actuarial association of europe

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THE ROLES OF ACTUARIES UNDER SOLVENCY II

Actuaries are acting in different roles requiring different competences and approaches. Actuaries are and will be asked to pick up more and more roles and responsibilities and as a profession need to be prepared.

The focus on the roles of the actuary and consequential actions are needed to accomplish the Vision and the Mission Statement of the Actuarial Association of Europe (AAE).

Introduction

The Solvency II Directive[1] changes the environment of insurance companies drastically: the complexity of the solvency quantification raises the bar on technical expertise[2]; the governance system requires a sound risk management system and introduces the lines of defense. The public and other reporting requirements reflect the context of what Solvency II is trying to achieve and it can be argued that an independent review of these reports is required[3].The Solvency II regime also impacts the way the actuary contributes to the management and the monitoring of insurance and reinsurance undertakings.

The purpose of this article is not only to illustrate what kind of new competences are expected of actuaries, it also points out how actuaries can be involved and how these roles are implemented in the different markets. It draws attention to the fact that, in addition to the expected contribution of the actuary to the operations of the undertaking and in the context of the Actuarial Function (as defined in article 48 of the Directive), the existing roles as Appointed Actuary and in the context of the external audit may change; however new roles in Risk Management and Supervision are emerging.

It concludes that the scope of the involvement of the actuary has significantly increased with new areas for actuarial involvement emerging (even though practice can be different from one market to another).

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[1] *Solvency II Directive 2009/138/C*
[2] *Actuarial Association of Europe: Paper "Solvency II : Raising the Bar on Insurance Technical Expertise", December 2012*
[3] *Actuarial Association of Europe: Position Paper "On the Independent Review of Solvency II Reports", November 2014*

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[i] ***What are the new requirements introduced by Solvency II?***

The risk-based approach of the Solvency II regime creates a technical framework that requires enhancement of the basic skills of the actuary and is covered by the following observations:

- The market-consistent valuation of assets and liabilities implies *prospective and stochastic* projections of cash flows combined with a risk neutral environment, that opens the traditional reference framework to new concepts requiring and taking advantage of the *professional judgment* of the actuary;
- The value-at-risk approach based on the extensive *modeling of the loss function* requires an exhaustive analysis of the relevant distribution functions also requiring *professional judgment* of the actuary;
- The *enterprise risk management* cycle combines such concepts as risk appetite, risk assessment, risk measurement, risk monitoring with business strategy and therefore stimulates actuaries to use modeling techniques and apply *professional judgment* when involved;
- The successful implementation of a sound risk management system requires actuaries to take into account the underlying *processes* and to ensure that their advice is *accurately and clearly communicated* to the Board;
- The Actuarial Function, as well as the Risk Management Function are key for the governance of the undertaking and the function holders are required to be *fit and proper (exactly the purpose of the AAE's Code of Conduct and the Standards of Actuarial Practice)*
- The far-reaching reporting requirements for the Actuarial Function raise the bar, but also give the actuary *access to the Board* of the undertaking.

Note that as the Solvency II regime is based on various principles and the application of those principles in each concrete situation need to be translated to concrete processes and actions, most of the above requires the actuary to exercise professional judgment based on actuarial training and experience.

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What roles are intended for actuaries under Solvency II?

The success of the Solvency II regime highly depends on the actuaries involved in all lines of defense. Actuaries are acting in different capacities at different stages of the risk management cycle of the undertakings.

First line of defense (operations): Actuaries are present throughout the insurance cycle.

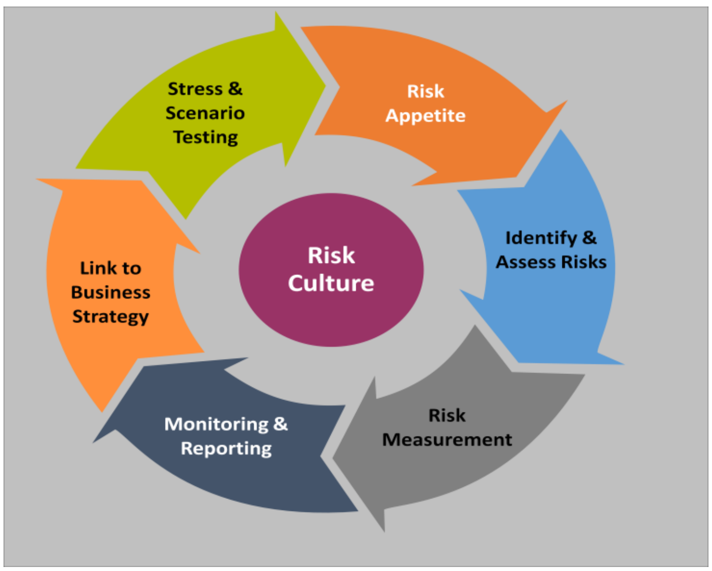

Figure 1: Insurance Cycle

First line of defense

Operations

Actuaries are present throughout the insurance cycle.

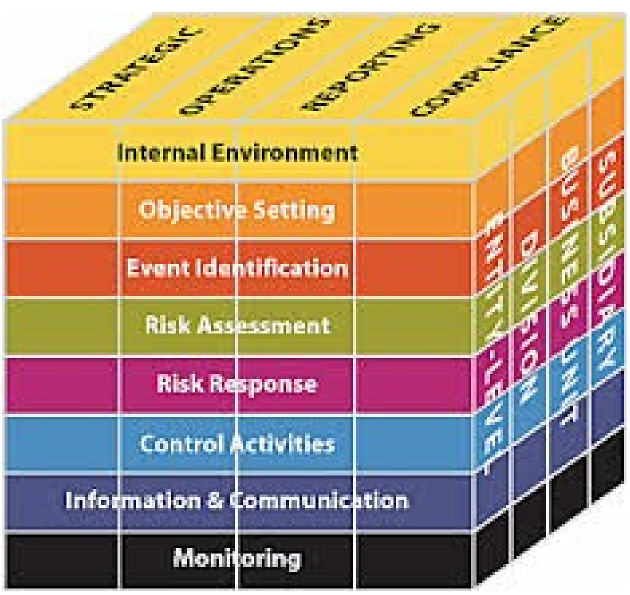

Figure 2: COSO Framework

Second line of defense

Risk Management

Actuaries are heavily involved in the risk management system.

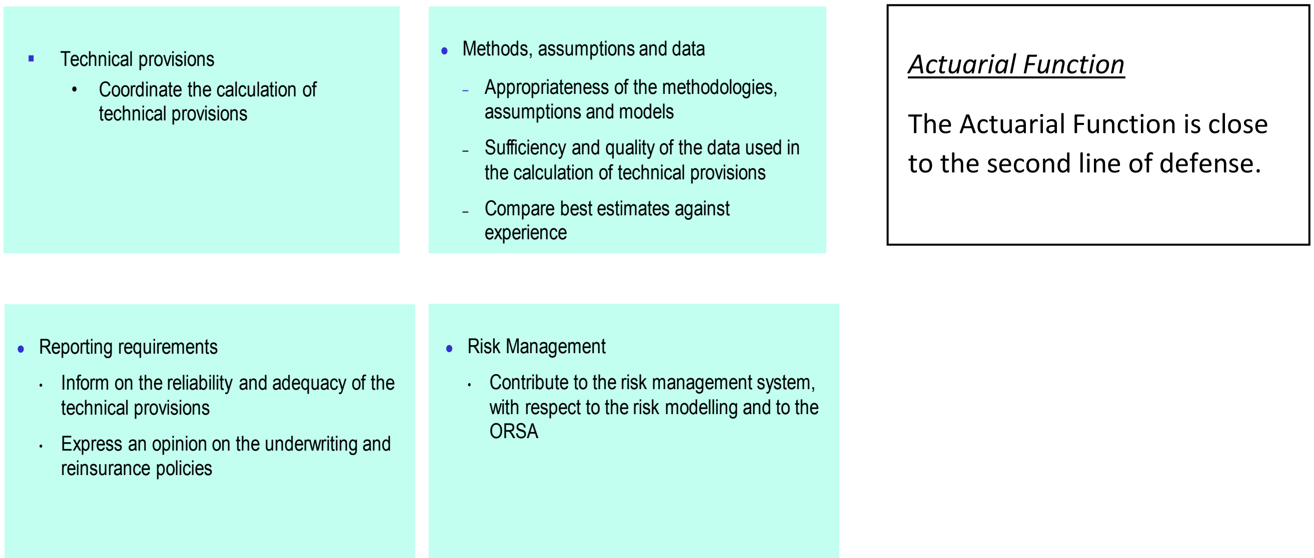

Figure 3: Solvency II Actuarial Function

Third line of defense (internal audit): the Internal Audit Function needs to include actuarial competences, amongst others, in order to review the activities of the Actuarial Function.

External audit: the external auditor needs to refer to actuarial expertise based on the International Standards on Auditing, amongst others, in order to be able to review the activities of the Actuarial Function.

Supervisory system: supervisors have significantly increased their actuarial capacity since Solvency II has been introduced.

External Actuarial Expert: supervisors appoint actuarial experts for inspection of specific technical aspects of the undertaking's reporting.

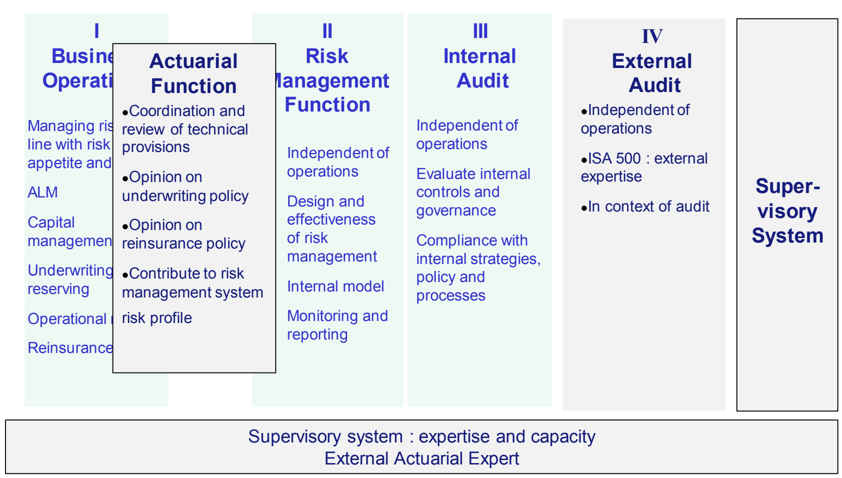

Figure 4: Supervisory System

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<u>How are these roles implemented in Europe?</u>

The AAE conducted a survey in September 2015 amongst its Member Associations to find out how the roles of the actuaries under Solvency II are implemented in the different markets. Associations representing 26 different markets of the European Union answered the survey.

Actuarial capacity

The 36 associations of the AAE include over 21,500 qualified actuaries[4] all over Europe. About 60% are working in the insurance industry (12,900), of which two-thirds are working in the life insurance business and one-third in non-life.

The number of non-life companies nevertheless is three times higher than the number of life companies.

The study has filtered out number of actuaries in the UK compared to the number of companies as it clearly distorts the picture for the rest of Europe.

<u>Observation 1</u>

The number of qualified actuaries available per company in the life business is 7.3 and 1.3 in non- life business.

Compared to a similar survey of 2011 the number of actuaries has increased significantly (from 19,700 to 21,500), the number of insurance companies has decreased and therefore the number of available actuaries per company has increased (in 2011: 2. 5 per life company, 1.1 per non-life company).

It should6 be underlined that the above numbers reflect only qualified actuaries as defined by the AAE. Most associations also allow other categories of actuaries active in the insurance sector.

Actuaries are not equally spread over Europe and it is therefore important to encourage the free movement of actuaries over Europe so that sufficient capacity can be created in all markets. The AAE supports free movement by mutual recognition of qualifications amongst member associations.

The Actuarial Function Holder

<u>Observation 2</u>

In 95% of the cases, the Actuarial Function Holder is a qualified actuary.

Although the Solvency II Directive determines that “the actuarial function shall be carried out by persons who have knowledge of actuarial and financial mathematics, commensurate with the nature, scale and complexity of the risks inherent in the business of the insurance or reinsurance undertaking, and who are able to demonstrate their relevant experience with applicable professional and other standards”, it can

[4] *Note that the category of qualified actuary is a special class of membership of the Member Associations of the AAE; qualified actuaries satisfy the highest level of requirements set by Member Associations.*

be observed that in practice, almost all Actuarial Function Holders are qualified actuaries. The actuarial associations are creating a professional framework adapted to the role of the Actuarial Function.

The Institute and Faculty of Actuaries in the UK have imposed a mandatory Practicing Certificate requirement on its members who are Actuarial Function Holders. The Society of Actuaries in Ireland also grants a similar certificate on a voluntary basis.

All associations are promoting the fact that their members can be considered fit and proper in the sense of the Solvency II framework.

The Appointed Actuary

While a statutory role was foreseen in 24 out 26 countries in 2011, 50% of the respondents confirm that the statutory role of the appointed actuary is continued under the Solvency regime.

Observation 3

The statutory role of the appointed actuary is continuing for about half of the markets. The appointed actuary is almost always (99%) a qualified actuary.

It is possible that the scope of the appointed actuary has changed.

The German case can be taken as a reference for the way the combination of the Actuarial Function and the Appointed Actuary can be organized.

The Risk Management Function

Solvency II values the need of managing risks in the insurance sector. The risk management system is a key element of the second pillar; the Risk Management Function oversees the second line of defense. The complexity of the insurance business and the underlying risk modeling has inspired a lot of undertakings to entrust this function to an actuary.

The actuarial input is essential to build the appropriate environment of the risk management system.

Observation 4

About 2 out of 3 Chief Risk Officers of European insurance undertakings are qualified actuaries.

About 1 out of 4 actuaries working for insurance undertakings are involved in risk management.

The actuarial profession is adapting and developing in the changed environment. The Certified Enterprise Risk Management Actuary (CERA) program prepares actuaries for this role as well as Continuous Professional Development (CPD) activities of European associations in this area.

Observation 5

The Risk Management Function can be combined with the Actuarial Function in 21 out of the 26 countries in function of the size of the undertaking.

Not all insurance entities can afford to unbundle all actuarial roles. That is why most countries allow actuaries to combine both functions if proportionality can justify.

Observation 6

The risk management profession is organized in only in 1 in 3 countries.

As the actuarial profession is evolving in the area of risk management, and actuaries throughout Europe are members of AAE Member Associations, there is an opportunity for the AAE to become the leading professional organization in this area.

The actuary in External Audit

The audit profession is heavily involved in the Solvency II framework. Auditors give assurance regarding the market-consistent balance sheet and the correct application of the risk models.

The International Standard on Auditing nr 500 (ISA) explains that external auditors will refer to experts for those subjects that require in-depth knowledge. The complexity of the Solvency II regime clearly corresponds with the purpose of this ISA and it can thus be expected that external auditors and their firms will call upon the support of actuarial experts.

Observation 7

External auditors work with actuarial experts in 77% of the markets. In such cases, audit firms employ actuaries and in about 50% of these markets, external audit firms will also refer to independent actuarial firms.

It is also observed that only in a minority of the countries, there is a regular interaction between the audit and the actuarial profession. AAE would encourage a better mutual understanding of the professional framework applicable to both. This should allow the actuaries working on behalf of the audit firms to refer to the conclusions and the work of colleagues in other roles.

External Actuarial Expert

The local supervisors as well as EIOPA requirements have multiplied the internal actuarial competences over the last years. It can be observed that in some markets, supervisors still struggle with lack of capacity and that the technical expertise required to cover all aspects of the insurance business is not always sufficiently available.

It is observed that some local supervisors are instructing external experts to investigate specific aspects of the Solvency II implementation or reporting.

Observation 8

The supervisors of four countries are using external actuarial experts: the purpose of the assignments is different. For example, it can be in the context of validation of the internal models and/or in the context of the projection of cash flows.

Conclusions

Although the way the roles of the actuary are implemented in the different countries is different with the introduction of Solvency II, we have seen an enhancement of the roles of actuary. An additional potential issue here is that there is overlap in the work these actuaries are carrying out in the various roles. We also observe that practices in the various Member States differ. It can therefore be expected that this will lead to much less harmonization than anticipated for Solvency II. It may also lead to unnecessary duplication of work and discussions and as a result, increasing costs for the undertakings. The AAE is of the opinion that more clarity is necessary in the terms of reference for actuarial roles in order to achieve greater co-ordination, harmonization and less duplication.

It is acknowledged by the AAE that the risk management system requires a wide range of expertise. However, the multi-disciplinary education and especially the modeling capabilities of the actuary, enables the actuary to provide relevant and useful input to many areas of the risk management process. It is also observed that Risk Management Function Holders are often actuaries. The AAE therefore proposes that its representation mission in Europe also includes to the subject of Risk Management and how to optimize the implementation of Solvency II.

The challenges for the profession

Need for more professionalism

The different stakeholders including the Administrative, Management and Supervisory Body (AMSB) of undertakings, the supervisors, the audit firms and the public have high expectations about the quality of the work of the actuaries in all the roles under Solvency II.

A need for a strong professional framework is therefore required. Adequate education and training including continuous professional development, professional and ethical standards applicable to all actuaries can create a common basis and ensure that qualified actuaries are fit and proper for the relevant Solvency II functions. The AAE has adopted two actuarial model standards of practice in this context that serve to enhance the reliance by the users of actuarial services on the work of actuaries bound by these standards:

- ESAP1 : General Actuarial Practice
- ESAP2 : Actuarial Function report under Directive 2009/138/EC

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Risk Management

The actuarial professional world is continuously strengthening its risk management framework:

- The AAE deals with Financial Risk Management integrated in its Investment and Financial Risk Committee;
- Seven AAE member associations are offering the globally recognized Certified Enterprise Risk Actuary program (652 European actuaries have already successfully followed the program, out of 2,642 actuaries worldwide);
- The AAE is looking for the right way to harmonize the Risk Management Function and the Actuarial Function (AF);
- Several European Standards of Actuarial Practice (ESAP) are being prepared at the moment;
  - ESAP3: Actuarial Practice in relation to the ORSA process under SII
  - ESAP4: The role of the AF in contributing to the Risk Management System under SII
- A lot of thought-leading events are organized on related subjects all over Europe as part of our continuous professional development activities.

Independence

Actuaries are acting in different roles and at different stages of the control-cycle.

Whilst actuaries can exchange experience and opinions with other functions, they need to be allowed to exercise sufficient independence:

- During the execution of the role, professional judgment requires actuaries to act in line with integrity, impartiality and objectivity (as referred to in the Code of Professional Conduct);
- With respect to the different roles, actuaries are involved in all lines of defense implying appropriate separation.

The actuarial profession needs to create the environment that allows actuaries to demonstrate intellectual independence where appropriate, notwithstanding that they may not physically be independent i.e. if they are employees of the undertaking.

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