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Risk Management Task Force[1] of the Standards Project Team

Discussion paper in relation to working out ESAPs on Risk Management under Solvency II

1 Terms of Reference (ToR)

According to the ToR of the Risk Management Task Force (RMTF) we had the task of reviewing the following areas of Solvency II and consider whether one or more model European Standards of Actuarial Practice (ESAPs) would benefit users and assist actuaries in these areas under Solvency II

1.a the role of the actuarial function in contributing to the risk management system;

1.b carrying out the risk management function by actuaries;

1.c modeling – or on reporting – to support the responsibilities of actuaries carrying out the risk management function or in carrying out the actuarial function and contributing to the design, implementation, use, review and update of an internal model

2 Documents reviewed

The RMTF has reviewed the legislative, the internal, and other available external documents that relate to the standard setting process that were deemed to be relevant for our task. These documents were the following:

2.a Legislative documents

2.a.i The Solvency II Directive[2]

2.a.ii The Draft Delegated Acts Solvency II (10 January 2014)

2.a.iii EIOPA Guidelines[3]

Those parts of the legislative documents that have special relevance to the activities in Point 1 can be found in Annex 1.

2.b AAE's Due Process for the Development of Standards of Practice (October 2011)

At the moment we are at Step 1 of the Due Process where a proposal is being made and discussed within the AAE for a standard or standards.

2.c The AAE paper titled Purpose of standards and criteria to be met (October 2011), the principal purposes of ESAPs should be:

2.c.i to enhance the quality of delivery of professional services by actuaries;

2.c.ii to help to ensure that the actuarial work product meets the needs of users of actuarial services;

[1] Annex 8 includes the names of the members of the Risk management Task Force
[2] 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
[3] EIOPA Final Report on Public Consultation No. 13/008 on the Proposal for Guidelines on the System of Governance; EIOPA Final Report on Public Consultation No. 13/009 on the Proposal for Guidelines on Forward Looking Assessment of Own Risks (based on the ORSA principles)

2.c.iii to enable actuaries to play an enhanced role in the protection of policyholders and beneficiaries through the quality of the advice given;

2.c.iv to contribute towards the development of consistency of actuarial practice across the EU; and

2.c.v to provide guidance to actuaries on good practice.

2.d According to the paper mentioned in Point 2.c, the concrete criteria to be met by a proposed standard are as follows:

2.d.i The proposed standard relates to actuarial work which has common characteristics across the EU and hence it is more efficient for the Groupe Consultatif to develop a model standard than for each member association to develop a standard independently and by applying a harmonized approach stakeholders can be expected to have more confidence in the professional services provided by actuaries.

2.d.ii There is no conflict or overlap with an IAA standard, unless there are specific circumstances in EU which justify the differences.

2.d.iii The proposed standard does not conflict with the legal or regulatory requirements, or with standards or guidelines set by another regulatory or supervisory body at the European level, to which actuaries are also subject.

2.d.iv The proposed standard would serve as a significant point of reference for the actuarial profession in relation to other professions and regulators.

2.e The RMTF has reviewed the draft versions of ESAP1 and ESAP2 in order to avoid any overlap in our recommendations.

2.f The RMTF has reviewed a number of actuarial standards issued by the Board for Actuarial Standards, Financial Reporting Council in the UK. The RMTF believes that some parts of these standards after an adaptation to the Solvency II context are relevant for the potential ESAPs mentioned in Point 1. The full list of such standards and a detailed evaluation of the elements of these standards that the RMTF believes could be relevant for the ESAPs mentioned in Point 1 can be found in Annex 2.

2.g The RMTF has reviewed two Actuarial Standards of Practice on risk management (RM) issued by the US Actuarial Standards Board (No. 46 on Risk Evaluation in Enterprise Risk Management and No. 47 on Risk Treatment in Enterprise Risk Management) and come to the conclusion that, although these standards are relevant to actuaries within the Risk Management Function (RMF) generally and perhaps could be considered by a general standard setting body such as the IAA to adopt as being of generic nature, they are not specific to Solvency II.

However, a great deal of guidance of these standards could be reinterpreted under the special Solvency II context which would then provide proper guidance for actuaries carrying out the RMF (see Point 1.b). The topics covered by these standards and those parts that can be adapted to guidance in ESAPs in the context of Solvency II can be found in Annex 3.

2.h The RMTF has reviewed two of the Insurance Core Principles issued by the IAIS (ICP 8 Risk Management and Internal Controls and ICP 16 Enterprise Risk Management for Solvency Purposes) and come to the conclusion that, while ICP8 may not be helpful in setting ESAPs mentioned in Point 1, ICP16 can provide useful guidance for actuaries on the enterprise risk management (ERM) framework and own risk and solvency assessment (ORSA) as it relates to ERM in the context of Solvency II. The topics covered by ICP16 and those parts that can be adapted to guidance in ESAPs in the context of Solvency II can be found in Annex 4.

2.i The RMTF has reviewed the ongoing work within the IAA that aims at developing International Standards of Actuarial Practice (ISAPs) in the area of RM. Currently the IAA considers three ISAPs to be developed in due course.

One is related to the initiative of the IAIS to work out Basic Capital Requirements for Global Systemically Important Insurers (GSII) and global Insurance Capital Standard for Internationally Active Insurance Groups (IAIGs). The goal of this development is to create, adopt, issue and enforce principles of capital adequacy for GSIIs using a factor based approach based on current estimates and later on for IAIGs that could be similar to the Solvency II framework and hence the activity of the AAE in relation to this initiative belongs to the competence of the Insurance Committee of the AAE.

The second one is an ISAP in relation to Insurer Enterprise Risk Models including economic and regulatory models and stress tests for solvency assessment. This ISAP can be very relevant for our purposes in terms of the roles of actuaries described in Points 1.b and 1.c (but not in Point 1.a).

The third one is an ISAP on actuarial services in relation to ERM Programs and IAIS Insurance Core Principles. This ISAP may also be relevant for the AAE although the scope of this standard is envisaged to be rather narrow (applying to actuaries providing their advice or opinion on insurer ERM practices to comply with regulations consistent with ICP 8 or ICP 16).

Should both the IAA and the AAE decide to develop such standards a close relationship needs to be established between the AAE and the IAA in order to provide input to the work of the IAA and stimulate the development of an appropriate global standard on the one hand, and on the other hand, we should make sure that the AAE standard complements, where necessary, the IAA standard and there is no overlap.

It seems that the processes in the IAA and the AAE in developing RM related standards are in a similar stage although draft Statements of Intent are expected to be exposed by the IAA in relation to the latter two ISAPs in the near future.

2.j The RMTF has reviewed the risk management standard of FERMA and the International Standard, ISO 31000 Risk Management and concluded that these may not be relevant for our purposes except that if the AAE decides to develop ESAPs in relation to RM then drafting should consider the definitions and terminology in these standards for an appropriate level of consistency between the ESAPs and these general standards used by non actuaries.

3 Analysis

Should the AAE decide to develop ESAPs mentioned in Point 1, all principal purposes of ESAPs as required according to Point 2.c would be met as the proposed ESAPs would

i. enhance the quality of delivery of RM related services by actuaries;
ii. help to ensure that the actuarial work product in the RM area meets the needs of users of actuarial services;
iii. enable actuaries to play an enhanced role in the protection of policyholders and beneficiaries through the quality of the advice given for the RM system of (re)insurers;
iv. by promoting adoption of the model ESAPs by Member Associations, contribute towards the development of consistency of actuarial practice across the EU; and
v. provide guidance to actuaries on good practices in RM related services.

Should the AAE decide to develop ESAPs mentioned in Point 1, all criteria as required according to Point 2.d would be met.

i. (Common characteristics) It would clearly be more efficient for the AAE to develop ESAPs in RM under Solvency II than for each standard setter (Member Association) to develop such standards independently.
ii. (No conflict with IAA standards) See Point 2.i.
iii. (No conflict with legislation) Any ESAP developed will consider this as a basic principle.
iv. (Significant point of reference) If standards in relation to RM in the context of Solvency II were deemed to be beneficial for the users of the RM services then it would be of utmost importance for the actuarial profession in Europe to establish

ESAPs in relation to RM in the context of Solvency II so that the actuarial services in this area become subject to such ESAPs (or the standards that standard setters (Member Associations) issue on the basis of the model ESAPs) and not standards set by non actuarial organizations beyond the reach of the profession.

The RMTF believes that it would be very timely for the AAE to start developing ESAPs in the area of RM. Even though the area of ERM is a relatively new and developing field of actuarial practice, there are four main reasons why the AAE should act now.

3.a Solvency II will be implemented across Europe. The harmonized implementation requires a harmonized AAE guidance for actuaries providing actuarial services in the area of RM.

3.b The AAE should act promptly to develop AAE guidance for actuaries providing actuarial services in the area of RM so that such services be subject to such ESAPs rather than standards set by non actuarial organizations beyond the reach of the profession or work under no standard. Actuaries working in the RMF are better equipped to do their job subject to such standards, furthermore external stakeholders such as employers and regulators/supervisors would most probably place more reliance and give more credibility to actuaries subject to professional standards than to other experts without the need to comply with such professional standards.

3.c It would be important for the AAE to work closely with the IAA and implement Solvency II specific guidance that complements ISAPs.

3.d Because ESAPs in question are envisaged to be confined to actuarial services under Solvency II, the area of practice is sufficiently narrow. Furthermore this context provides a much higher level of stability of this practice area than risk management globally in general.

The RMTF believes that at this point in time the production of three ESAPs would best serve the public interest and the actuaries in Europe, one according to Point 1.a (the role of the actuarial function in contributing to the risk management system), a second one according to Point 1.c (contributing to the internal model), and a third on the ORSA process. The RMTF believes that the RM area is too broad to handle in one single standard or even in two standards, one for the internal models and one for the rest. The AAE should develop its ESAPs step by step in the area of RM. The two well identifiable and relatively narrow practice areas where the development of standards would be most welcome are the actuarial practice in relation to internal models and to the ORSA process. As these areas are well embedded into the Solvency II legislation it is expected that, although actuarial theory and practice should and definitely will develop in these areas, the context provides a tangible framework and hence a level of stability of applicable practices.

Solvency II is designed to incentivize firms to develop (partial) internal models. It is expected that many insurers and reinsurers will have implemented an internal model when Solvency II is first applied and more firms will follow suit as they also develop models that better fit their risk profile than the standard formula. Supervisors will also encourage insurers and reinsurers to develop their own (partial) internal models. For developing, implementing, operating, reporting on, using, monitoring, reviewing, updating, and documenting (partial) internal models there will be a number of tasks that actuaries are well placed to do in relation to modeling and to model governance.

The ORSA process under Solvency II is one of the most important RM processes combining the requirements of a number of expertise including the actuarial one. It will be applicable for all insurers and reinsurers subject to the Solvency II regulation. For developing, implementing, operating, reporting on, using, monitoring, reviewing and updating the ORSA process there will be a number of tasks that actuaries are well placed to do in relation to providing the quantitative parts of the ORSA process such as stress and scenario tests, assessment of a forward looking capital adequacy under an economic view and under the Solvency II regulation.

Other RM related standards may follow in due course.

It is important to emphasize that the RMTF does not envisage any prescriptive standard that would instruct what and how the actuary must do in relation to RM; rather, in order to allow various sound approaches, the ESAPs in relation to the RM area should provide guidance in the form of principles to actuaries about what they should do or should consider to do (in the context of ESAP1) when providing actuarial services in relation to RM. Such guidance needs to have widespread practical relevance; needs to be primarily actuarial in nature; should not conflict with legislation or other applicable standards (such as EIOPA guidance or other ESAPs); should not limit innovations in actuarial theory and practice in relation to RM; should not restrict practice inappropriately relative to what a non-actuary providing services in RM could do.

The RMTF believes that although compliance with professional standards places duties on the practicing actuary the advantage of gaining confidence of principals and other stakeholders far outweighs the disadvantage of the compliance burden.

4 Conclusion

Various stakeholders have various needs involving actuarial services under Solvency II. Creditors, investors/shareholders and rating agencies want clarity and reliability; regulators/supervisors and auditors require reliability, transparency and compliance; policyholders want reassurance, while policymakers want policyholder protection, sound industry operation and contribution by the industry to economic stability and sustainable growth. Internal stakeholders have additional needs: the board of directors (AMSB) requires usability, reliability and clarity; the RMF requires support, collaboration, education and timeliness. To meet these (and perhaps some other) needs, actuaries contributing to the RM system, actuaries working with the SII IM, and actuaries working with the ORSA under the Solvency II framework may find it eminently useful to have at hand the appropriate background and guidance in the form of European actuarial standards.

To meet the needs mentioned above and other needs which may be identified during this process, the proposed ESAPs are intended to serve as a common starting point for actuaries in Europe, supported by principles and principles-based frameworks, which will enable and support actuaries in the provision of actuarial services and to ensure that the users thereof may place a high degree of reliance thereon.

The RMTF recommends the SPT to initiate consultation with the relevant committees and other bodies of the AAE in relation to the ESAPs mentioned below. Following those consultations and provided there is a general agreement in the AAE the SPT recommend the SFPC to add the following ESAPs to the Standards Work-plan for immediate development.

4.a ESAP[3]: The role of the actuarial function in contributing to the risk management system under Solvency II;

4.b ESAP[4]: Actuarial practice in relation to internal models under Solvency II;

4.c ESAP[5]: Actuarial practice in relation to the ORSA process under Solvency II.

In developing each of these ESAPs the AAE should make sure to cooperate with the IAA closely in order to avoid confusion of the IAA and the AAE standards on similar topics. In case the IAA provides appropriate general guidance in the ISAPs, the ESAPs should be restricted to the specificities of the European situation, i.e. the Solvency II framework.

It is thought that including the background, the purpose, and a high level scope description of each of the three ESAPs proposed to consider could help further discussion. An attempt to draft such main ideas can be found in Annex 5, Annex 6, and Annex 7, respectively.

Gábor Hanák 7 April 2014
Chairperson
Risk Management Task Force

Annex 1

Review of the relevant parts of the legislative documents

Level 1

S2 Directive 48(1)g
express an opinion on the overall underwriting policy [an area of RM; see related L2 Article 262 SG10 Actuarial function (6)]

S2 Directive 48(1)h
express an opinion on the adequacy of reinsurance arrangements [an area of RM; see related L2 Article 262 SG10 Actuarial function (7)]

S2 Directive 48(1)i
contribute to the effective implementation of the risk-management system referred to in Article 44, in particular with respect to the risk modelling underlying the calculation of the SCR and MCR capital requirements set out in Chapter VI, Sections 4 and 5, and to the ORSA assessment referred to in Article 45

S2 Directive 121 Statistical quality standards [in case of IM] (2)
The methods used to calculate the probability distribution forecast shall be based on adequate, applicable and relevant actuarial and statistical techniques and shall be consistent with the methods used to calculate technical provisions

Level 2

L2 Article 251 SG3 Risk management System (3)
Insurance and reinsurance undertakings shall, where appropriate, include the performance of stress tests and scenario analysis with regard to all relevant risks faced by the undertaking, in their risk-management system.

L2 Article 252 SG4 Risk management areas

- actions to be taken by the insurance or reinsurance undertaking to assess and manage the risk of loss or of adverse change in the values of insurance and reinsurance liabilities, resulting from inadequate pricing and provisioning assumptions
- the sufficiency and quality of relevant data to be considered in the underwriting and reserving processes
- the structural mismatch between assets and liabilities and in particular the duration mismatch of those assets and liabilities
- any dependency between risks of different asset and liability classes
- any dependency between the risks of different insurance or reinsurance obligations
- the effect of relevant risk-mitigating techniques on asset-liability management

L2 Article 259 SG7 Risk management function (2)c
[The risk management function shall] co-operate closely with the actuarial function

L2 Article 262 SG10 Actuarial function (5)
Information submitted to the administrative, management or supervisory body on the calculation of the technical provisions shall at least include a reasoned analysis on the reliability and adequacy of their calculation and on the sources and the degree of uncertainty of the estimate of the technical provisions. That reasoned analysis shall be supported by a sensitivity analysis that includes an investigation of the sensitivity of the technical provisions to each of the major risks underlying the obligations which are covered in the technical provisions.

EIOPA Guidelines

EIOPA Guideline 41 on the system of governance: 4.80 Underwriting policy and reinsurance arrangements

In accordance with Article 48 of Solvency II Directive, national competent authorities should ensure that the undertaking requires the actuarial function, when providing its opinion on the underwriting policy and the reinsurance arrangements, to take into consideration the interrelations between these and the technical provisions

EIOPA Guideline 42 on the system of governance: 4.81 The actuarial function of an undertaking with an internal model under pre3application

In accordance with Article 48 of Solvency II Directive, national competent authorities should ensure that, during the pre-application process, the undertaking requires the actuarial function to contribute to specifying which risks within their domain of expertise are covered by the internal model. The actuarial function should also contribute to how dependencies between these risks and dependencies between these risks and other risks are derived. This contribution is based on a technical analysis and should reflect the experience and expertise of the function.

EIOPA Guideline 5 on FLAOR - Role of the AMSB: .31 …the administrative, management or supervisory body of the undertaking takes an active part in the forward looking assessment of own risks, including steering, how assessment is to be performed and challenging the results

NOTES: the actuaries inside RMF and AF will manage a regular reporting with the right information on a FLAOR of undertaking with the right knowledge of:

- communication techniques
- soft skill ability
- overall vision of risks and their interdependencies

that will be considered inside the professional standards

EIOPA Guideline 11 on FLAOR: 4.37, 4.38: Valuation and recognition of the overall solvency needs

In accordance with Article 45 of Solvency II Directive, national competent authorities should ensure that the undertaking, if it uses recognition and valuation bases that are different from the Solvency II bases in the assessment of its overall solvency needs, explains how the use of such different recognition and valuation bases ensures better consideration of the specific risk profile, approved risk tolerance limits and business strategy of the undertaking, while complying with the requirement for a sound and prudent management of the business

National competent authorities should ensure that the undertaking quantitatively estimates on best effort basis the impact on the overall solvency needs assessment of the different recognition and valuation bases in those cases where recognition and valuation bases that are different from the Solvency II bases have been used in the assessment of its overall solvency needs starting in 2015 under the condition that the technical specifications have been provided by EIOPA

+ Guideline 12 (FLAOR 4.39) – Assessment of the overall needs: undertaking assesses its overall solvency needs and then express the overall solvency needs in qualitative terms and complements the quantification by a qualitative description of the material risks → Skill and operative requirement:

- quantitative techniques
- qualitative techniques
- governance processes
- overall business and control processes of an undertaking and their interdependencies

NOTES: to cover the points above, it should be necessary to have qualitative skills and operative knowledge of the main business, decisional processes and type of governance models

EIOPA Guideline 15 on FLAOR: 4.43: Technical provisions

In accordance with Article 45 of Solvency II Directive and in accordance with Guideline 3 on the applicability of the threshold for the forward looking assessment of own risks, national competent authorities should ensure that the undertakings ensures the actuarial function of the undertaking to:

a) provide input as to whether the undertaking would comply continuously with the requirements regarding the calculation of technical provisions; and

b) identify potential risks arising from the uncertainties connected to this calculation

EIOPA Guideline 16 on FLAOR: 4.44: Deviations from assumptions underlying the SCR calculation

In accordance with Article 45 of Solvency II Directive and in accordance with Guideline 3 on the applicability of the threshold for the forward looking assessment of own risks, national competent authorities should ensure that the undertaking assesses whether its risk profile deviates from the assumptions underlying the Solvency II Solvency Capital Requirement calculation and whether these deviations are significant. The undertaking may as a first step perform a qualitative analysis and if that indicates that the deviation is not significant, a quantitative assessment is not required.

EIOPA Guideline 17 on FLAOR: 4.45 – Link to the strategic management process and decision-making framework: …the undertaking takes into account the results of the forward looking assessment of own risks and insights gained during the process of the assessment in at least: a) its capital management; its business planning; and c) its product development and design

NOTES: the actuaries inside RMF and AF will work to build overall overviews of Risk and Processes complete of the interdependencies to analyze different scenarios and different action plans. To do it, it will be necessary to have a multicultural skill as organizational, information management, project management skills to help the AMSB and the General Management in their decisional process. It should be considered inside the professional standard

EIOPA GUIDELINE 37 on System of Governance – Internal audit function tasks: ….the internal audit function, at least:

a)…

b)to take a risk-based approach in deciding its priorities

c) to issue an internal audit report to the AMSB …..

….

NOTE: The Internal Audit function will audit the processes considered by SII directive and will be necessary to consider the same specific skill, and in particular actuarial skill, to well conduct inspection and report to the AMSB. Thus, we need to consider professional standard about it.

Annex 2

Review of the relevant actuarial standards issued by the Board for Actuarial Standards, Financial Reporting Council in the UK

Insurance Technical Actuarial Standard, 2010

Source: Board for Actuarial Standards, Financial Reporting Council

Link: http://www.frc.org.uk/Our-Work/Codes-Standards/Actuarial-Policy/Technical-Actuarial-Standards/Insurance-TAS.aspx

Jurisdiction: UK, compulsory for actuaries

Purpose: To ensure that actuarial information provided to managers and the board of an insurer is relevant, comprehensible and sufficient to support decisions, and includes information on risk and uncertainty insofar as this affects policyholders' benefits. Also, to ensure that actuarial information provided to policyholders is relevant, comprehensible and sufficient for its purpose.

Summary: The scope of the Insurance Technical Actuarial Standard (TAS) includes:

- Reserved work
- Financial reporting
- Pricing
- Business reorganisations
- Exercise of discretion

The Insurance TAS contains general principles on:

- Assumptions, including discount rates, claim rates, running costs and risk dependency;
- Models and calculations, including changes in measures, methods or assumptions and modelling of claims
- Prudent estimates, including a comparison to neutral estimates
- Exercise of discretion in long-term insurance business
- General insurance written by Lloyd's syndicates

Relevance: Guiding principles may help to form the basis for a new AAE standard. Guidance on assumptions may be particularly relevant to the Solvency II Internal Model. E.g. what best estimate means, understanding risk assumptions for use in (1) the SII Standard Formula or (2) the SII Internal Model.

Technical Actuarial Standard R: Reporting Actuarial Information, 2009

Source: Board for Actuarial Standards, Financial Reporting Council

Link: http://www.frc.org.uk/Our-Work/Codes-Standards/Actuarial-Policy/Technical-Actuarial-Standards/TAS-R-Reporting-Actuarial-Information.aspx

Jurisdiction: UK, compulsory for actuaries

Purpose: To ensure that users of actuarial information in ***reports*** can rely on the information's relevance, transparency, completeness, comprehensibility, and communication of uncertainty.

Summary: For actuarial information within reports, TAS R requires:

- *Compliance* with other TASs
- *Transparency* in terms of data, assumptions and rationales
- *Completeness* including the nature of material uncertainties, risks faced by the entity, calculations, quantification of future cash flows, and probabilities
- *Comprehensibility* including descriptions and definitions of material terms, and the exclusion of immaterial information which may obscure material information

Relevance: Not necessary for Internal Models. Similar requirements are given in the "Tests and Standards for Internal Model Approval" Level 2 guidance (CP56). In addition, ESAP2 "Actuarial Function Report under Solvency II" will address this from an EU perspective.

Technical Actuarial Standard M: Modelling, 2010

Source: Board for Actuarial Standards, Financial Reporting Council

Link: http://www.frc.org.uk/Our-Work/Codes-Standards/Actuarial-Policy/Technical-Actuarial-Standards/TAS-M-Modelling.aspx

Jurisdiction: UK, compulsory for actuaries

Purpose: To ensure that users of actuarial information from ***models*** which appears in ***reports*** can rely on the information's relevance, transparency, completeness, comprehensibility, and communication of uncertainty.

Summary: For actuarial information produced by models, which inevitably simplify reality, TAS M requires that the specifications, implementations, realisations and results of models be fit for purpose and reliable. Guidance includes:

- *Compliance* with other TASs
- *Fitness for purpose* including being a satisfactory representation of reality, checks of fitness, choice of methods, parsimony and reproducibility
- *Model inputs* including data standards, rationale and documentation of assumptions
- *Reporting* including comparison of non-neutral estimates to neutral estimates, model limitations, and explanations of how the model addresses users' needs

Relevance: Not necessary for the Internal Model (as above with TAS R).
TAS M could be adapted to provide an additional level of detail for actuaries within the RMF, in addition to that provided in Level 2 guidance on the Risk Management System and RMF (CP33).

Technical Actuarial Standard D: Data, 2009

Source: Board for Actuarial Standards, Financial Reporting Council

Link: https://www.frc.org.uk/Our-Work/Codes-Standards/Actuarial-Policy/Technical-Actuarial-Standards/TAS-D-Data.aspx

Jurisdiction: UK, compulsory for actuaries

Purpose: Same as other TASs, specifically that for actuarial information, data is subject to sufficient scrutiny and checking to be reliable and that actions addressing inaccurate or incomplete data increase its reliability.

Summary: TAS D includes guidance on:

- Data requirements
- Data definitions and documentation
- Validation
- Incomplete or inaccurate data

Relevance: Relevant, but covered in ISAP1 and ESAP1. Relevant to data used by actuaries within the RMF or Internal Model.
"Technical Provisions – Article 86f, Standards for Data Quality" (CP43) is comparable, but does not apply directly to the Internal Model or the RMF.

Pensions Technical Actuarial Standard, 2012

Source: Board for Actuarial Standards, Financial Reporting Council

Link: http://www.frc.org.uk/Our-Work/Codes-Standards/Actuarial-Policy/Technical-Actuarial-Standards/Pensions-TAS.aspx
Jurisdiction: UK, compulsory for actuaries

Purpose: To ensure that ***pension scheme governing bodies***, sponsors and other users of actuarial information can rely on the information's relevance, transparency, completeness, comprehensibility, and communication of uncertainty.

Summary: The Pensions TAS concerns reserved actuarial work for pension schemes, including:

- Contribution requirements and benefit levels
- Changes to funding level, scheme rules, benefits or benefit security
- Bulk transfers, sponsor wind up implications
- Actuarial factors used in benefit valuation
- True and fair financial reporting of pension scheme obligations

Relevance: None, out of scope for Solvency II.

Annex 3

Review of the relevant actuarial standards issued by the Actuarial Standards Board in the US

Actuarial Standard of Practice No. 46: Risk Evaluation in ERM, 2012

Source: Actuarial Standards Board
Link: http://www.actuarialstandardsboard.org/pdf/asop046_165.pdf
Jurisdiction: USA, compulsory for actuaries

Purpose: To provide guidance to actuaries with respect to ***risk evaluation systems***, including design, development, implementation, use, maintenance and review ***for the purposes of ERM***. (and specifically ERM, ASOP 46 does not extend to, for example, pricing or liability valuation.)

Summary: This is a high-quality standard. It is immediately applicable and provides a good balance between specificity and generality. This standard addresses six areas of risk evaluation within a professional ERM setting:

1. *Risk evaluation*—requiring comprehensive considerations about an organisation's
    a. Financial strength, risk profile, and risk environment
    b. Own risk management systems and appropriateness to the task at hand
    c. Consistency between (a) and (b), as well as suitability of (b) for (a)
    d. The intended purpose and use of the actuarial work product
2. *Risk evaluation models*—determining whether risk evaluation models:
    a. Are fit for purpose
    b. Use appropriate assumptions
3. *Economic capital*
    a. Appropriateness of economic capital models: time frame, metrics, strategic decisions, risk profile, risk modelling methodology
    b. Reliance on accounting frameworks
    c. Methods and measures (stress tests, stochastic measures, regulator and rating agency capital measures)
    d. Suitability of assumptions
    e. Validation
    f. Disclosure
4. *Stress testing*
    a. Considerations relating to stress and scenario tests
    b. Methodology
    c. Assumptions
    d. Scenario construction
    e. Disclosure
5. *Emerging risks*
    a. Effects, time horizons, organisational assumed actions, and secondary effects
6. *Other risk evaluations*—e.g. as used in hedging, asset liability management or reinsurance

Relevance: Relevant to actuaries within the RMF, generic, not specific to Solvency II. Neither specific to USA nor EU rules.

Actuarial Standard of Practice No. 47: Risk Treatment in ERM, 2012

Source: Actuarial Standards Board
Link: http://www.actuarialstandardsboard.org/pdf/asops/asop047_169.pdf
Jurisdiction: USA, compulsory for actuaries

Purpose: To provide guidance to actuaries with respect to ***risk treatment within a risk management system***, including design, development, implementation, use, maintenance and review ***for the purposes of ERM***.

Summary: This is a high-quality standard. It is immediately applicable and provides a good balance between specificity and generality. This standard addresses six areas of risk treatment within a professional ERM setting:

1. *Risk treatment*—information about
    a. Financial strength, risk profile, and risk environment
    b. Own risk management systems and appropriateness to the task at hand
    c. Consistency between (a) and (b), as well as suitability of (b) for (a)
    d. The intended purpose and use of the actuarial work product
2. *Using models in risk treatment*—understanding inherent limitations of models used
3. *Risk tolerance, risk appetite and risk limits*—considering
    a. Financial and non-financial benefits and aggregate effects across risks-taking activities
    b. Concentration of risks
    c. Options for mitigating breaches of risk limits and risk tolerances
    d. Regulatory and accounting constraints affecting the risk environment
    e. Relationships among risk tolerance, risk appetite and risk limits
    f. Historical volatility of the organisation's results in context of the current risk profile
4. *Risk mitigation*—reviewing, recommending, designing or using a risk mitigation strategy
    a. Qualitative information about the organisation (resilience, operational capability, reputation)
    b. Cost, potential effectiveness and constraints upon risk mitigation activities
5. *Actuarial communication*—including inconsistencies, limitations, considerations, changes and assumptions
6. Disclosure of deviation from the standard

Relevance: Relevant to actuaries working with the RMF.

Annex 4

Review of the relevant ICPs issued by the IAIS

Insurance Core Principle 8: Risk Management and Internal Controls, 2010
Source: International Association of Insurance Supervisors
Link:
http://www.iaisweb.org/index.cfm?pageID=689&icpAction=listIcps&icp_id=13&showStandard=1
Jurisdiction: International core principles, not compulsory

Purpose: "The supervisor requires an insurer to have, as part of its overall corporate governance framework, effective systems of risk management and internal controls, including effective functions for risk management, compliance, actuarial matters and internal audit."

Summary: ICP 8 provides in-depth guidance which is a hybrid checklist and to-do-list on supervisory requirements relating to risk management and internal controls, including:

- Systems for risk management and internal controls
- Control functions in general
- Risk management function
- Compliance function
- Actuarial function
- Internal audit function
- Outsourcing of material functions

Relevance: Applicable to actuaries in the actuarial function and the RMF. Detailed, but more succinct than Solvency II guidance. This will not be needed by our Task Force, except perhaps as cross-reference.

Insurance Core Principle 16: Enterprise Risk Management, 2010
Source: International Association of Insurance Supervisors
Link:
http://www.iaisweb.org/__temp/ICP_16_Enterprise_Risk_Management__standards_and_guidance_material.pdf
Jurisdiction: International core principles, not compulsory

Purpose: "The supervisor establishes enterprise risk management requirements for solvency purposes that require insurers to address all relevant and material risks."

Summary: ICP 16 provides in-depth guidance on supervisory requirements relating to ERM frameworks and ORSA, including:

- ERM Framework—Risk Identification and Measurement
- ERM Framework—Documentation
- ERM Framework—Risk Management Policy
- ERM Framework—Risk Tolerance Statement
- ERM Framework—Risk Responsiveness and Feedback Loop
- Own Risk and Solvency Assessment (ORSA)
- ORSA—Economic and Regulatory Capital
- ORSA—Continuity Analysis
- Role of Supervision in Risk Management

Relevance: Very relevant, perhaps the most relevant and up-to-date guidance on the ERM framework and ORSA as it relates to ERM. Although not specific to Solvency II, the guidance in ICP 16 is well aligned with Solvency II.

Annex 5

ESAP[3]: The role of the Actuarial Function in contributing to the risk management system under Solvency II

1. Background

The Solvency II directive requires the actuarial function (AF) contribute to the effective implementation of the risk-management system, in particular with respect to the risk modelling underlying the calculation of the SCR and the MCR, and to the ORSA.

The AF under the Solvency II framework is primarily responsible for the appropriateness of the technical provisions. Hence the contribution of the AF to the effective implementation of the risk-management system will mainly be concerned with the risks attached to the technical provisions and how technical provisions are used for risk management purposes including the calculation of SCR/MCR and the ORSA process.

It is expected by the Solvency II framework that undertakings will develop and place reliance on models that are compliant with sound actuarial and risk management principles in the decision-making process on various levels of the undertaking from departments through a solo undertaking to a group. Hence issuing an appropriate AAE model standard that serves a basis for actuarial standard setters can greatly raise the trust of users of actuarial services in this area including undertakings, European institutions national regulators/supervisors and other stakeholders.

2. Purpose

The purpose of this ESAP is two-fold: to enable and support actuaries in the provision of actuarial services in relation to the contribution of the AF to the risk management system and consequently that users of these actuarial services may place a high degree of reliance thereon.

The purpose is to address a need. The actuarial work specific to the contribution of the AF to the risk management system requires actuarial expertise, theoretical background and understanding of Solvency II guidance. To this end, the ESAP will enable actuaries to balance theoretical soundness and practical needs. Ultimately, the purpose of this ESAP is to be usable.

In providing guidance for providing actuarial services, the ESAP is intended to serve as a common starting point for actuaries in Europe supported by principles and principles-based frameworks.

This ESAP will provide useful and high quality guidance to actuaries when providing actuarial services in relation to the contribution of the AF to the effective implementation of the risk-management system, in particular to the calculation of the SCR/MCR, and to the ORSA.

The purpose of this ESAP will be that the intended users of these actuarial services (including users of actuarial work products, employers and regulators/supervisors and other stakeholders) should be able to place a high degree of reliance on these actuarial services when provided by actuaries compliant with this ESAP. Actuaries who practice within a set of clearly articulated professional standards (including those addressed by this ESAP) will be relied upon more readily by managers, regulators/supervisors and other stakeholders who want to feel more comfortable regarding the quality of the processes of calculating SCR/MCR and the ORSA process. Thus this ESAP will help in this area of practice the acceptance of, trust in and reliance on actuarial services provided in compliance with a professional standard substantially consistent with the proposed model ESAP.

This ESAP will contribute to ensuring consistent, efficient and effective practices provided by actuaries fulfilling the AF in contributing to the risk management system across undertakings in the European Union. This will strengthen and contribute towards harmonized and consistent application of EU legislation.

The guidance provided in this ESAP is intended to motivate Member Associations of the AAE and their standard-setters to consider adopting or adapting this ESAP for their membership applying the principle of subsidiarity at the same time.

3. Scope, roles and content

This ESAP will apply to actuaries when performing actuarial services in relation to the contribution of the AF to the effective implementation of the risk-management system, in particular to the calculation of the SCR/MCR, and to the ORSA.

Under the Solvency II framework the ORSA process will include an own assessment of the risks by the undertakings. This own assessment may incorporate valuation bases that are not Solvency II compliant. Thus the AF may have to participate in the design, implementation, validation, operation, usage, review and update of the valuation of (re)insurance assets and obligations. It should be clear what the differences are between this alternative valuation and the valuation under Solvency II principles and rules.

At this time, we envisage that this ESAP will focus on the following aspects and considerations of actuarial services in relation to the AF's contribution to the risk management system:

- Considerations in relation to the bases of valuation (re)insurance assets and liabilities according to Solvency II principles and rules; bases of valuation of (re)insurance assets and liabilities if these valuation bases are different from those of the Solvency II principles and rules; assessment of the relation of the two sets of valuation bases;
- Considerations in relation to the assessment of the risks attached to the uncertainty of the valuation of (re)insurance assets and liabilities;
- Considerations in relation to the appropriateness of the methods, models, assumptions and data applied for risk management purposes, including the calculation of SCR/MCR and the ORSA process, especially in relation to the consistency thereof with the valuation bases.

Annex 6

ESAP[4]: Actuarial practice in relation to internal models under Solvency II

1. Background

Solvency II is designed to incentivize insurers and reinsurers (undertakings) to develop (partial) internal models (hereinafter called simply internal models where appropriate). It is expected that many undertakings will have implemented an internal model when Solvency II is first applied and more firms will follow suit as they also develop models that better fit their risk profile than the standard formula. Supervisors will also encourage undertakings to develop their own internal models. For developing, implementing, operating, reporting on, using, monitoring, reviewing and updating internal models there will be a number of tasks that actuaries are well placed to do in relation to modeling and to model governance. In particular, the development of internal models requires special actuarial considerations during applying risk identification, assessment, measurement, monitoring, model calibration, and mitigation techniques.

With the introduction of Solvency II, parts of the services actuaries provide to undertakings in relation to internal models as employees, managers, directors, external advisors, auditors, or regulators/supervisors will be regulated by the Solvency II directive and the related legislation and supervisory guidance that will be issued by various European bodies. Further actuarial guidance complementing the regulation and the supervisory guidance and specific to the actuarial services in this practice area would be beneficial to the actuarial profession in Europe and to the external stakeholders such as employers and supervisors as they would most probably place more reliance and give more credibility to actuaries subject to professional standards than to other experts without the need to comply with such professional standards.

It is expected by the Solvency II framework that many undertakings will develop and place reliance on internal models that are compliant with sound actuarial principles in the decision-making process on various levels of the undertaking from departments through a solo undertaking to a group. Hence issuing an appropriate AAE model standard that serves a basis for actuarial standard setters can greatly raise the trust of users of actuarial services in this area including undertakings, European institutions, national regulators/supervisors and other stakeholders.

The IAA has started the development of a global actuarial model standard in this area of risk management. That standard, however, will not reflect the special requirements and situations due to the harmonized European Solvency II framework.

2. Purpose

The purpose of this ESAP is two-fold: to enable and support actuaries in the provision of actuarial services in relation to Solvency II Internal Models and consequently that users of these actuarial services may place a high degree of reliance thereon.

The purpose is to address a need. The actuarial work specific to a Solvency II Internal Model requires actuarial expertise, theoretical background and understanding of Solvency II guidance. To this end, the ESAP will enable actuaries to balance theoretical soundness and practical needs. Ultimately, the purpose of this ESAP is to be usable.

In providing guidance for providing actuarial services, the ESAP is intended to serve as a common starting point for actuaries in Europe supported by principles and principles-based frameworks.

This ESAP will provide useful and high quality guidance to actuaries when providing actuarial services in relation to internal models of undertakings in compliance with the Solvency II framework.

The purpose of this ESAP will be that the intended users of these actuarial services (including users of actuarial work products, employers and regulators/supervisors and other stakeholders) should be able to place a high degree of reliance on these actuarial services when provided by actuaries compliant with this ESAP. Actuaries who practice within a set of clearly articulated

professional standards (including those addressed by this ESAP) will be relied upon more readily by managers, regulators/supervisors and other stakeholders who want to feel more comfortable regarding the quality of the internal models they are dealing with. Thus this ESAP will help in this area of practice the acceptance of, trust in and reliance on actuarial services provided in compliance with a professional standard substantially consistent with the proposed model ESAP.

This ESAP will contribute to ensuring consistent, efficient and effective practices provided by actuaries in relation to internal models across undertakings in the European Union. This will strengthen and contribute towards harmonized and consistent application of EU legislation.

The guidance provided in this ESAP is intended to motivate Member Associations of the AAE and their standard-setters to consider adopting or adapting this ESAP for their membership applying the principle of subsidiarity at the same time.

3. Scope, roles and content

This ESAP will apply to actuaries when performing actuarial services in relation to internal models of undertakings in compliance with the Solvency II framework. For this standard, the internal model is defined by the Solvency II Directive and further detailed in the related legislation and supervisory guidance. Under the Solvency II framework an undertaking is free to choose an internal model as long as that model is also compliant with the Solvency II legislation including the various requirements in Articles 120 to 125 of the Solvency II Directive.

This ESAP will apply to actuaries when performing actuarial services in relation to internal models for developing, implementing, operating, reporting on, using, monitoring, reviewing, updating, and documenting internal models including the governance of such models.

At this time, we envisage that this ESAP will focus on the following aspects and considerations of actuarial services in relation to internal models:

- Considerations in relation to the design and implementation of the SII IM
  - Needs and limiting factors of the undertaking in the design of the SII IM
  - Considerations for the assumption setting process
  - Considerations for methodology and calculations
  - Considerations for the calculation of a 1-year Value-at-Risk
  - Considerations for the tail of the distribution of the Basic Own Funds (BOF)
  - Considerations for Partial Internal Models
- Considerations in relation to “Business as Usual” (using the SII IM)
  - Entity interactions with business processes and business units
  - SII IM model runs: set-up, reproducibility, and documentation
  - SII IM model output: documentation, use, and limitations
- Considerations in relation to Governance
  - Processes for design, use, and monitoring
  - Communication and consultation with stakeholders
  - Review and update of appropriateness of methodology, model structure and model output, including risk coverage of the SII IM and emerging risks
  - Review and update of users and uses of SII IM output and the suitability thereof

Annex 7

ESAP[5]: Actuarial practice in relation to the ORSA process under Solvency II

1. Background

The ORSA process under Solvency II is one of the most important RM processes combining the requirements of a number of expertise including the actuarial one. It will be applicable for all insurers and reinsurers (undertakings) subject to the Solvency II regulation. For developing, implementing, operating, reporting on, using, monitoring, reviewing, updating, and documenting the ORSA process there will be a number of tasks that actuaries are well placed to do in relation to providing the quantitative parts of the ORSA process such as stress and scenario tests, assessment of a forward looking capital adequacy under an economic view and under the Solvency II regulation.

Many undertakings in Europe have developed or are developing their own ORSA process and some of them are already using it for RM and decision making purposes. Actuarial expertise plays a central role in the quantitative parts of the ORSA process. With the introduction of Solvency II, parts of the services in relation to the ORSA process, including the development, operation, usage, review of and report on quantitative assessment of risk and applying appropriate (reverse) stress and scenario testing, that are used by undertakings for their own risk and solvency assessment processes for internal or regulatory purposes are provided by actuaries to undertakings as employees, managers, directors, external advisors, auditors, or regulators/supervisors. Such activities will be regulated by the Solvency II directive and the related legislation and supervisory guidance that will be issued by various European bodies. Further actuarial guidance complementing the regulation and the supervisory guidance and specific to the actuarial services in this practice area would be beneficial to the actuarial profession in Europe and to the external stakeholders such as employers and supervisors as they would most probably place more reliance and give more credibility to actuaries subject to professional standards than to other experts without the need to comply with such professional standards.

It is expected by the Solvency II framework that undertakings will develop and place reliance on the ORSA process that is compliant with sound actuarial principles in the decision-making process on various levels of the undertaking from departments through a solo undertaking to a group. Hence issuing an appropriate AAE model standard that serves a basis for actuarial standard setters can greatly raise the trust of users of actuarial services in this area including undertakings, European institutions, national regulators/supervisors and other stakeholders.

2. Purpose

The purpose of this ESAP is two-fold: to enable and support actuaries in the provision of actuarial services in relation to the ORSA process under Solvency II and consequently that users of these actuarial services may place a high degree of reliance thereon.

The purpose is to address a need. The actuarial work specific to the ORSA process under Solvency II requires actuarial expertise, theoretical background and understanding of Solvency II guidance. To this end, the ESAP will enable actuaries to balance theoretical soundness and practical needs. Ultimately, the purpose of this ESAP is to be usable.

In providing guidance for providing actuarial services, the ESAP is intended to serve as a common starting point for actuaries in Europe supported by principles and principles-based frameworks.

This ESAP will provide useful and high quality guidance to actuaries when providing actuarial services in relation to the the ORSA process of undertakings in compliance with the Solvency II framework.

The purpose of this ESAP will be that the intended users of these actuarial services (including users of actuarial work products, employers and regulators/supervisors and other stakeholders) should be able to place a high degree of reliance on these actuarial services when provided by

actuaries compliant with this ESAP. Actuaries who practice within a set of clearly articulated professional standards (including those addressed by this ESAP) will be relied upon more readily by managers, regulators/supervisors and other stakeholders who want to feel more comfortable regarding the quality of the ORSA process they are dealing with. Thus this ESAP will help in this area of practice the acceptance of, trust in and reliance on actuarial services provided in compliance with a professional standard substantially consistent with the proposed model ESAP.

This ESAP will contribute to ensuring consistent, efficient and effective practices provided by actuaries in relation to the ORSA process across undertakings in the European Union. This will strengthen and contribute towards harmonized and consistent application of EU legislation.

The guidance provided in this ESAP is intended to motivate Member Associations of the AAE and their standard-setters to consider adopting or adapting this ESAP for their membership applying the principle of subsidiarity at the same time.

3. Scope, roles and content

This ESAP will apply to actuaries when performing actuarial services in relation to the the ORSA process of undertakings in compliance with the Solvency II framework. For this standard, the the ORSA process will be defined by Article 45 of the Solvency II Directive and further detailed in the related legislation and supervisory guidance. All undertakings under the scope of the Solvency II framework will have to apply their ORSA.

This ESAP will apply to actuaries when performing actuarial services in relation to developing, implementing, operating, reporting on, using, monitoring, reviewing, updating, and documenting the ORSA process.

At this time, we envisage that this ESAP will focus on the following aspects and considerations of actuarial services in relation to the ORSA process:

- Considerations in relation to the ORSA processes
  - Establishing a structured approach to uncertainty
  - Considerations for consistency with or deviation from Solvency II requirements
  - Considerations for the business planning period and the interactions among risk, capital, and value
  - Involvement of the business in the ORSA processes
  - Risk management and the ORSA
  - Events triggering an ORSA run
  - Effectiveness of the ORSA model as a risk management tool
- Considerations in relation to the ORSA model
  - ORSA methodology and structure—connections with SCR methodology
  - Risk coverage considerations for the ORSA model
  - Combining quantitative and qualitative risks coherently
  - Considerations for stress testing, reverse stress testing, and scenario testing
  - Time horizons: business planning period and risk-specific timeframes
  - Limitations of the ORSA model
- Considerations in relation to “Business as Usual” (using ORSA)
  - Entity interactions with business processes and business units
  - The ORSA run: set-up, reproducibility, and documentation
  - The ORSA output: the ORSA Report; documentation, use, and limitations
- Considerations in relation to Governance
  - Processes for design, use, and monitoring
  - Communication and consultation with stakeholders

- Review and update of appropriateness of methodologies, model structures and model output, including risk coverage of the ORSA models and emerging risks
- Review and update of users and uses of the ORSA output and the suitability thereof

Annex 8

Members of the Risk Management Task Force

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