 2 – The actuarial function shall be carried out by persons who have knowledge of actuarial and financial mathematics, commensurate with the nature, scale and complexity of the risks inherent in the business of the insurance or reinsurance undertaking, and who are able to demonstrate their relevant experience with applicable professional and other standards.'

Key points

- AF needs not to be performed by qualified actuaries or members of the IFoA.
- There is no set number or minimum requirement as to how large the AF should be.
- AF as a whole cannot be outsources but parts of the work can be.
- AF should be responsible for deciding if they have the appropriate skills for assessments. Actions should be taken to acquire the necessary skills if needed.

3. Lloyd's of London

***Source 3:* Guidance on the Actuarial Function, April 2016**[4]

Objectives

The purpose of this paper include:

- Instructions and guidance on the requirements of Syndicate Actuarial Function (SAFs), including AFRs.
- Deadlines and requirements for submission of SAF reporting to Lloyds in 2016 calendar year.
- Information on format and timing of Lloyd's review/feedback on the SAF reporting.

Summary

This paper is official guidance for Lloyd's syndicates. The paper splits into 3 sections, guidance on AF reporting, Lloyd's own review template, and lastly the requirements of a syndicate AF (SAF).

[4] Guidance on the Actuarial Function, April 2016, Lloyds of London – Link to paper (correct as of August 2016) https://www.lloyds.com/~/media/files/the%20market/operating%20at%20lloyds/solvency%20ii/2016%20guidance/actuarial%20function%20guidance%202016.pdf

AF Reporting Guidance

- All SAFs are required to produce an AFR at least annually and document tasks undertaken by the SAF, the results of the tasks and any limitations and recommendations relating to the work.
- Lloyd's require AFRs to include an executive summary summarising each element of the work of SAF.
- Each compliance requirement must be explicitly addressed.
- Material from the SAO reports can be used in the AFRs.
- There is clear overlap between AFRs and Lloyds minimum standards requirements, therefore AFRs will be used as compliance to these relevant minimum standards.
- There is no prescribed wording for the opinions on underwriting and reinsurance requirements.
- Timings for the submission of these reports are provided.

Review of Syndicate Actuarial Function Reporting

- For calendar year 2016, the submission of report sections covering General, Technical Provisions and Risk Management sections should be provided by 27/05/16. Submission of opinion on underwriting policy and reinsurance adequacy must be made by 01/11/16.
- Submissions should be made alongside a completed review template which contains Lloyd's review criteria for requirements that are covered in the submission.
- SAFs should address any outstanding actions from the 2015 review in this submission.
- Lloyds will review all submissions it receives from its syndicates and provide feedback to the market.

Requirements of Syndicate Actuarial Function

- The requirements of the SAF from the regulations are broken down into a number of areas. The requirements are included in the Lloyd's template for assessing compliance.
- Guidance on complying with the regulation is provided however as certain aspects of the regulatory requirements remain open to interpretation and this guidance section will continue to develop for future submissions.

4. National Bank of Belgium (NBB)

Source 4: Paper of the NBB on the governance system of the (re)insurance sector "Circulaire over de prudentiële verwachtingen van de Nationale Bank van België inzake het governancesysteem voor de verzekerings- en herverzekeringssector" of July 2016[5].

Summary

The NBB has issued a paper with guidance for the Belgian (re)insurers on several topics including the governance of the Actuarial Function. Some key areas highlighted in the paper are given below:

Governance

(Page 10, 30) The Actuarial Function is seen as a second line function according to NBB.

(Page 39) AF needs to avoid potential conflicts:

- Assure the AF does not need to review their own work, work that the function is responsible for or work that previously is performed by one of the staff.
- The member of the Board to which the AFH reports cannot also be responsible for the department that does the valuation of the technical provisions.

[5] Link to paper: https://www.nbb.be/doc/cp/nl/2016/20160705_2016-31_bijlage.pdf

- (Page 10) The CRO is, as a member of the board, responsible for the Risk Management function. If the total balance sheet of the insurer is less than € 3BLN NBB allows that the CRO is also responsible for the Actuarial Function and Compliance function (in line with allowance in SII regulation). If the balance sheet total is larger, a formal NBB application with sufficient motivation is required.

AFH requirements

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- The AF should be led by a manager (AFH) who meets the legal requirements for professional reliability and has the expertise in the field of actuarial science.
- The AFH needs to be assessed by the NBB on his/her competence and professional integrity.

Opinion on underwriting policy

(Page 36) Related to an opinion on the underwriting policy the AF performs the following tasks:

- Give an opinion on the pricing, reserving and reinsurance of a product at the launch of new products or changes to existing products;
- annually analyse the profitability of different products in a context of consistent market and in the context of the financial statements;
- analyse existing underwriting limits;
- provide advice recommendations on risk acceptance.

Opinion on reinsurance arrangements

(Page 37) Related to the reinsurance arrangements the actuarial function must deliver a technical opinion on:

- the adequacy of reinsurance treaties of the company, taking into account the risk profile of the company, the reinsurance policy and the links between these conventions and the technical provisions.
- Where the undertaking is part of a group, the actuarial function maintains moreover account of any reinsurance within the group.

Implementation of risk management system

(Page 37) The contribution of the actuarial function to the risk management system is specifically limited to two specific domains:

- The modelling of the risks and
- The assessment made in the context of the ORSA.

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