

Why the HAF is not the head of the actuarial function

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ABSTRACT

In this paper we investigate the role of the Head of the Actuarial Function (HAF) and its implementation in the South African insurance market, two years after the passing of the new Insurance Act in 2017. We compare the current role in South Africa to actuarial roles in other jurisdictions and the prior statutory actuary role based on the Long-term Insurance Act. Based on an industry survey conducted by us, we highlight the differences in the interpretation and implementation of the role in different segments of the market. We discuss areas that have been problematic when embedding the HAF role in an organisation and investigate those from a professional, organisational and regulatory perspective. Based on this analysis we propose best practices for the implementation of the HAF role including a minimally compliant interpretation for smaller insurers and outline how the role can be interpreted, clarified or changed to achieve further improvements for the South African insurance market.

KEYWORDS

Head of Actuarial Function, actuarial function

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1. INTRODUCTION

1.1 The role of the Head of the Actuarial Function (HAF) was introduced into the South African insurance market by the Solvency Assessment and Management (SAM) legislation and regulation that came into effect in July 2018 (Prudential Authority, 2018). Within the SAM regulations, contained primarily within the Prudential Standards (Prudential Authority, 2020), the HAF is given a broad role that extends from providing assurance to the Board on the technical provisions and solvency capital requirements, to expressing an opinion to the Board about the appropriateness of certain risk management policies (Prudential Authority, 2018). The role of the HAF is explained and extended by guidance issued by the Actuarial Society of South Africa (ASSA) in Advisory Practice Note (APN) 106/403 (ASSA, 2018), which explains the obligations that members of ASSA have in performing their role as HAF and departures from which require disclosure by members of ASSA.

1.2 At the time of writing this paper, almost two years have lapsed since the role of the HAF was introduced, and some experience of performing this role for life and non-life insurers in South Africa has accumulated, as have interactions with actuaries filling this role with the boards of directors, board committees, management and staff of the insurers. These interactions have also extended to other stakeholders such as external auditors and regulators. Based on these experiences, we have been motivated to examine the role of the HAF in the South African market and how it has been implemented. Key questions we aim to examine are how different parts of the South African market have implemented the role and whether this is influenced by the characteristics of particular companies, and how the interpretation of the SAM legislation and HAF guidance might be coloured by a practising actuary's previous experience of similar roles in South Africa. To inform our analysis, we performed a market-wide survey of all insurers in South Africa that we estimate has covered the majority of companies by market share. We report on the results of the survey, and use the insights gained to propose best practices for implementing the role of the HAF and highlight areas where there are considerable variations in practice, paving the way for more detailed guidance.

1.3 The rest of this manuscript is structured as follows. First, we examine the predecessor to the HAF role, which was the prescribed statutory actuary role required by the now superseded Long-term (and in some instances, the Short-term¹) Insurance Acts (Republic of South Africa, 1998b) and discuss what the statutory actuary role entailed. We also look at how similar roles are prescribed and interpreted in other jurisdictions. Then we investigate

1 For example, short-term insurers who used a customised unearned premium reserve calculation required this calculation to be approved by an appointed statutory actuary.

the working group proposal regarding the implementation of the HAF contained in Position Paper 83 (FSB, 2015) to trace the discussion that led to the development of the HAF role as formally introduced in the Insurance Act (Government of South Africa, 2017) and the SAM regulations. We focus on the main change to the role of the statutory actuary, which was to align the activities to the Solvency II actuarial function, with the addition of other activities that were deemed necessary for the HAF to perform, and to reformulate the statutory actuary role as a control function. The next steps in the paper entail analysing what the practical consequences from defining the role as a control function are. We discuss the concepts of conflicts of interests, independence and briefly touch on the three lines of defence concept. Informed by this discussion, in the main section of this paper we analyse the results from the market survey. We highlight best practices emerging for the role of the HAF and discuss areas that appear not to be well defined by the current regulation and guidance. We conclude the paper with practical suggestions for the development of the role of the HAF, including educational material explaining the role for insurance industry stakeholders, and note areas requiring more research. The appendix to the paper provides further results from the market survey.

2. BACKGROUND TO THE HAF ROLE

2.1 In this section we analyse the role and responsibilities of the statutory actuary that was required by the previous insurance legislation for all South African life insurers and, in special cases, some non-life² insurers, with a focus on considering to what extent it may have anchored the current implementation or interpretation of the HAF role in the insurance industry. We also consider how various other jurisdictions define and implement similar roles.

2.2 The role and responsibility of the old statutory actuary role is mainly set out in legislation, in the Long-term Insurance Act (LTIA) of 1998 (Republic of South Africa, 1998a). Furthermore, in concert with and subordinate to the legislation, ASSA issued various guidance notes on implementing the statutory actuary role. In particular, version 5 of APN 106 provided guidance for statutory actuaries working in the long-term insurance field; version 6 of Standards of Actuarial Practice (SAP) 103 provided guidelines on the reporting responsibilities of the statutory actuary, and SAP 104 (v9) assigned certain discretionary powers to the statutory actuary.

2.3 Since this distinction is important for the rest of the paper, we note that ASSA distinguishes between an advisory practice note and a standard of actuarial practice, by defining the former as providing “advice to members to guide them in their relevant area of practice” and the latter as “standards that all members must adhere to” (ASSA, 2020).

2 The new Insurance Act refers to short-term insurers as non-life insurers and we adopt this convention in the rest of the paper.

2.4 The main duties and responsibilities of the previous statutory actuary role, as reflected in this legislation and professional guidance, can be summarised as follows:

- The statutory actuary had to certify that the declaration or payment of any dividend to its shareholders would not pose a risk to the financial soundness of the insurer (Section 29(5) of the LTIA).
- The statutory actuary had to approve that the assets that the insurer invested in “are proper and suitable, having regard to the nature of its liabilities and the time when, the place where, and the manner in which, it is required, or expects to be required, to meet those liabilities” (Section 31(2) of the LTIA).
- The statutory actuary had to approve the actuarial soundness of all new and amended long-term policies, and the declaration of any bonuses to with-profits policyholders (Section 46 (1) of the LTIA).
- Under Section 1.1. of APN 106 (v5), the Financial Services Board (FSB) relied on statutory actuaries “to confirm that the Insurers in respect of which they are appointed are financially sound.”

2.5 A clear inference from the above legislation and guidance is that the old statutory actuary was positioned mainly to approve and certify that they were comfortable from an actuarial perspective that an insurer was and would remain actuarially sound (i.e. solvent) in the foreseeable future. This was widely interpreted as the statutory actuary having the ultimate responsibility for and ownership of the actuarial numbers. This responsibility was emphasised when statutory actuaries, in the 2008 amendment of the LTIA (Section 66 (2) of the LTIA), became liable not only in their professional but also their personal capacities.

2.6 It is therefore made clear in Section 1.1 of APN 106 (v5) in the above quote that the previous regulator (the FSB) relied mainly on the statutory actuary to oversee prudential matters and not necessarily on the board of directors of the insurer. This is further emphasised by the fact that section 2.1 of the same note places the onus on the statutory actuary, not the board, to report to the Registrar the findings of their various investigations.

2.7 Of particular importance to the considerations of this paper, APN 106 (v5) sets out the following guidelines in terms of conflicts of duties and independence of the statutory actuary, in section 2.5: “Statutory Actuaries must be objective in the performance of their duties and take reasonable steps to satisfy themselves that they are free from bias. The ASSA Code of Professional Conduct (ASSA, 2012) (or subsequently published replacement) provides guidance on conflicts of interest.”

2.8 It is worth noting that there was no piece of legislation, regulation or best practice note that required or inferred segregation of duties or operational independence between the statutory actuary and the doers of the actuarial numbers.

2.9 It seems clear from the above that the professional best practice guidance notes relied mainly on the professional nature of each individual statutory actuary to ensure objectivity and to manage conflicts of interest that may have arisen. The head of the actuarial department of many South African life insurers was often the statutory actuary, and in many insurers the statutory actuary was to a large extent involved with and had input into the same numbers they had to review or provide attestations for. The need to structure the role in the organisation in such a manner as to ensure formal separation or independence from those producing the actuarial numbers was seldom a concern and was not necessitated by legislation, regulations or professional best practice. Thus, it was widely accepted that the statutory actuary relied on their own professional judgement to perform their duties free from bias and any conflicts of interest that may arise.

2.10 The LTIA further provided that “An auditor may rely on the work performed by the statutory actuary in relation to the financial affairs of a long-term insurer ...” (Section 19(9) of the LTIA) and “... an auditor shall not be required to examine or express an opinion in relation to a statement forming part of a return, report or certificate or to the particulars thereof, in respect of which a statutory actuary is required, in terms of this Act to make an examination, give an attestation or express an opinion.” (Section 19(8) of the LTIA). It was therefore clear from legislation that the appointed auditors were not required to audit the same work that the statutory actuaries had under their purview. This helped to reduce overlap and confusion between the responsibilities of the appointed auditors and statutory actuaries.

2.11 Furthermore, in the usual course of business, there were few concerns about the overlap in the role of the statutory actuary with other functions. To a large extent the statutory actuary’s opinion and view was accepted as the final word on actuarial matters within the insurance organisation.

2.12 The statutory actuary roles, as set out in the previous long-term and short-term insurance acts, were well established, understood and engrained predominantly in the long-term insurance industry. An hypothesis that is investigated in the rest of this article is whether the implementation or collective understanding of the previous statutory actuary role plays a role anchoring or impacting the implementation and understanding of the current HAF role, especially in long-term insurers.

3. OTHER JURISDICTIONS

3.1 In our research we considered the implementation and requirements of similar roles in the main international markets. Below we highlight the routes taken by two foreign jurisdictions, the European Union and Australia, in respect of similar roles. We have chosen these two jurisdictions based on the availability of the published guidance and the fact that they were used to inform the South African SAM legislation.

3.2 The basis for the South African HAF role can be traced back to Solvency II, where the “Actuarial Function” is defined in Article 48 of the European Framework Directive (“SII Lvl 1 Text”) (European Union, 2009). The actuarial function’s responsibilities, in Solvency II, are aimed at:

- Determining the technical provisions (TP) and assessing their appropriateness;
- Informing the administrative, management or supervisory body of the reliability and adequacy of the calculation of the TP;
- Expressing opinions on the underwriting policy and reinsurance arrangements; and
- Contributing to the effective implementation of the risk-management system.

3.3 Solvency II through Article 48 of the European Directive 2009/138/EC (level 1 text) and Level 2 Advice (European Union, 2013) requires that “In forming and formulating its own actuarial view the actuarial function shall be objective and free from influence of other functions or the administrative or management body.” (European Union, 2009)

3.4 Furthermore, Commission Delegated Regulation (EU) 2015/35 of 10 October 2014, which supplements Level 1 text, puts forward the following in point 1 under Article 268:

1. Insurance and reinsurance undertakings shall incorporate the functions and the associated reporting lines into the organisational structure in a way which ensures that each function is free from influences that may compromise the function’s ability to undertake its duties in an objective, fair and independent manner. Each function shall operate under the ultimate responsibility of, and report to the administrative, management or supervisory body and shall, where appropriate, cooperate with the other functions in carrying out their roles.
2. The persons performing a function shall be able to communicate at their own initiative with any staff member and shall have the necessary authority, resources and expertise as well as unrestricted access to all relevant information necessary to carry out their responsibilities.

3.5 Considering the development of the role of the HAF, which is characterised by a single person required by regulation to opine on actuarial matters, it is surprising to note that within the Solvency II framework it is up to the actuarial function, as a collective, to facilitate a review of their own work.

3.6 It is further important to note that the EU regulations place the onus for impartiality and ensuring the advice of the actuarial function is unbiased in the hands of the same actuarial function, in other words, there is no requirement to observe any operational independence or segregation of duty between the doer and the reviewer within the function (European Union, 2009). In fact, the only separation that is required is between functions (i.e. actuarial function, auditing function, risk management function and compliance function), not within the same function. It is therefore interesting to conclude that the actuarial function, as

envisaged under Solvency II, does not effectively differentiate between those doing the work, and those reviewing, and does not seem to see the need to separate a control function. There also does not seem to be any impending change in this regard. In the current consultation on the 2020 review of Solvency II in Europe, the status of the actuarial function is not currently one of the relevant topics (EIOPA, 2019).

3.7 The Australian regulator has set up an “Appointed Actuary” role which is akin to the HAF role, with some key distinctions.

3.8 The regulation CPS 320 (APRA, 2019) put forward the following main objective for the Appointed Actuary role:

The purpose of the Appointed Actuary role is to ensure that the board and senior management have unfettered access to expert and impartial actuarial advice and review. The role is intended to assist with the sound and prudent management of an insurer and ensure that the insurer gives appropriate consideration to the protection of policyholder interests.

3.9 In addition to the above stated objective, the responsibility of calculating the liabilities and required capital are placed directly on the Appointed Actuary (APRA, 2019). It is therefore clear that the above mentioned “impartial actuarial advice” is not in terms of doer and reviewer of actuarial numbers, but in terms of other functions and governance roles. Thus, the Appointed Actuary role in Australia is more comparable to the actuarial function role under Solvency II, in that regard. Also, the Appointed Actuary role is not constituted as a control function and no requirements for the independence of the Appointed Actuary are imposed on the role.

3.10 Most jurisdictions considered in our research were aligned to the EU and Australian models. It is important to note that the South African HAF role is unique amongst all such jurisdictions in the requirement of segregation of duties (Prudential Authority, 2020) and operational independence (ASSA, 2018) between the doer of the actuarial numbers (i.e. the actuarial function as defined in SAM regulations) and the reviewer (i.e. the HAF as defined in SAM regulations).

4. ROLE OF THE HAF COMPARED TO ACTUARIAL FUNCTION

4.1 Here we consider how the HAF role is different from the Actuarial Function under Solvency II.

4.2 Even though the HAF role can track its origins to Solvency II, from early on in its creation it was interpreted more as an oversight function (control function), compared to the Actuarial Function role under Solvency II (FSB, 2015). Its scope was also further extended to include oversight on the Required Capital calculations and ORSA projections / modelling

(FSB, 2015). It is important to note that the previous South African long-term and short-term insurance acts did not for the most part form the basis for the HAF role (FSB, 2015).

4.3 Furthermore, whereas Solvency II Level 1 Text and Solvency II Level 2 Advice (“SII Lvl 2 Advice”) (CEIOPS, 2009) speak about the role as “coordinating the calculation of technical provisions” and “ensuring appropriateness of models and assumptions”, SAM Final Position Paper 83 (PP83) (FSB, 2015) proposed to replace “coordinate” with “review and attest to”.

4.4 Governance and Operational Standards for Insurers (GOI) 3, 14.2 to 14.4 defines the responsibilities of the actuarial function as expressing an opinion to the board of directors on:

- the reliability and accuracy of the calculation of technical provisions and capital requirements (including the appropriateness of models and assumptions); and
- the appropriateness of certain risk management policies and the adequacy of the reinsurance arrangements.

4.5 Furthermore the actuarial function is required to provide advice where relevant to the board of directors, senior management and other control functions on various topics which include, among others, the actuarial related matters of the ORSA, the adequacy of the SAM standard formula and the actuarial soundness of products.

4.6 We can conclude that the main differences between the HAF and the actuarial function under Solvency II are the extended scope of activities that the HAF needs to perform and the clear delineation of the HAF as a control function. We will analyse the consequences of the extension of the actuarial function to be a control function in the next section.

5. THE ACTUARIAL FUNCTION AS A CONTROL FUNCTION

The Insurance Act 2017 classifies the actuarial function as a control function together with the risk management, compliance and internal audit functions. In this section we try to analyse what the classification as a control function means practically and how that makes the South African actuarial function different to other jurisdictions. We discuss the concept of conflicts of interest, segregation of duties, independence and operational independence and the three lines of defence concept and how it relates to the actuarial function. We try to follow a strict reading and interpretation of key concepts such as segregation of duties and operational independence, as these are understood in the wider financial services industry, but we also consider that the implementation of these concepts might be different in the wider industry and more practical than a strict reading would allow.

5.1 Regulatory requirements

5.1.1 We start out by highlighting the most relevant requirements for a control function from the Insurance Act (“Act”) and the GOI. The Act states that the “The Prudential Authority may prescribe governance principles and requirements relating to (...) control

functions, including in respect of required control functions; requirements for control functions; and roles, responsibilities and functions of control functions and heads of control functions”. The Act furthermore defines the head of a control function to be a key person that is separate from senior management.

5.1.2 GOI 2, 8.2 states that the responsibility of the board of directors towards the heads of control functions includes to ensure that the board of directors:

- is actively involved in the appointment, dismissal and succession;
- monitors that knowledge and expertise is appropriate;
- sets appropriate performance and remuneration standards;
- assesses at least annually the performance against set goals; and
- meets with the head of control functions regularly.

5.1.3 GOI 2, 12.1 requires senior management to “not interfere with the activities that control functions carry out in the rightful exercise of their responsibilities, including that of providing an independent view of governance, risk, compliance and control related matters”.

5.1.4 GOI 3, 4.5 establishes the actuarial function as a control function and we find further requirements for the functions or the heads of control functions in GOI 3, 9–10. Those relevant for our discussion include:

- Control functions should operate without conflicts of interest; where a conflict arises, it must be brought to the attention of the board of directors for resolution;
- The board of directors, or relevant committee, or an independent expert must periodically review and assess the performance of each control function;
- Heads of control functions must be fit and proper;³
- The appointment, performance assessment, remuneration, disciplining and dismissal of the head of each control function must be done with the approval of, or after consultation with, the board of directors or relevant board committee;
- Heads of control functions must have appropriate segregation of duties from operational business line responsibilities. The board of directors must ensure that the segregation is observed;
- The heads of control functions must have:
 - a) sufficient seniority and authority to be effective;
 - b) reporting lines that support their independence;
 - c) unrestricted access to relevant information;
 - d) direct access to the board of directors or relevant committee, without the presence of senior management if so requested, for the purpose of raising concerns about the effectiveness of the risk management system or system of internal controls; and

3 For the HAF, this equates to be a Fellow of ASSA and as a professional requirement to hold a relevant practising certificate.

- e) the freedom to report to the board of directors or relevant committee without fear of retaliation from senior management.

5.1.5 Many of these requirements are reminiscent of the SII Lvl 2 Advice which states that the actuarial function must be constituted by persons with sufficient levels of independence and clarifies that to mean that the function must be able to provide its opinion “free from influence from other functions and the administrative, management or supervisory body”. This idea seems to be extrapolated and extended upon in the South African context.

5.1.6 The requirement to be “free from influence of other functions” can be interpreted as an avoidance and mitigation of external conflicts of interests, by which we mean to say that the actuarial function should not be influenced by objectives that arise from other business functions.

5.1.7 A typical external conflict of interest would be to try to influence the actuarial function to reduce reserves to show more profits or to approve the launch of a new product without reviewing the actuarial soundness of its assumptions. Here, the conflict arises through diverging incentives between the actuarial function on the one hand and other business functions on the other hand. One can see how it is necessary to ensure that the board of directors is involved in some key aspects of the management of the control function (appointment, dismissal, resourcing, remuneration, performance assessment, reporting) to prevent the control function from being rendered ineffective by senior management in an organisation and to ensure its independence from other functions.

5.2 Segregation of duties

5.2.1 However, if one interprets the definition of segregation of duties strictly, then GOIs go further than only mitigating external conflicts of interest (as is done in the SII legislation), by requiring that the control function should be free of any conflicts of interest and must also have appropriate segregation of duties from operational business line responsibilities.

5.2.2 These two aspects require further investigation. Is it possible that there are conflicts of interest specifically within the actuarial function itself and how does the requirement to have appropriate segregation of duties mitigate these? In what follows, we call these an internal conflict of interest to contrast it with the external conflicts we discussed above.

5.2.3 Just as above, we will define the internal conflict of interest through competing incentives i.e. for an internal conflict of interest to apply the actuarial function would need to be incentivised to do two conflicting, mutually exclusive actions. If this occurs, the conflict has to be brought before the board of directors and can be resolved either by reviewing and amending the conflicting incentives to align to the overall business purpose (conflict was a mistake or an oversight) or separating out the incentives into different roles and functions and thereby making the conflict of interest external.

5.2.4 Segregation (or separation) of duties (“SoD”) is a widely used internal financial control which requires that no one individual should be responsible or be in control of the whole lifespan of a transaction or the custody of an asset (Szabo, 2004). The lifespan of a transaction is seen to include the steps “initiate, record, authorize, and reconcile”. The purpose of this concept is to reduce errors and fraud, and it is usually implemented by having at least two individuals involved and responsible for different parts of the lifespan of a transaction. More generally, an activity or a process that is necessary for the conducting of business and that is prone to abuse, is divided into separate steps, each of which is necessary for the completion of a task (or for the task to be abused) and then allocated to different persons or units/teams. Segregation of duties seems to relate to one activity or one narrowly defined process which is prone to error or fraud. Also of interest is the wide acceptance that segregation of duties controls may not be possible in small or even medium-size enterprises with a small number of accounting staff (where the cost would exceed the benefit thereof).

5.2.5 However, it is not clear to us how the internal financial control concept of segregation of duties should then be applied so as to achieve the GOI’s required segregation of the duties of the actuarial function from operational business responsibilities. Furthermore, it is also not clear what the “operational business line responsibilities” the GOI refers to are. This could be taken to mean that the actuarial function should be separated from all non-actuarial operations in the business. Based on the scope of the HAF, it is more likely that the main processes in question are the calculation of reserves and capital requirements. Nonetheless, it is still not fully transparent why we would seek to separate duties for these activities to prevent fraud and error. Other interpretations of the GOI requirement might be possible and we will reflect on those in the following sections.

5.2.6 We propose that for the purpose of the discussion we focus on the actuarial process of calculating reserves and capital requirements and differentiate between three activities in this process: the doing or performing of the process, the reviewing (with frequent and mostly informal feedback loops) and the monitoring, opining and reporting to the board of directors including the expression of an opinion (with less frequent, more formal and documented feedback). We now investigate which two of the three need to be segregated or separated to avoid an internal conflict of interest or to prevent error and fraud.

5.2.7 Could it be considered that there is a potential conflict of interest between the function carrying out the actuarial work and the function reviewing the work? For example, if an actuary or an actuarial student performs a valuation and another actuary reviews this piece of work, this would be in no way different from someone in the marketing department drafting content for a website and the manager of that department reviewing the work. In the same way that one would not suspect a conflict of interest between the manager of the marketing department and her team members, one would also not suspect that an actuary reviewing a piece of work is conflicted.

5.2.8 On the other hand, there might be internal conflict of interest within the actuarial function, for example, a calculation is known to be inaccurate or a model is known to be deficient but the HAF does not have the knowledge or resources to remedy the problem

within the timeframe required. In such case, the HAF might not disclose the existence of the problem when reporting to the Board of Directors in order to avoid potential criticism of their work product. Here the competing incentives could, for example, be the professional standards of quality of the actuarial profession and on the other hand a KPI to deliver results within a given timeframe. While we think that these internal conflicts might occur, there are controls in the South African environment in place that mitigate those risks substantially. The individuals in question, by being Fellows of ASSA and holding a practising certificate, should have sufficient experience and seniority to deal with these situations. For example, the GOI requires not only a documented self-assessment of the actuarial function but also an independent review to be carried out periodically (PP83 suggests every three years) which mitigates this risk. In addition, the calculation of reserves is generally considered to be an area of high audit risk owing to the materiality of reserves in relation to other balance sheet items and the complexities involved. This precludes complete reliance on the work of the HAF and requires some level of independent audit work, which again mitigates this risk.

5.2.9 For other control functions, the use of segregation of duties to mitigate conflicts of interest appears to be much clearer. For the risk management function, the conflict is between process owners who are often incentivised to take risks in order to achieve their objectives, whereas the risk management function is incentivised to ensure the process owner focusses on managing and/or mitigating risk in their processes. A similar conflict is present for the compliance and internal audit functions. Here the segregation of duties between “doing”, which is in the process owner’s realm of responsibility and “reviewing” (from a pre-defined perspective and can be risks, compliance with legislation and policies or the internal control system) which is the responsibility of the control function, achieves the intended separation of conflicting incentives.

5.2.10 Thus, it is not clear what the underlying conflict or conflicting incentives is for the actuarial function. Therefore, if there is no material internal conflict of interest between doing, reviewing and providing assurance and the risk for error and fraud can be handled within one team/reporting line, then instituting segregation of duties for the actuarial function appears to be unnecessary.

5.2.11 However, given the lack of any supporting guidance in the GOI, there is arguably nothing to prevent an insurer from having only one person in the actuarial function to perform the calculations, review them and provide assurance to the board about the accuracy thereof. In this sense the HAF would be the head of the actuarial function.

5.2.12 Perhaps a segregation of duties between doing/reviewing and providing assurance is required to enable a “second opinion” on a given topic, which is a popular concept within risk management that is applicable when an independent view on a given topic is necessary to inform decision making. But while for the risk management function the “Second Opinion” is a necessary tool to inform decision makers about other perspectives on a topic which might otherwise be neglected (and an underlying conflict is present), a “Second Opinion” for the actuarial function does not appear to be necessary to mitigate any underlying conflict and is merely an opinion from a second actuary confirming the

accurateness of calculations. This opinion does not mitigate any conflicts that are inherent in the role of an actuary signing off a valuation, but it does provide comfort and assurance (to senior management and the board). This might be of especial significance in situations where the board or board committee is unfamiliar with actuarial processes and might be uncomfortable to assess the performance of the function as well. In some cases, the actuary signing off the calculation also gains comfort from the fact that a “second” actuary is supporting the calculations.

5.3 Three lines of defence

5.3.1 The Three Lines of Defence (TLD) (The IIA, 2013) is often understood as a categorisation of risk governance within organisations that can be used to describe the roles of different types, or “lines”, of functions with a risk management objective:

- The ‘First Line of Defence: Operational Management’ is the combination of each function that “owns and manages the risks” (The IIA, 2013). For example, the underwriting function of an insurer that takes measured and controlled risks using an insurer’s capital resources is a first line function. Colloquially, those functions in first line roles “do” i.e. perform the tasks associated with their roles.
- The ‘Second Line of Defence: Risk Management and Compliance Functions’ is all the functions that “oversees the risk” (The IIA, 2013). Examples of these types of functions in practice are the risk management and compliance functions within an insurer. Colloquially, those functions in second line roles “review” the work of the first line functions.
- The ‘Third Line of Defence: Internal Audit’ is the functions that provide independent assurance (The IIA, 2013). This is typically performed by the internal audit function of the insurer and focuses on the implementation and maturity of the internal control system. In addition to internal audit, the statutory external audit may also be seen as contributing to the third line functions of an insurer.

5.3.2 Notably, the TLD model was formulated outside of the insurance industry, thus, insurer specific functions such as the actuarial function do not have a natural category within the TLD model. Consideration of the roles performed by actuaries seems to imply that actuarial work can be categorised into all three lines of defence.⁴

5.3.3 For example, pricing and product actuaries perform tasks relating to taking risk for the company in a controlled manner. Similarly, the actuaries responsible for reserving perform a first line role, in that they manage directly the risk of the insurer holding insufficient funds to pay for claims. Within the SAM context, these would be the ‘doers’ of the actuarial numbers, those that are responsible for determining the solvency of the insurer. On

4 It was noted by a reviewer of the paper that the conclusion of the Role of the Statutory Actuary task group was that while statutory actuaries worked predominantly in the second line, they spent a substantial portion of their time in the first and third lines as well.

the other hand, an accepted part of actuarial governance is a peer review of actuarial work, see, for example Actuarial Profession Standard X2 of the United Kingdom-based Institute and Faculty of Actuaries (Institute and Faculty of Actuaries, 2015), which as a reviewing role appears to fall under second-line activities. Finally, actuaries may also audit formally the work of other actuaries.

5.3.4 For the internal audit function the separation as an organisational unit or team has a long tradition and with the introduction of Solvency II in Europe the compliance and risk management functions have often enjoyed the separation as a unit or team as well. Based on the four control functions required by regulation in the South African context and three of them neatly organised in the second and third line of defence, it seems reasonable to infer that the actuarial control function is part of the second line of defence function as well which points to the HAF as being within separate team or organisational unit as well. Based on the arguments presented in this article we hope it is evident that the requirements of a control function based on the GOI can equally be satisfied if the actuarial function and the HAF are fully part of the first line of defence.

5.3.5 The TLD model is nowhere officially referenced with regards to the HAF or even within the broader SAM/Solvency II context and while the above interpretation is popular within the industry, we would argue that the origin and purpose of the TLD model is to illustrate how conflicts of interests are mitigated in an organisation by splitting out functions that are incentivised in a different and inherently conflicting way to other business functions. And while the functions need to be separated, this does not necessarily imply a separation into different organisational units or teams. It also shows that the internal audit function is different from the other control functions and is responsible for the auditing of the internal control system for the other control functions as well. While we believe it is misleading to interpret the TLD model as a blueprint for an organisational structure and for the actuarial control function to operate solely as a Second Line of Defence Function, we also think that the concept is unnecessary for the purpose of this article.

5.4 Professional requirements – operational independence

5.4.1 The APN 106/403 characterises the role of the HAF to have a dual role with oversight/review on the one hand and a reporting role to the board of directors on the other. While the APN acknowledges that the HAF can be supported by a team of actuaries for his oversight/review role depending on size and complexity of the insurer, the reporting role should be performed by the individual itself and should not be delegated.

5.4.2 The practice note states that the “Head of Actuarial Function should be sufficiently independent from the activities associated with the underlying actuarial roles such that the Head of Actuarial Function’s responsibilities of oversight and review can be appropriately performed.”(ASSA, 2018)

5.4.3 The underlying actuarial roles mentioned in this paragraph refer to what we have called the “doing” in the actuarial process i.e. performing the actuarial calculations. The paragraph stipulates that the HAF should be sufficiently independent from those activities.

This is commonly interpreted as “operationally independent” which means that the HAF should not be directly involved in the calculations and have no influence on the initial design of the work performed. The status of the APN (unlike a Standard issued by ASSA) is advisory or should be interpreted as a strong recommendation for every member of ASSA and an actuary needs to have good reason (and should disclose those to ASSA) if non-compliance with an APN is considered. This is relevant because the concept of “operational independence” could be construed to be much stronger and more restrictive than the segregation of duty requirements of the GOI. In a narrow reading of the GOI, there is nothing that explicitly prevents the HAF from getting operationally involved in the calculation, from frequently reviewing the progress and guiding the calculation to performing parts or all of the calculation herself. To be operationally independent from the “doing” part of the actuarial process would make this very difficult, if not impossible, if a strict definition of operational independence is adopted. (Indeed, we present results from the survey in the next section that show that some insurers have interpreted the requirements of the APN to be no stricter than the GOI.)

5.4.4 How the requirement of APN 106/403 is implemented in the South African market is a topic that is covered in the results of the survey we present in the main body of the article. Many different degrees of independence and levels of documentation of this independence are possible. We expect to see different controls being put in place, from a fully-fledged separation of teams into “underlying actuarial roles” and HAF teams with separate reporting lines to very low-key measures like a document trail to demonstrate that the HAF was only involved in the reviewing of a calculation.

5.4.5 It will be interesting to observe how the requirement of independence from the underlying activities will be dealt with on a longer time horizon. Even if the HAF is not operationally involved, there is still a feedback loop between the HAF and the underlying roles through the opinion that the HAF expresses to the board of directors. This will ensure that over time the HAF has influence on the design of the actuarial processes and this will create a bias in the review of the calculations. This bias and the familiarity with the work might render a strict interpretation of the independent oversight and review aspect of the HAF role (based on the APN) more difficult to fulfil.

5.4.6 While we expect to see many different interpretations of the wording of the APN to be “sufficiently independent from the activities of the underlying actuarial roles”, we believe that this requirement supports the idea that we are required to have two different functions – an actuarial function that does the work and a second actuarial control function that reviews and expresses an opinion about the work done. Together with an interpretation of the TLD model that allocates any control functions to (at least) the second line of defence it would explain why in many South African insurance companies, the HAF is not the Head of the Actuarial Function.

5.5 Conclusion

5.5.1 In summary, the actuarial function in South Africa is designed as a control function which includes mitigating controls to reduce the potential conflicts of interests. We

found that the GOI's requirement of "segregation of duties from operational business line responsibilities" does not explicitly prevent the HAF from some involvement in calculating reserves and its application to the actuarial process is open to interpretation. The professional guidance, while not strictly binding for the HAF, requires a higher level of independence and suggests that the HAF should not be involved in the "doing" to perform his role. To the best of our knowledge, this imposes a higher requirement of separation than exists in other jurisdictions covered in our research. But in practice this needs to be applied by using the principle of proportionality to determine the appropriate model for an individual insurer, having regard to the skills and experience of actuarial staff, the size and complexity of the insurer, balancing this with cost benefit considerations while maintaining professional standards. However, what is clearly needed is more detailed guidance for the application and explicit recognition of the principle of proportionality when applying the requirements in small and medium-size insurers.

5.5.2 Alternatively, it might be the case that the GOI and APN should not be interpreted in the manner that we have adopted above, and that other implementations of the HAF role that are compliant with the regulation and professional guidance are in fact possible. Since we take as given that the majority of the insurance industry is compliant with SAM, not differentiating between the requirements of the GOI and the APN would seemingly indicate that the GOI and APN in fact should be read less strictly. We reflect on these possibilities in the following sections.

6. QUALITATIVE HYPOTHESES

6.1 In this section we consider some of the hypotheses regarding the implementation of the HAF role that we test using the survey data. These hypotheses are based on our understanding of the regulation and guidance defining the role of the HAF and the historical development of this role within the South African market, as well as our practical experience implementing the role for several insurers. We classify these hypotheses as follows.

6.2 First, we consider how the requirements of the HAF's independence have been implemented. Given the strong history of the role of the statutory actuary in the long-term insurance industry, it is likely that the role of the HAF has been implemented in a manner that is more similar to the predecessor role than in the short-term insurance industry, which could lead to a less strict interpretation of the independence requirements. Second, having previously acted as a statutory actuary may determine the interpretation of independence in the regulation and guidance. Third, some insurer characteristics, such as the size of the insurer, may also play a role.

6.3 We show these 'independence' hypotheses in Table 1.

6.4 We begin by discussing how the implementation of the HAF is perceived differently in the life insurance industry compared to the non-life insurance industry. We find that

TABLE 1 Hypotheses about the implementation and understanding of the regulatory requirements for independence of the HAF

1.	There is a difference in perception as to what independence requirements are between actuaries working in long-term insurers and short-term insurers.
2.	There is a difference in perception what independence requirements are between actuaries who have previously worked as a statutory actuary and those who have not worked as a statutory actuary before.
3.	Short-term insurers have a stricter interpretation of independence leading to a different set of controls to ensure independence.
4.	Smaller insurers may have a lower standard of controls to ensure segregation of duties and operational independence.
5.	Bigger insurers will generally have HAFs in separate teams, whereas smaller insurers will either not separate the team or outsource the HAF role.
6.	Bigger insurers will generally comply with the requirements on remuneration and performance assessment, whereas the smaller insurers will not comply fully as these will be too onerous. Potentially more short-term insurers will comply than long-term insurers.
7.	Segregation of duties is generally understood to require that the HAF is not involved in performing the calculations but is a role that is limited to review and potentially sign-off.
8.	Overall, the independence requirements from GOI and APN are not fully understood and hence it is unclear which party will need to ensure independence i.e. is this the HAF's responsibility or someone else?
9.	Long-term insurers tend to interpret the independence as "free from influence" and allow the individual's professional nature to dictate relevant limitations, whereas short-term insurers see the HAF as a separate, independent function from corporate actuarial team.
10.	Operational independence is a higher standard than segregation of duties, but it is not understood that way in the market.
11.	The results on independence are similar if both the HAF and the corporate actuarial function are in-house or both are outsourced.
12.	If only the HAF role is outsourced, higher standards for independence apply and the standards for long-term and short-term insurers are similar in this regard.
13.	If the HAF role is understood as a second line of defence function, then few people will assign decision-making authority to the HAF, similar to the Risk and Compliance functions.

actuaries working for life insurers and non-life insurers have different perceptions of what independence requirements are: as shown in Figure 1 the most striking difference is that life insurers seem to rely less on the organisational structure to ensure independence and materially more on the individuals performing the HAF role and their professional nature to manage undue influence (61% vs 35%). This could potentially be reflective of the previous statutory actuary role that was engrained in the life industry and did not have a strict organisational separation of the statutory actuary from other roles. We find that the same difference between industries also occurs in the current population of HAFs, as shown in Figure 2. Also, the role of the individual HAF in ensuring compliance seem to be more important in the life industry than the non-life industry, see the results in Figure 3. On the other hand, previously acting as a statutory actuary does not seem to be associated with how

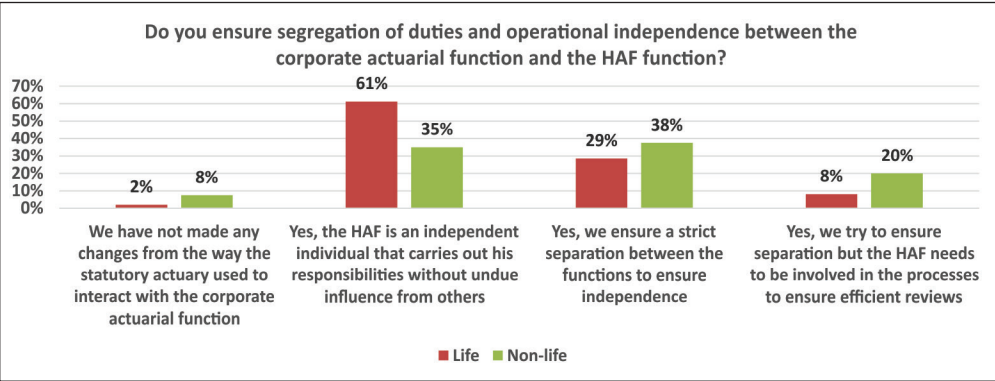


FIGURE 1 Answers to survey question 12 on how segregation of duties and operational independence is ensured within insurers, split between life and non-life insurers

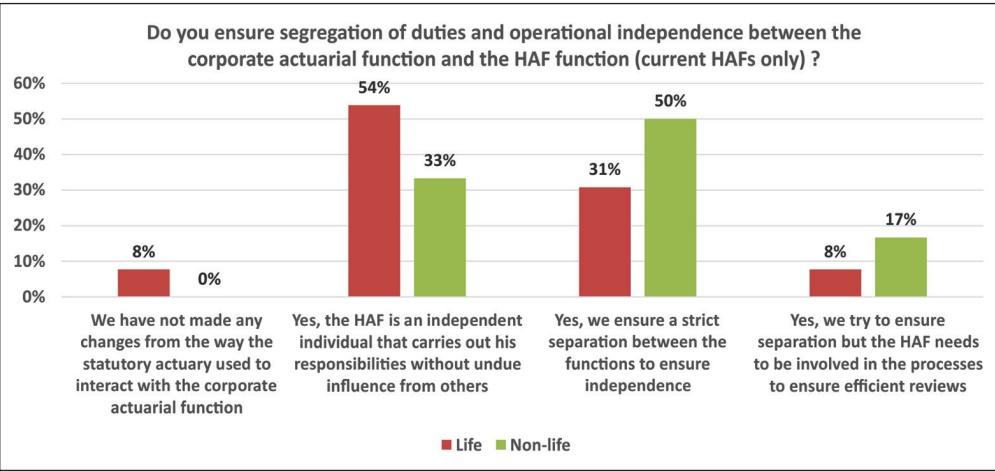


FIGURE 2 Answers to survey question 12 on how segregation of duties and operational independence is ensured within insurers, split between life and non-life insurers, current HAFs only

the independence requirements are implemented in exactly the same manner: we find that actuaries who were not previously statutory actuaries are more open to allowing the HAF to be involved in the processes for the sake of efficiency, whereas only a small minority of those with statutory actuary experience chose that option, as shown in Figure 4.

6.5 We find that most life insurers also seem to view the Separation of Duties and Operational Independence requirements as not having a substantive difference, while the spread of answers are much greater for non-life insurers, indicating that the life industry has taken a more cohesive view of the requirements around the HAF, even if this view is not strictly in line with the meaning of these terms as we defined early. We show these results in

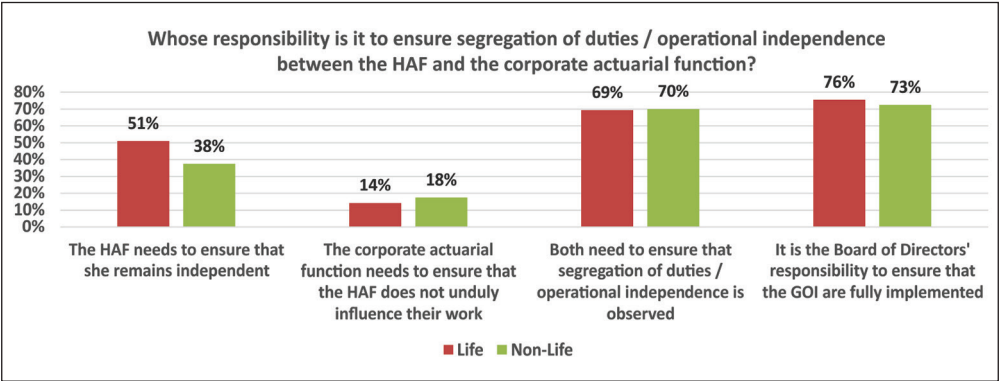


FIGURE 3 Answers to survey question 15 on whose responsibility it is to ensure segregation of duties/operational independence, split by life and non-life insurers

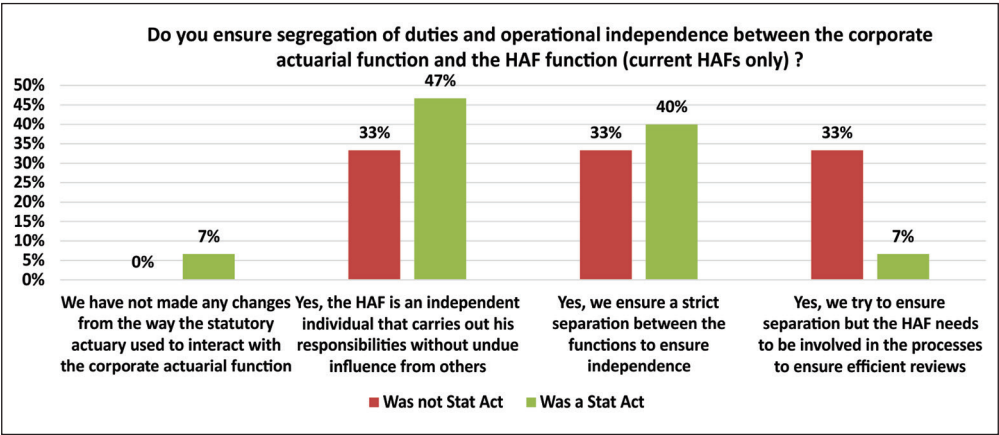


FIGURE 4 Answers to survey question 12 on how segregation of duties and operational independence is ensured within insurers, split between actuaries who were and who were not statutory actuaries, current HAFs only

Figure 5. This finding also appears to be linked strongly to whether an individual has previous experience as a statutory actuary, as shown in Figure 6. Similarly, there is a greater spread of interpretations of what the GOI and APN require for those without this prior experience.

6.6 We take this as strong evidence for the hypothesis advanced in the previous section, that a less strict reading of the GOI and APN is required than we have advanced. It seems fair to assume that since the non-life industry has less experience implementing a role similar to the HAF, there is more uncertainty around what the role of the HAF requires. In contrast, the life industry will have more certainty as to how to interpret the requirements of the GOI and APN, even though it seems to be anchored to some extent in familiarity with the previous statutory actuary role.

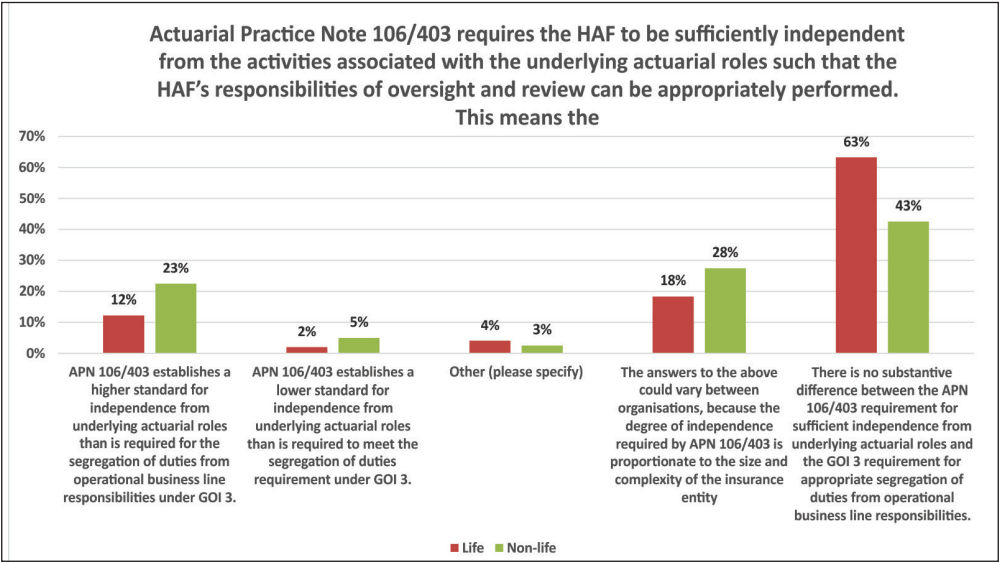


FIGURE 5 Answers to survey question 11 on whether the GOI and APN impose different requirements on the HAF, split between life and non-life insurers

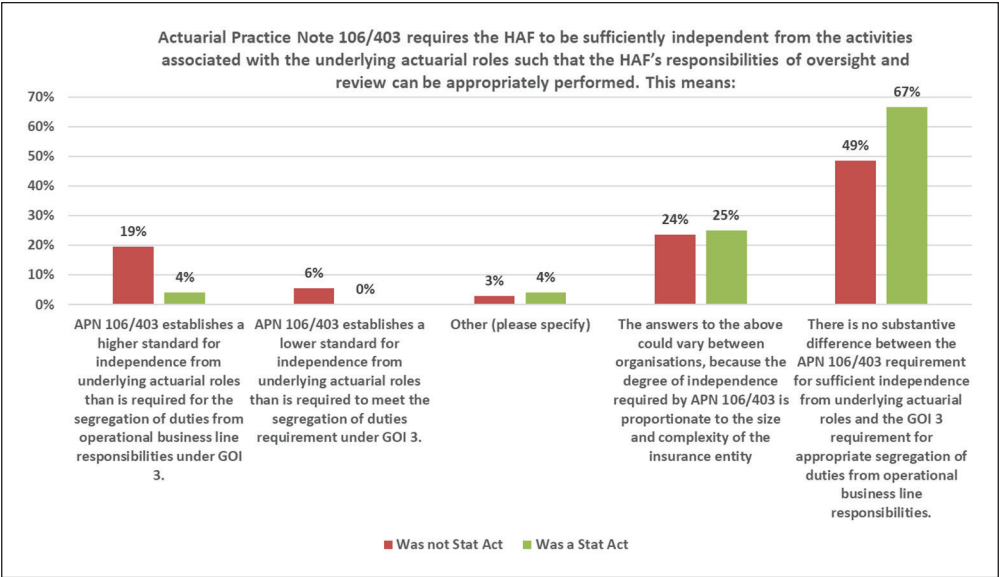


FIGURE 6 Answers to survey question 11 on whether the GOI and APN impose different requirements on the HAF, split between those who were and who were not statutory actuaries

6.7 Other results in Figure 7 show that more non-life insurers seem to require (85% vs 78%) that the HAF reviews only after the corporate actuarial function has completed their work and that life insurers seem to separate the HAF more from the corporate actuarial function (65%

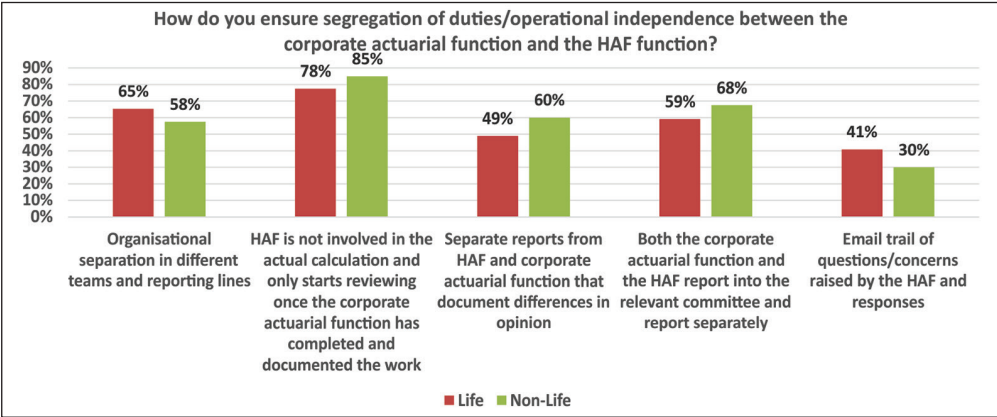


FIGURE 7 Answers to survey question 13 on how segregation of duties and operational independence is implemented, split between life and non-life insurers

vs 58%), but rely less on separate reporting to the relevant committee (59% vs 68%) and less on separate reports (49% vs 60%). A greater proportion of life insurance HAFs will document questions/concerns in an email trail (41% vs 30%). Thus, non-life insurers seemingly place emphasis on a different set of controls on the actuarial processes compared to life insurers. Similar to the previous findings, those actuaries who worked under the previous regime focus less on specific controls and are more likely to rely on email trail documentation; see Figure 8. The figure shows that a smaller proportion of those used to work in the previous regime feels that a HAF should review only the corporate actuarial function once the work has been completed and reports separately to the relevant committee (71% vs 86% and 54% vs 64%).

6.8 We also find that the size of an insurer seems to determine how the role of the HAF has been implemented, as shown in Figures 9–11. Larger insurers are more much likely to come to the conclusion that there is no difference between the requirements of the GOI compared with the APN. While this is also the most popular view of most small and medium insurers, these insurers also display a larger spread of views, in particular with significantly more insurers understanding that the APN establishes a higher level of independence. Fewer larger insurers rely on email trails to document the review of the HAF and fewer large insurers see a need for the HAF to be involved in the first line processes for efficiency.

6.9 On the other hand, smaller insurers seem to indicate more that it is sufficient for the HAF to review and require changes from the corporate actuarial function than larger insurers. Smaller insurers rely more on email trails and less on team separation.

6.10 It is however interesting that larger insurers seem to indicate that the HAF does not need to be involved in the actual calculation and only needs to become involved once the corporate actuarial function has completed their work.

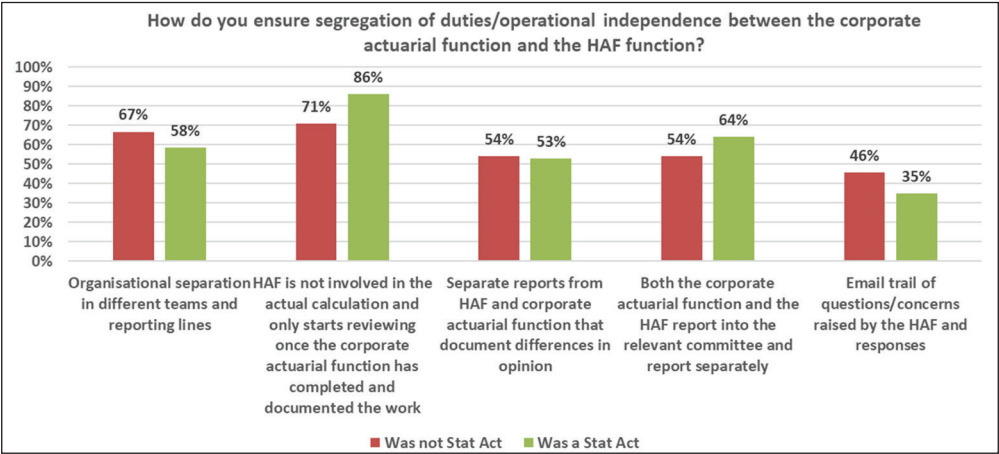


FIGURE 8 Answers to survey question 13 on how segregation of duties and operational independence is implemented, split between those who were and who were not statutory actuaries

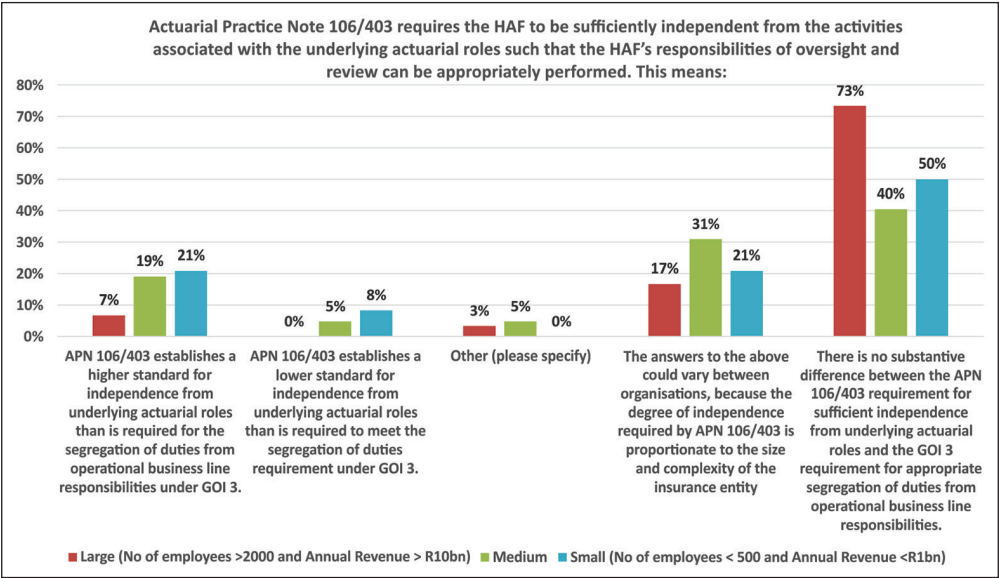


FIGURE 9 Answers to survey question 11 on whether the GOI and APN impose different requirements on the HAF, split by size of insurer

6.11 Turning to remuneration requirements, it appears that larger insurers are more likely to perform the performance assessment and remuneration reviews of the HAF either in consultation with, or after the approval of, the board of directors. On the other hand, smaller and medium size insurers are less likely to perform both of these activities with approval from or after consultation with the board of directors. These results indicate that smaller insurers may find it more difficult to comply with the GOI requirements.

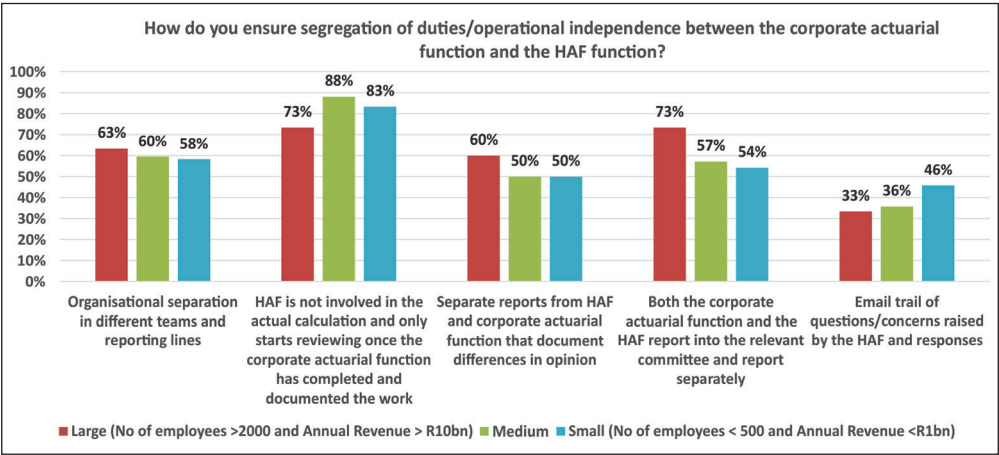


FIGURE 10 Answers to survey question 13 on how segregation of duties and operational independence is implemented, split by size of insurer

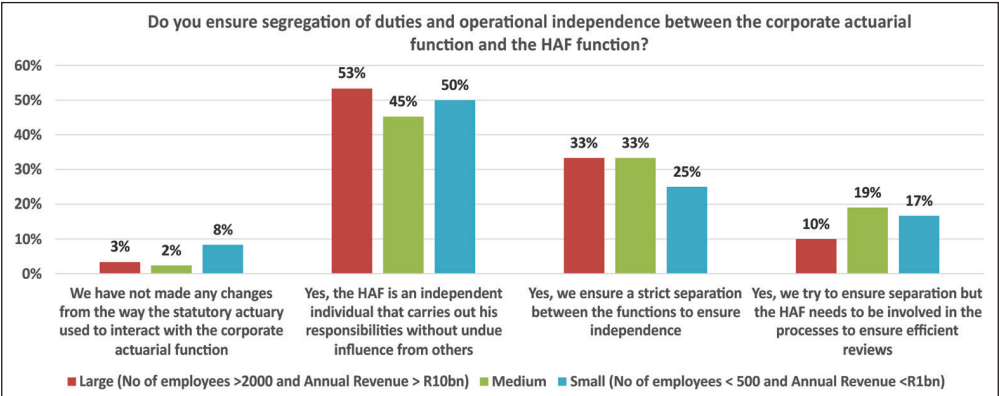


FIGURE 11 Answers to survey question 12 on how segregation of duties and operational independence is ensured within insurers, split by size of insurer

6.12 Now consider some hypotheses about the value added by the HAF, shown in Table 2.

TABLE 2 Hypotheses about the perception of the value-add of the HAF role

1.	Life insurers see more value in the HAF role than short-term insurers, as these insurers are used to the old statutory actuary role and perhaps taking a less strict view about independence.
2.	For smaller ST insurers mostly the INEDs see value in the HAF, the other functions are more critical.
3.	Outsourced HAFs think they are adding more value than in-house HAFs
4.	For a smaller insurers, value is seen to be more around supporting first line work and presence on board committees, whereas for bigger insurers the value is providing assurance and second opinion
5.	Actuaries with a life background (working in Life Insurance, old Stat Act) will think that the HAF role is more relevant for Life, people without that background will think it is equally relevant to ST and Life

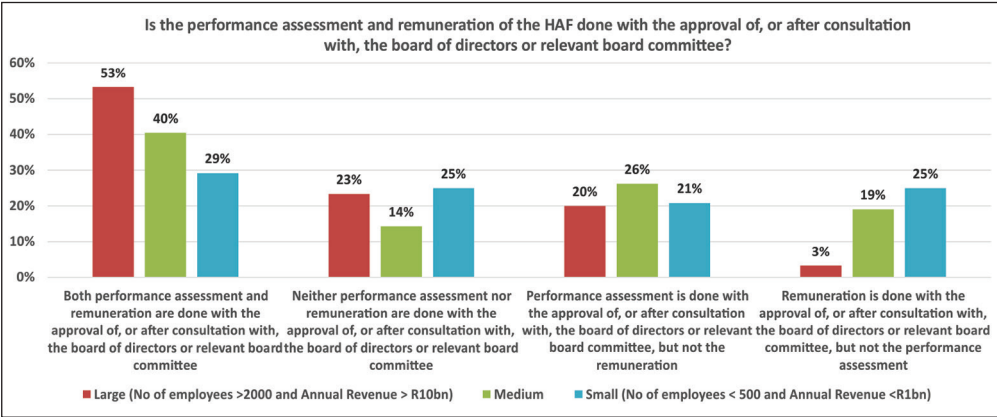


FIGURE 12 Answers to survey question 18 on performance assessment and remuneration reviews are conducted, split by size of insurer

6.13 Figure 13 shows that significantly more life insurers than non-life insurers view the HAF as adding very significant value, whereas non-life insurers generally indicated that the HAF was adding value, but not as much as in life insurers. A small minority of non-life insurers do not feel that the HAF is adding any value, whereas no life insurers chose that option, and similarly, non-life insurers are more likely to report that the added value is not commensurate with the cost and complexity of the role. Thus, it seems fair to conclude that life insurers perceive the role of the HAF to add more value than non-life insurers.

6.14 Figure 14 shows that larger and medium sized insurers were most likely to believe that HAFs are adding very significant value, whereas a significant proportion smaller insurers believe that value is being added.

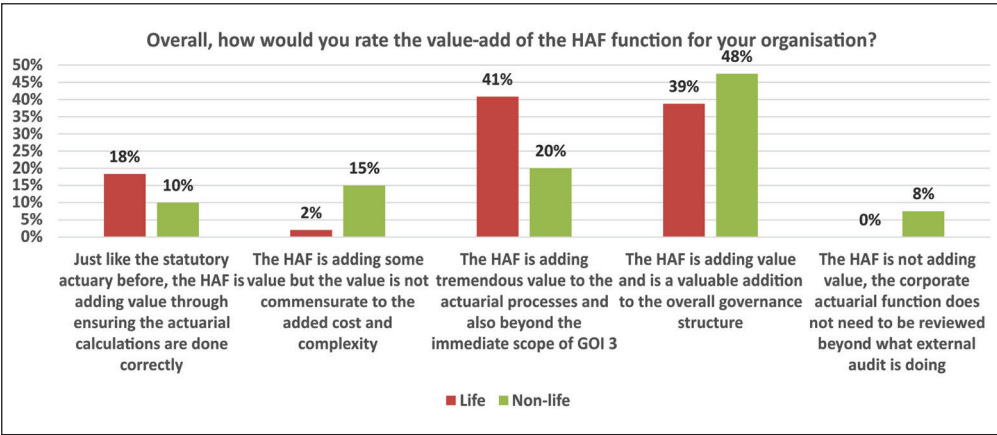


FIGURE 13 Answers to survey question 6 on how much value is added by the HAF, split between life and non-life insurers

6.15 In general, those who acted as statutory actuaries under the old legislation have more favourable views of the role of the HAF. This difference mainly manifests in fewer actuaries who fulfilled this role believing that the role doesn't add value, or that the value-added is not commensurate with the costs. These results are shown in Figure 15.

6.16 Figure 16 shows that those responsible for oversight within an insurer, such as independent non-executive directors on risk or audit committees, other members of the board of directors and risk managers, all believe that the HAF adds value. This view is generally shared by heads of corporate actuarial functions. Only a small proportion of these directors and risk managers feel that there is no value added, or that the value is not

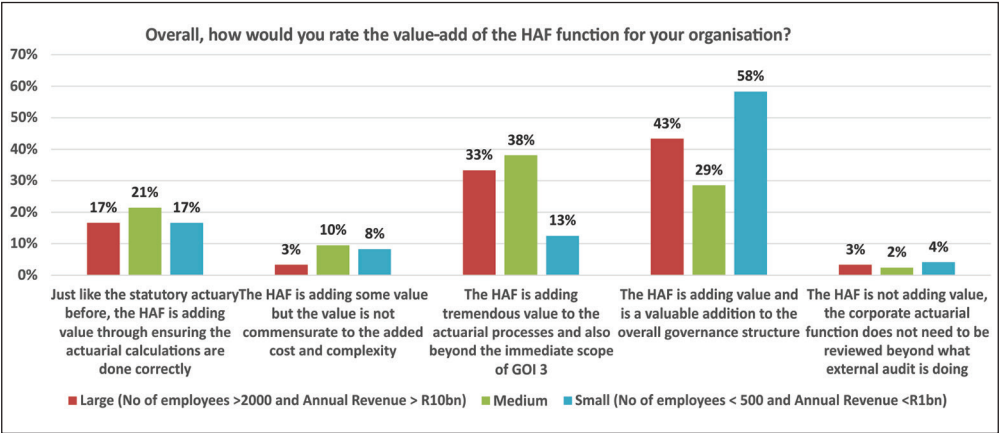


FIGURE 14 Answers to survey question 6 on how much value is added by the HAF, split by size of insurer

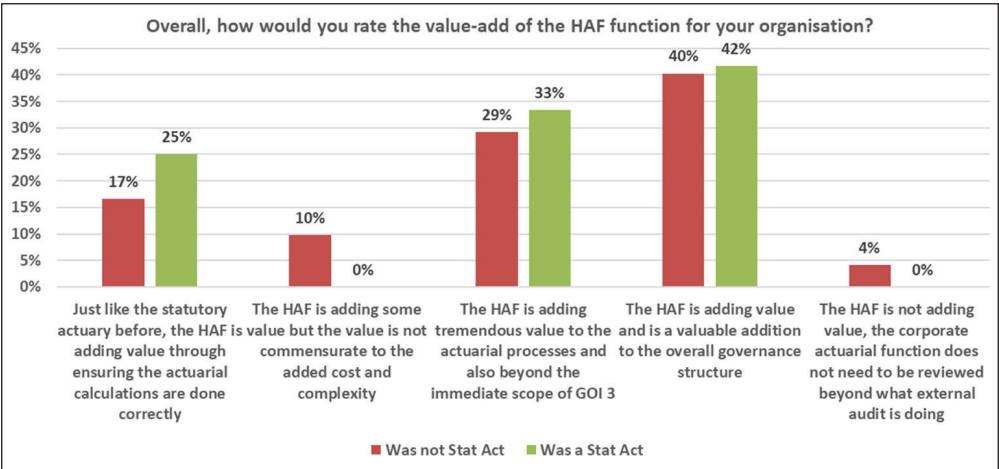


FIGURE 15 Answers to survey question 6 on how much value is added by the HAF, split between those who were and who were not statutory actuaries

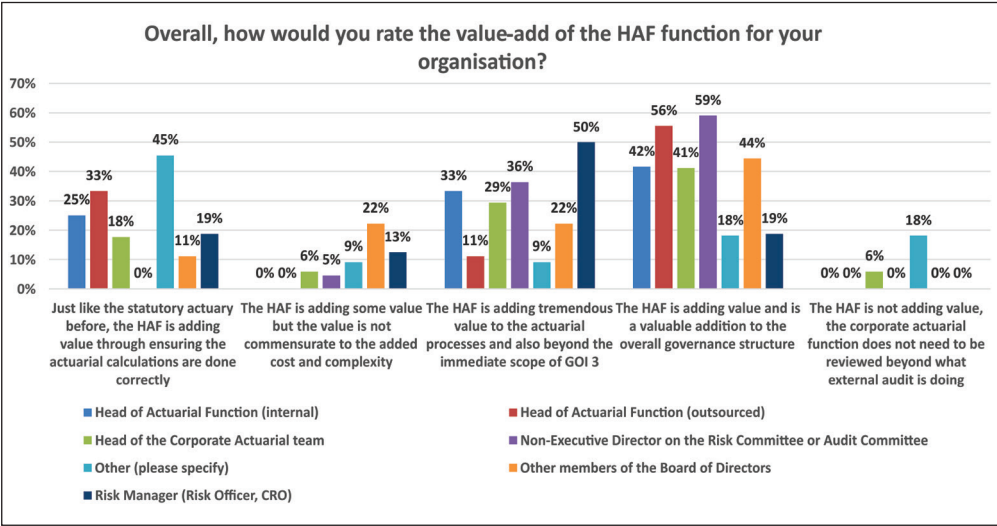


FIGURE 16 Answers to survey question 6 on how much value is added by the HAF, split by role of the person answering the survey

commensurate with the costs. However, this grouping is largely non-executive and may be less sensitive to cost-benefit considerations.

6.17 Similar proportions of life and non-life insurers believe that the HAF adds value by providing assurance to the board of directors that the actuarial calculations are correct, as shown in Figure 17, and this is particularly the case for smaller insurers, as shown in Figure 18. Life insurers see more value in the HAF contributing to areas outside the scope of GOI 3 and in the HAF providing a second opinion on methodology and assumptions.

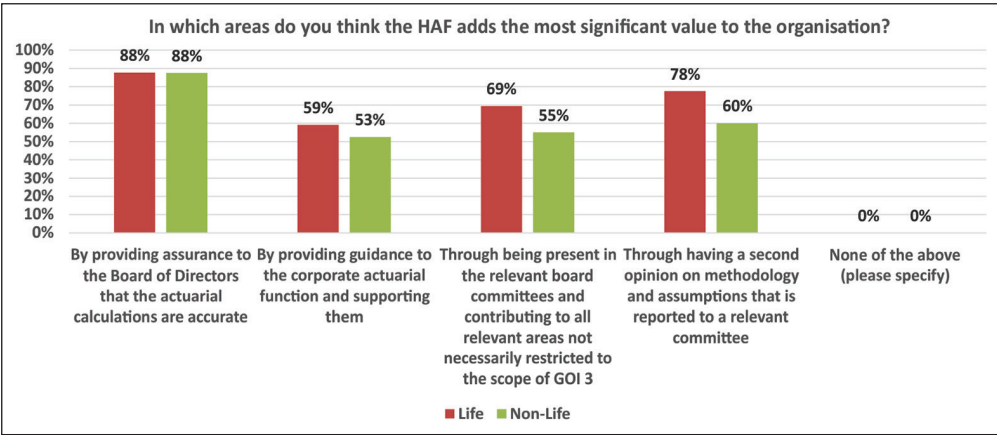


FIGURE 17 Answers to survey question 7 on which areas the HAF is adding value, split between life and non-life insurers

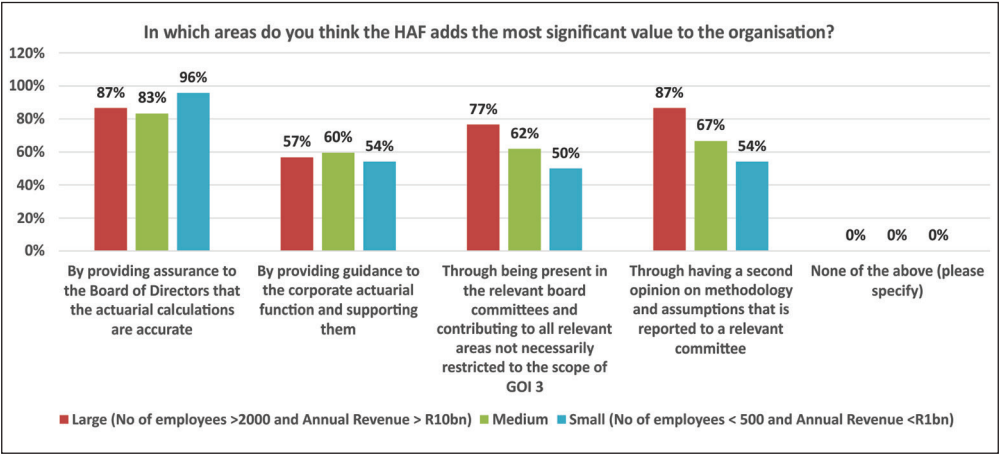


FIGURE 18 Answers to survey question 7 on which areas the HAF is adding value, split by size of insurer

6.18 As shown in Figure 19, quite remarkably, all heads of corporate actuarial functions answering our survey believe that the HAF adds value by giving assurance to the board of directors, and similar views were expressed by independent directors on risk and audit committees and risk managers. This is in line with our previous analysis which indicates that an underlying reason for implementing segregation of duties within the actuarial function is to allow for an independent second opinion on the actuarial numbers. Whereas HAFs and risk managers believe there is value in providing guidance to corporate actuarial teams, this belief is not strongly met by heads of corporate actuarial functions, nor by members of boards of directors. Independent directors appear to value the contribution of the HAF on areas outside of GOI 3.

6.19 Interestingly, other members of the boards of directors do not see much value in having a second opinion on methodology or assumptions. Thus, it seems fair to conclude that the assurance provided by the HAF is not fully reliant on the HAF’s taking a second view on actuarial matters, but rather on the strength of the HAF’s review which allows for assurance to be provided.

6.20 The more positive view of the role of the HAF shown by life insurers also manifests in more life insurers thinking that the role of the HAF should be extended to other areas, such as embedded value, IFRS 17, quantitative risk management and market conduct. Among non-life insurers, the most favoured suggestion is that the role be extended to IFRS 17. These results are shown in Figure 20.

6.21 One might conclude from these results that, due to the nature of non-life business, the role of the HAF is less relevant for non-life insurers. Nonetheless, Figure 21 shows that

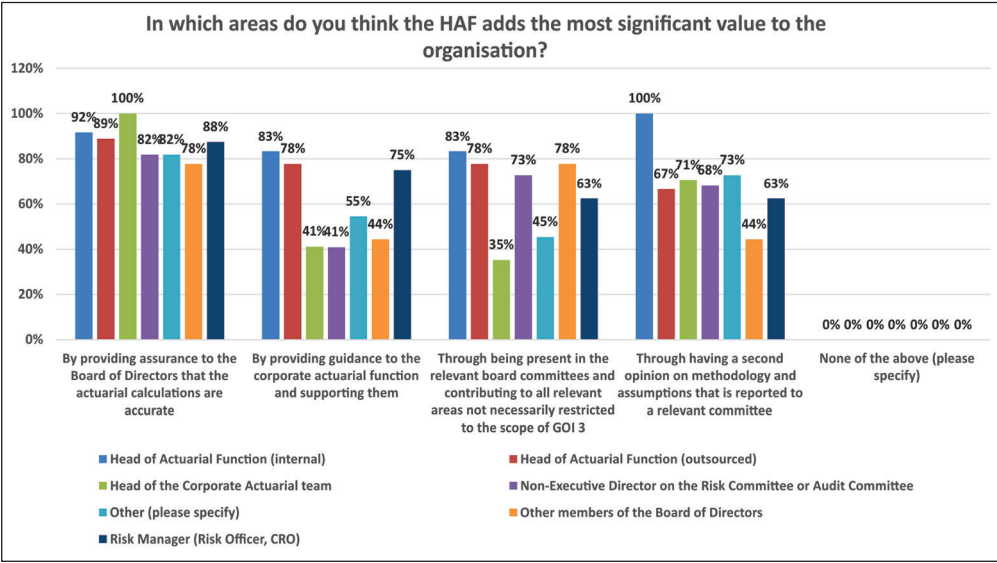


FIGURE 19 Answers to survey question 7 on which areas the HAF is adding value, split by role of the person answering the survey

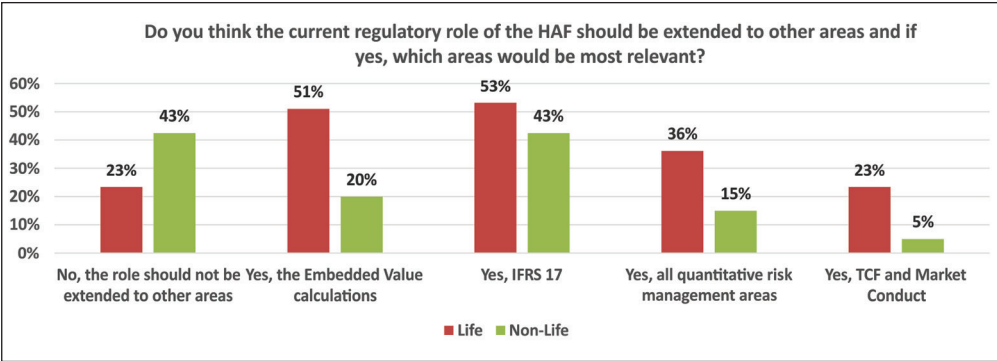


FIGURE 20 Answers to survey question 22 on which areas outside of GOI 3 the role of the HAF should be extended to, split between life and non-life insurers

similar proportions of respondents from life and non-life insurers believe the role of the HAF is equally relevant for life and non-life insurers. This view seems shared quite equally among respondents with different roles, as shown in Figure 22.

6.22 These results perhaps indicate that the reason that non-life insurers perceive less value and are less positive about the role of the HAF is more as a result of the manner in which non-life insurers have implemented the role and less because of how non-life business differs from life business.

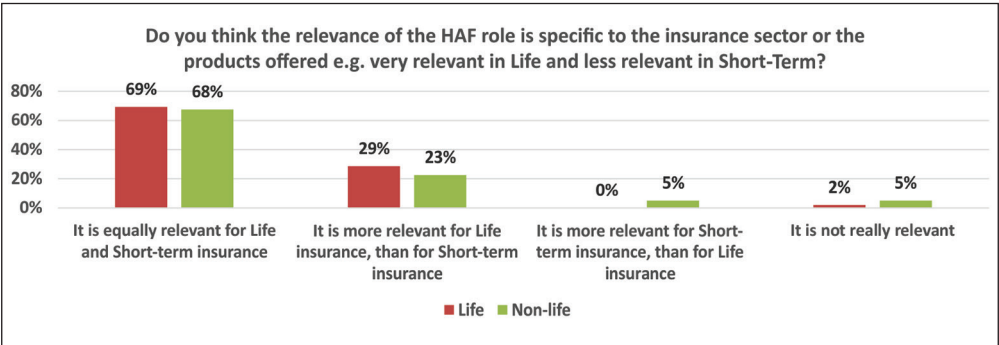


FIGURE 21 Answers to survey question 8 on the relevance of the role of the HAF to life and non-life insurers, split between life and non-life insurers

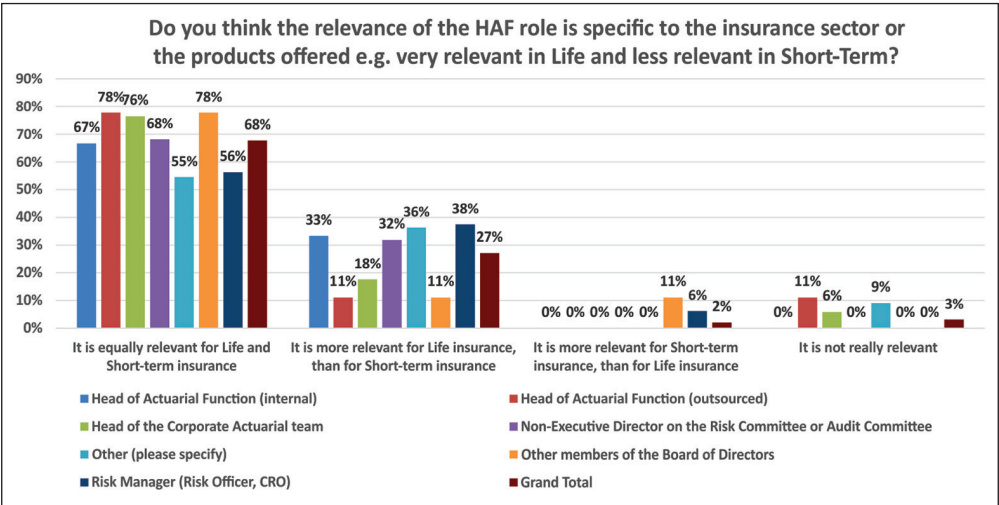


FIGURE 22 Answers to survey question 8 on the relevance of the role of the HAF to life and non-life insurers, split by role of the person answering the survey

6.23 Finally, we consider to what extent the role of the HAF is seen to overlap with other roles within insurers and advance some potential hypotheses about this in Table 3.

TABLE 3 Hypotheses about the issue of overlap of the HAF role with other functions

1.	Life insurers will see less overlap with other functions than non-life insurers.
2.	If you are convinced that there is substantial overlap with other functions, then you see the HAF role as not adding a lot of value.
3.	If the external auditor places some reliance on the HAF, then there will be less overlap.
4.	For those insurers, where the external auditor places reliance on the HAF, the HAF function is outsourced (assuming it is to one of the “big four”, since they will have an assurance framework in place)

6.24 Strikingly, Figure 23 shows that a majority of respondents from non-life insurers believe that external audit overlaps significantly with the role of the HAF, whereas this is a minority view for respondents in life insurers. Most respondents from life insurers believe there is no substantial overlap with any other function, and among those that do not hold this view, the strongest overlap is seen to be with the risk management function. Interestingly, auditors of more life insurers place reliance on the work of the HAF than non-life insurers, as shown in Figure 24, which may explain part of this finding.

6.25 Another important finding is that a majority of respondents from non-life insurers believe that, in the case of disagreements between external audit and the HAF, the external auditors must decide what is acceptable. On the other hand, most respondents from life

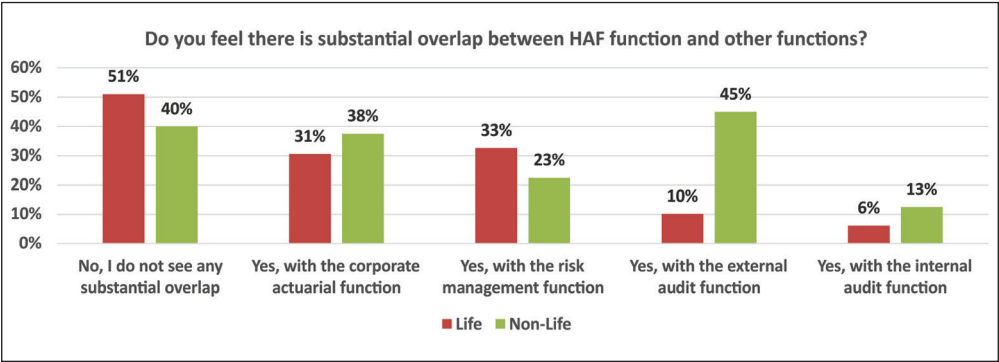


FIGURE 23 Answers to survey question 9 on the whether the role of the HAF overlaps with other functions, split between life and non-life insurers

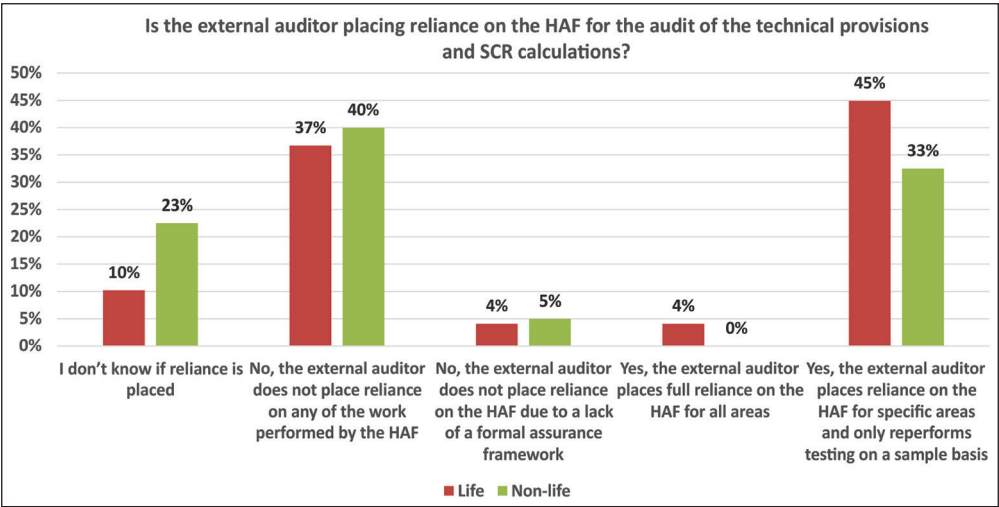


FIGURE 24 Answers to survey question 14 on the whether the auditors place reliance on the HAF, split between life and non-life insurers

insurers believe that the decision must be made by the relevant board committee. This is shown in Figure 25. Figure 26 shows that the latter view is very strongly held by those with previous statutory experience, whereas the former view is strongly held by those without this prior experience.

6.26 When disagreements between the HAF and the corporate actuarial team occur, the opinion of the majority of respondents from both life and non-life insurers is that the HAF can only recommend changes to the relevant board committee, who must then make the decision. However, those who acted as statutory actuaries present a significant view that usually there are no disagreements between these functions, whereas among those who were

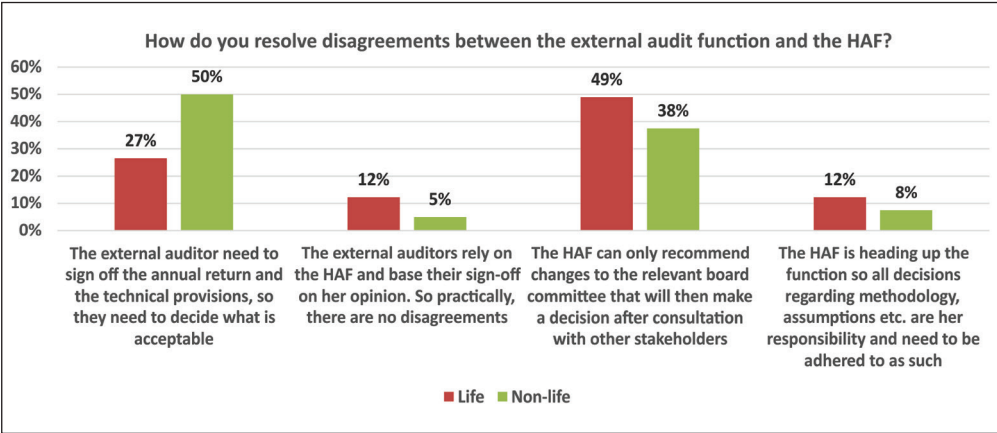


FIGURE 25 Answers to survey question 19 on how disagreements between the HAF and external audit are resolved, split between life and non-life insurers

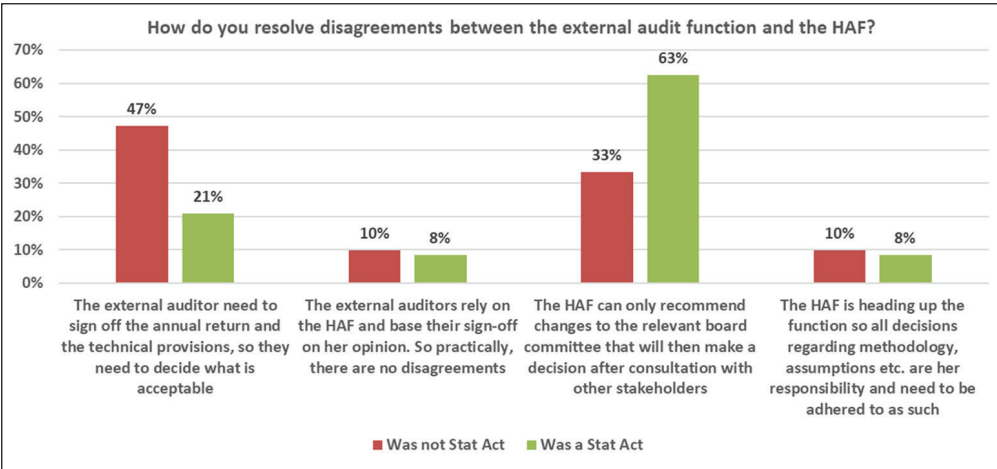


FIGURE 26 Answers to survey question 19 on how disagreements between the HAF and external audit are resolved, split between those who were and who were not statutory actuaries

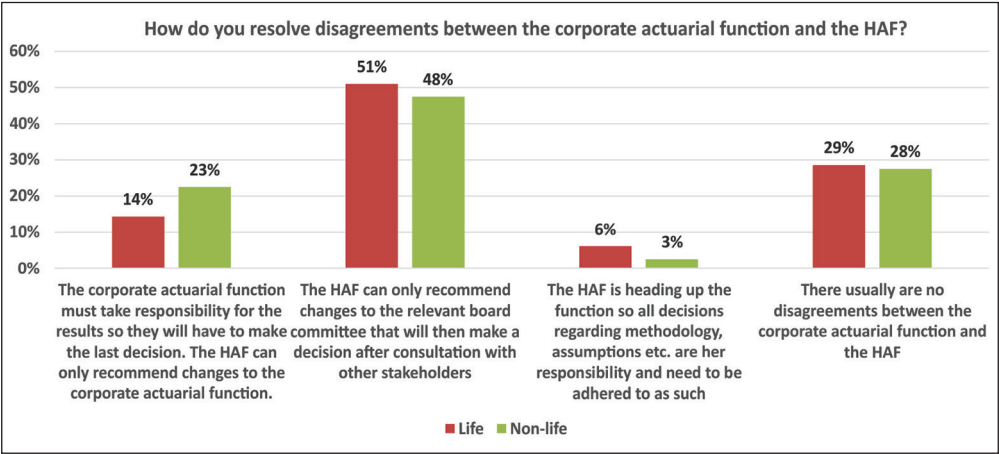


FIGURE 27 Answers to survey question 16 on how disagreements between the HAF and the corporate actuarial functions are resolved, split between life and non-life insurers

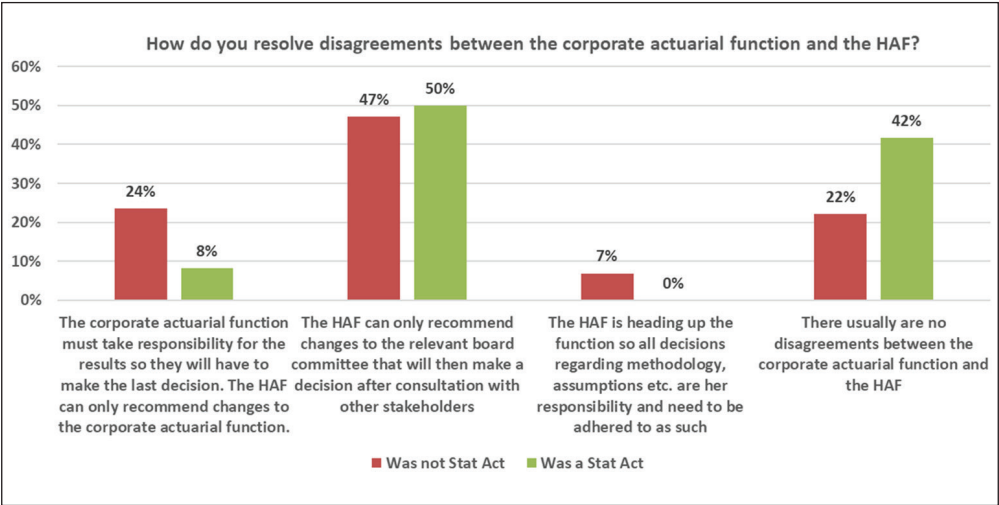


FIGURE 28 Answers to survey question 16 on how disagreements between the HAF and the corporate actuarial functions are resolved, split between those who were and who were not statutory actuaries

not statutory actuaries, a significant view is that the corporate actuarial team must make the decision.

6.27 In summary, respondents from life insurers do not believe that there is a strong distinction between the requirements of GOI 3 and the APN 106, whereas the views of respondents from non-life insurers are more varied as to exactly what these regulations and guidance require. Life insurers tend to place more reliance on the HAF herself to ensure that

these requirements are fulfilled, whereas non-life insurers tend to rely on different controls. Similar views are predicted by knowing if the respondent has previous experience as a statutory actuary, or not.

6.28 Generally, those from life insurers take a more positive view of the value added by the HAF, and would like to see the role of the HAF extended to other areas, whereas respondents from non-life insurers are usually somewhat less positive about the value added by the HAF, and generally do not want to see the role extended, except to IFRS 17.

6.29 Respondents from life insurers and those who were previously statutory actuaries attribute most of the decision-making responsibility to the Board and very few respondents of these types believe that external audit or the corporate actuarial function should make decisions when differences in opinion arise.

6.30 A significant proportion of non-life respondents believe that the role of the HAF overlaps with external audit, whereas very few from the life industry believe this to be the case.

6.31 Finally, most respondents believe that the value added by the HAF is strongly linked to the assurance provided to the board of directors.

6.32 More results from the survey are shown in the appendix to the paper.

7. DISCUSSION AND CONCLUSIONS

7.1 In the previous section, we have found that two major factors on which the answers of the respondents to our survey depend are whether the company which the respondent represents is a life or non-life insurer, and whether the respondent has previous experience as a statutory actuary.

7.2 While more investigation of the reasons for the different views arising from life insurers compared to non-life insurers is required, it seems reasonable that at least a partial explanation is that the life insurers have a longer history of implementing the oversight role of the statutory actuary that is similar to the role of the HAF in some respects, and this explanation is lent weight by the similar views expressed by those who were previously statutory actuaries.

7.3 Whereas one might perhaps speculate that those who previously were statutory actuaries might have implemented the HAF role incorrectly (e.g. without the appropriate controls), we find on the contrary that those who were statutory actuaries are more focussed on ensuring strict separation, not involving the HAF in performing the underlying process, and also attributing the decision-making ability to the board of directors. Thus, we can

conclude that having performed the previous statutory actuary role is a good predictor of compliance with a strict interpretation of the requirements of the GOIs and the APN.

7.4 On the other hand, we have noted that life insurers and those who previously were statutory actuaries tend to view the requirements of segregation of duties and operational independence as having no substantive difference, whereas there is a much greater spread of views as to whether there are differences between these requirements among non-life insurers.

7.5 The explanation we settle on is as follows: we believe the analysis provided in the first part of this paper correctly defines the requirements of the GOI and APN from a technical perspective; nonetheless we suggest that the correct interpretation of the segregation of duties and independence requirements is not in strict accordance with the manner in which these terms are used elsewhere in the financial services industry.

7.6 Thus, we recommend that the Regulator and the Actuarial Society consider publishing guidance on the correct interpretation of these terms to enable easier compliance and a more cohesive view of how to implement the role of the HAF in the insurance industry. This should include consideration of application of the principle of proportionality to small and medium-size or less complex insurance enterprises.

7.7 Similarly, we view the prior experience of those actuaries who were statutory actuaries as important in shaping how the insurance industry proceeds with the implementation of the role of the HAF, as they could assist actuaries without this experience in implementing the role of the HAF successfully. Thus, we also recommend that a mechanism for sharing more knowledge between actuaries who are HAFs be established to transfer knowledge from more experienced actuaries.

7.8 Another similar matter relates to how life insurance HAFs and those who were previously statutory actuaries review the work of the corporate actuarial function. We have noted that in these cases, auditors are more likely to place reliance on the work of the HAF and disagreements with the corporate actuarial team are less likely to arise. Also, whereas the non-life industry believes that there is substantial overlap between the role of the HAF and the external auditors, this is much less the case in the life insurance industry. Sharing the manner in which the role has been implemented successfully in the life insurance industry with actuaries working in the non-life industry would appear to be an important way to improve the perception of the HAF role in the non-life industry.

7.9 Despite the slightly less positive perception of the role of the HAF by respondents from non-life insurers, most respondents to the survey believe that the role of the HAF is equally applicable to both life and non-life insurers.

7.10 Overall, board members who sit on risk and audit committees, other board members and risk managers have a very positive view on the role of the HAF. In all cases, it seems that the assurance provided by the HAF is seen as the main value add of the HAF role. It could be the case, for example, that the review of professional judgement and second views on materiality of issues within insurers is an aspect of the role of the HAF that is appreciated by board members. This may particularly be the case in some areas of complexity, such as discretionary participation life insurance business or when setting very long-term assumptions. We have not investigated this in detail in this study and recommend that further research into this be performed.

7.11 In the life industry, which has a more positive perception of the role of the HAF, further extensions of the role to areas such as quantitative risk management, IFRS 17 and the embedded value of the company are considered to be relevant. On the other hand, a significant proportion of respondents in the non-life industry felt that the role of the HAF should be extended only to IFRS 17. We believe that this indicates a different perception in the life industry of the role of the HAF as an assurance provider on all actuarial issues within a company, perhaps similar to the role of a risk officer.

7.12 On the other hand, the role of the HAF is seen to overlap quite strongly with that of external auditors in the non-life industry and a majority of respondents in the non-life industry believe that the auditors must decide what is acceptable in terms of methodology and assumptions. Thus, there seems to be a perception in the non-life industry that the role of the HAF is more limited to ensuring the correctness of the technical provisions and solvency capital requirements. This may be a reflection of the potentially lower complexity of some non-life insurers compared to the often longer-term and more complex nature of life insurers, whose products may require more consideration and review on ALM, bonus distributions and product approvals compared to non-life insurers.

7.13 We recommend further that the Regulator and ASSA issue guidance on how differences in opinion between the HAF and external auditors, and the HAF and the corporate actuarial team should be resolved.

7.14 An important question that our research has not covered in detail is the potential for conflicts to arise due to differences between the policyholder and shareholder perspectives, for example, in the case of bonus declarations on with-profits products. Generally, these issues mainly occur in the context of life insurance and are not prominent in the non-life industry. Future research could address how the role of the HAF lends itself to addressing such conflicts.

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REFERENCES

- APRA (2019). Prudential Standard CPS 320 Actuarial and Related Matters. The Australian Prudential Regulation Authority (July). Retrieved from https://www.apra.gov.au/sites/default/files/cps_320_standard_only.pdf
- ASSA (2012). Code of Professional. Actuarial Society of South Africa website, 0030(April), 100–117. Retrieved from <https://www.actuarialsociety.org.za/professional-resources-structure/professional-conduct/>
- ASSA (2018). APN 106 / 403: Head of Actuarial Function for South African Insurers. Retrieved from <https://www.actuarialsociety.org.za/download/apn-106-actuaries-and-long-term-insurance-in-south-africa/?wpdmdl=895&ind=MTU0MjM2NzYzMndwZG1fQVBOIDewNiB2NiBBUE4gNDazIHYxIGFtZW5kZWQucGRm>
- ASSA (2020). Standards of Practice – The Actuarial Society of South Africa
- CEIOPS (2009). Consultation Paper 33: System of Governance. Retrieved from <http://register.consilium.europa.eu/pdf/en/08/st16/st16237-co01.en08.pdf>
- EIOPA (2019). Consultation Paper on the Opinion on the 2020 review of Solvency II
- European Union (2009) Directive 2009/138/EC of the European Parliament and of the Council of 25 November 2009 on the taking-up and pursuit of the business of Insurance and Reinsurance
- European Union (2013). Directive 2013/36/EU of the European Parliament and of the Council of 26 June 2013 on access to the activity of credit institutions and the prudential supervision of credit institutions and investment firms, amending Directive 2002/87/EC and repealing Dir. *Official Journal of the European Union*. EC
- FSB (2015). Position Paper 83 (v6) – Role of Statutory Actuary. Pretoria
- Government of South Africa. Insurance Act 18 of 2017 (English-only Version). (2017).
- Institute and Faculty of Actuaries (2015). APS X2: Review of Actuarial Work. Retrieved from <https://www.actuaries.org.uk/documents/aps-x2-review-actuarial-work-guidance>
- Prudential Authority. Prudential Standard GOI 3 Risk Management and Internal Controls for Insurers. Pub. L. No. GOI 3, 1 (2018)
- Prudential Authority (2020). Prudential Standards – South African Reserve Bank. Retrieved 20 July 2020, from Prudential Authority website: [https://www.resbank.co.za/PrudentialAuthority/Insurers/Post Insurance Act/Legislation and Regulatory instruments/Prudential Standards/Pages/default.aspx](https://www.resbank.co.za/PrudentialAuthority/Insurers/Post%20Insurance%20Act/Legislation%20and%20Regulatory%20instruments/Prudential%20Standards/Pages/default.aspx)
- Republic of South Africa. Insurance Act. Pub. L. No. Act No. 18 of 2017, 631 2 No. 41388 (1998a)
- Republic of South Africa (1998b). Long-Term Insurance Act. (19276), 1–53. Retrieved from <http://www.fsb.co.za/act/acts.html%5Cn>

- Szabo, N (2004). Patterns of Integrity – Separation of Duties. <https://www.fon.hum.uva.nl/rob/Courses/InformationInSpeech/CDROM/Literature/LOTwinterschool2006/szabo.best.vwh.net/separationofduties.html>
- The IIA (2013). IIA Position Paper: The Three Lines of Defense In Effective Risk Management and Control. Retrieved from <https://www.theiia.org/3-lines-defense>

APPENDIX A

Summary of survey results

1. Introduction

1.1 A major inspiration to the hypotheses and conclusions in the paper were derived from a survey that was conducted pertaining to the South African insurance (long-term and short-term) market. The survey focused on determining the current status quo of the implementation of the actuarial function as a control function in South Africa.

1.2 The link to the survey was distributed to mainly the insurance market's boards of directors, directors of relevant board committees, Heads of Actuarial Functions and heads of corporate actuarial teams. The various individuals were approached and invited via email to complete the survey and the mailing list used was set up using the connections of the Authors and other contributors to the paper.

1.3 A total of 104 responses were received and a summary of the responses is presented as follows.

2. Responses

2.1 Question 1: What is your current role in the Company? (We call the team that performs the actuarial calculations the "corporate actuarial team" and the control function the "Head of Actuarial Function" or the "HAF")

Options (Compulsory, only one selection allowed)	Number of selections
Head of Actuarial Function (internal)	13
Head of Actuarial Function (outsourced)	10
Head of the Corporate Actuarial team	18
Non-Executive Director on the Risk Committee or Audit Committee	23
Other (please specify)	13
Other members of the Board of Directors	9
Risk Manager (Risk Officer, CRO)	18
Total	104

2.2 Question 2: Have you previously worked as a statutory actuary under the previous Long Term or Short Term Insurance Acts?

Options (Compulsory, only one selection allowed)	Number of selections
Yes	25
No	79
Total	104

2.3 Question 3: Which type of organisation do you work for?

Options (Compulsory, only one selection allowed)	Number of selections
Life Insurance Company or a group predominantly involved in Life Insurance	46
Life Reinsurance Company	4
Other (please specify)	11
Short-term Insurance Company or a group predominantly involved in Short-Term Insurance	38
Short-term Reinsurance Company	5
Total	104

2.4 Question 4: What is the size and complexity of the organisation?

Options (Compulsory, only one selection allowed)	Number of selections
Large (No of employees >2000 and Annual Revenue > R10bn)	31
Medium	45
Small (No of employees < 500 and Annual Revenue <R1bn)	28
Total	104

2.5 Question 5: Are any of the actuarial functions outsourced in your organisation?

Options (Compulsory, only one selection allowed)	Number of selections
Both functions are outsourced to the same service provider	13
Both the HAF and the corporate actuarial function are internal	38
The corporate actuarial function is internal, the HAF function is outsourced	52
The corporate actuarial function is outsourced, the HAF function is internal	1
Total	104

2.6 Question 6: Overall, how would you rate the value-add of the HAF function for your organisation?

Options (Voluntary, only one selection allowed)	Number of selections
Just like the statutory actuary before, the HAF is adding value through ensuring the actuarial calculations are done correctly	18
The HAF is adding some value but the value is not commensurate to the added cost and complexity	7
The HAF is adding tremendous value to the actuarial processes and also beyond the immediate scope of GOI 3	29
The HAF is adding value and is a valuable addition to the overall governance structure	39
The HAF is not adding value, the corporate actuarial function does not need to be reviewed beyond what external audit is doing	3
Left Blank	8
Total	104

2.7 Question 7: In which areas do you think the HAF adds the most significant value to the organisation?

Options (Voluntary, multiple selections allowed)	Number of selections
By providing assurance to the Board of Directors that the actuarial calculations are accurate	84
By providing guidance to the corporate actuarial function and supporting them	55
Through being present in the relevant board committees and contributing to all relevant areas not necessarily restricted to the scope of G01.3	61
Through having a second opinion on methodology and assumptions that is reported to a relevant committee	67
None of the above (please specify)	2

2.8 Question 8: Do you think the relevance of the HAF role is specific to the insurance sector or the products offered e.g. very relevant in Life and less relevant in Short-Term?

Options (Voluntary, only one selection allowed)	Number of selections
It is equally relevant for Life and Short-term insurance	65
It is more relevant for Life insurance, than for Short-term insurance	26
It is more relevant for Short-term insurance, than for Life insurance	2
It is not really relevant	3
Left Blank	8
Total	104

2.9 Question 9: Do you feel there is substantial overlap between HAF function and other functions?

Options (Voluntary, multiple selections allowed)	Number of selections
No, I do not see any substantial overlap	43
Yes, with the corporate actuarial function	34
Yes, with the risk management function	26
Yes, with the external audit function	24
Yes, with the internal audit function	9
Yes, with another function (please specify)	1

2.10 Question 10: Prudential standard GOI 3 requires the HAF to have appropriate segregation of duties from operational business line responsibilities. This means the following:

Options (Voluntary, only one selection allowed)	Number of selections
The answers to the above could vary between organisations, because the degree of segregation of duties required by GOI 3 is proportionate to the size and complexity of the insurance entity	35
The HAF should never be involved in preparing calculations but can be involved in reviewing calculations and requiring changes to be made by the corporate actuarial team.	49
The HAF should never be involved in preparing calculations, nor should the HAF be involved in reviewing calculations other than for purposes of expressing an opinion thereon.	8
The HAF should only be involved in preparing calculations where this is a practical necessity, for example, owing to the small size of the actuarial team.	3
Other (please explain)	1
Left Blank	8
Total	104

2.11 Question 11: Actuarial Practice Note 106/403 requires the HAF to be sufficiently independent from the activities associated with the underlying actuarial roles such that the HAF's responsibilities of oversight and review can be appropriately performed. This means:

Options (Voluntary, only one selection allowed)	Number of selections
APN 106/403 establishes a higher standard for independence from underlying actuarial roles than is required for the segregation of duties from operational business line responsibilities under GOI 3.	15
APN 106/403 establishes a lower standard for independence from underlying actuarial roles than is required to meet the segregation of duties requirement under GOI 3.	4
Other (please specify)	3
The answers to the above could vary between organisations, because the degree of independence required by APN 106/403 is proportionate to the size and complexity of the insurance entity	23
There is no substantive difference between the APN 106/403 requirement for sufficient independence from underlying actuarial roles and the GOI 3 requirement for appropriate segregation of duties from operational business line responsibilities.	51
Left Blank	8
Total	104

2.12 Question 12: Do you ensure segregation of duties and operational independence between the corporate actuarial function and the HAF function?

Options (Voluntary, only one selection allowed)	Number of selections
We have not made any changes from the way the statutory actuary used to interact with the corporate actuarial function	4
Yes, the HAF is an independent individual that carries out his responsibilities without undue influence from others	47
Yes, we ensure a strict separation between the functions to ensure independence	30
Yes, we try to ensure separation but the HAF needs to be involved in the processes to ensure efficient reviews	15
Left Blank	8
Total	104

2.13 Question 13: How do you ensure segregation of duties/operational independence between the corporate actuarial function and the HAF function?

Options (Voluntary, multiple selections allowed)	Number of selections
Organisational separation in different teams and reporting lines	58
HAF is not involved in the actual calculation and only starts reviewing once the corporate actuarial function has completed and documented the work	79
Separate reports from HAF and corporate actuarial function that document differences in opinion	51
Both the corporate actuarial function and the HAF report into the relevant committee and report separately	59
Email trail of questions/concerns raised by the HAF and responses	36
Other (please specify)	5

2.14 Question 14: Is the external auditor placing reliance on the HAF for the audit of the technical provisions and SCR calculations?

Options (Voluntary, only one selection allowed)	Number of selections
I don't know if reliance is placed	17
No, the external auditor does not place reliance on any of the work performed by the HAF	37
No, the external auditor does not place reliance on the HAF due to a lack of a formal assurance framework	4
Yes, the external auditor places full reliance on the HAF for all areas	2
Yes, the external auditor places reliance on the HAF for specific areas and only reperforms testing on a sample basis	36
Left Blank	8
Total	104

2.15 Question 15: Whose responsibility is it to ensure segregation of duties / operational independence between the HAF and the corporate actuarial function?

Options (Voluntary, multiple selections allowed)	Number of selections
The HAF needs to ensure that she remains independent	45
The corporate actuarial function needs to ensure that the HAF does not unduly influence their work	15
Both need to ensure that segregation of duties / operational independence is observed	64
It is the Board of Directors' responsibility to ensure that the GOI are fully implemented	71
Other (please specify)	0

2.16 Question 16: How do you resolve disagreements between the corporate actuarial function and the HAF?

Options (Voluntary, only one selection allowed)	Number of selections
The corporate actuarial function must take responsibility for the results so they will have to make the last decision. The HAF can only recommend changes to the corporate actuarial function.	19
The HAF can only recommend changes to the relevant board committee that will then make a decision after consultation with other stakeholders	46
The HAF is heading up the function so all decisions regarding methodology, assumptions etc. are her responsibility and need to be adhered to as such	5
There usually are no disagreements between the corporate actuarial function and the HAF	26
Left Blank	8
Total	104

2.17 Question 17: To which Board Committee does the HAF report?

Options (Voluntary, only one selection allowed)	Number of selections
The HAF reports predominantly to a combined Risk and Audit Committee	29
The HAF reports predominantly to the Audit Committee	18
The HAF reports predominantly to the Risk Committee	22
The HAF reports to a different committee (please specify)	27
Left Blank	8
Total	104

2.18 Question 18: Is the performance assessment and remuneration of the HAF done with the approval of, or after consultation with, the board of directors or relevant board committee?

Options (Voluntary, only one selection allowed)	Number of selections
Both performance assessment and remuneration are done with the approval of, or after consultation with, the board of directors or relevant board committee	40
Neither performance assessment nor remuneration are done with the approval of, or after consultation with, the board of directors or relevant board committee	19
Performance assessment is done with the approval of, or after consultation with, the board of directors or relevant board committee, but not the remuneration	22
Remuneration is done with the approval of, or after consultation with, the board of directors or relevant board committee, but not the performance assessment	15
Left Blank	8
Total	104

2.19 Question 19: How do you resolve disagreements between the external audit function and the HAF?

Options (Voluntary, only one selection allowed)	Number of selections
The external auditor needs to sign off the annual return and the technical provisions, so they need to decide what is acceptable	39
The external auditors rely on the HAF and base their sign-off on her opinion. So practically, there are no disagreements	9
The HAF can only recommend changes to the relevant board committee that will then make a decision after consultation with other stakeholders	39
The HAF is heading up the function so all decisions regarding methodology, assumptions etc. are her responsibility and need to be adhered to as such	9
Left Blank	8
Total	104

2.20 Question 20: In your opinion, what is the biggest risk for a HAF when carrying out his responsibilities?

Options (Voluntary, only one selection allowed)	Number of selections
The biggest risk is signing off results that are materially incorrect	60
The biggest risk is that the company where the HAF is appointed becomes insolvent	4
The biggest risk is that the HAF is not sufficiently independent from the corporate actuarial function	23
The biggest risk is that the HAF might be sued in his personal capacity	5
Other (please specify)	4
Left Blank	8
Total	104

2.21 Question 21: In your opinion, what should be considered to be “best-practice” for the HAF implementation?

Options (Voluntary, multiple selections allowed)	Number of selections
The corporate actuarial function and the HAF should be in separate teams	59
The HAF should head up the corporate actuarial function and review the work of his team	8
The HAF should be outsourced to ensure it is sufficiently independent	19
The HAF should ensure operational independence through having sufficient controls in place that document she is not directly involved in doing the work	59
Other (please specify)	4

2.22 Question 22: Do you think the current regulatory role of the HAF should be extended to other areas and if yes, which areas would be most relevant?

Options (Voluntary, multiple selections allowed)	Number of selections
No, the role should not be extended to other areas	29
Yes, the Embedded Value calculations	35
Yes, IFRS 17	47
Yes, all quantitative risk management areas	26
Yes, TCF and Market Conduct	14
Other (please specify)	6

2.23 Question 23: In which other sector would you like to see a role similar to the HAF implemented?

Options (Voluntary, multiple selections allowed)	Number of selections
Banking	35
Pensions	35
Medical Aid	43
A role similar to the HAF should not be implemented in any other sector	24
Other (please specify)	7