

**Title of paper**            The Solvency II Actuary

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**Abstract:**

Solvency II is a fundamental change for the insurance industry. As a profession we have a key part to play to fulfill the requirement for an Actuarial Function as set out in Article 47 of the framework Directive, and the challenge to get involved more widely in the risk management of the organisation to potentially assist and play a key role the assessment of regulatory capital requirements. These parts of the solvency framework have not been assigned solely to the Actuarial Function but are areas where we face the challenge of demonstrating that we can add value and that we should be involved.

We need to drive the development of methodologies and deal with a number of fairly complex technical challenges not all of which we do today. This paper presents some of those challenges. Over and above this, we must be able to clearly communicate complex issues and results to our colleagues and senior management.

We believe that Solvency II will fundamentally change and set standards for our work for years to come.

## **Introduction**

‘Solvency II is not just about capital. It is a change of behaviour’. The Chairman of CEIOPS Thomas Steffen made this comment at the launch of the Solvency II Framework Directive in July 2007.

Keeping in mind that the Actuarial Function is one of four core functions mentioned within the proposed Directive, this paper explores how the upcoming regime may influence the role, remit and responsibilities for actuaries across the European Union, and possibly more widely as Solvency II extends across the world.

The Solvency II regime will in our view bring a number of challenges for the profession but also opportunities to widen our role and to get more proactively involved in strategic business decisions.

## **Executive summary**

Solvency II is a fundamental change for the insurance industry. As a profession we have a key part to play to fulfill the requirement for an Actuarial Function as set out in Article 47 of the framework Directive, and the challenge to get involved more widely in the risk management of the organisation to potentially assist and play a key role the assessment of regulatory capital requirements. These parts of the solvency framework have not been assigned solely to the Actuarial Function but are areas where we face the challenge of demonstrating that we can add value and that we should be involved.

We need to drive the development of methodologies and deal with a number of fairly complex technical challenges not all of which we do today. This paper presents some of those challenges. Over and above this, we must be able to clearly communicate complex issues and results to our colleagues and senior management.

We believe that Solvency II will fundamentally change and set standards for our work for years to come.

## **Solvency II – where do the actuaries fit?**

The introduction of a more risk-sensitive approach to supervision will encourage alignment between prudential supervision and enterprise-wide risk management (ERM). This will encourage, if not require, companies to enhance risk management, upgrade information systems and embed risk awareness more closely into the governance, strategy and operations of their business in order to demonstrate to their supervisor that they are operating on a sound basis.

The Framework Directive will require companies to conduct their own risk and solvency assessment (ORSA). This assessment must include compliance on an ongoing basis with the Solvency Capital Requirement (SCR) and with the requirements for technical

provisions, taking into account the company's specific risk profile. To calculate the SCR, companies can either use the SCR Standard Formula or, if approved for use by their supervisor, the entity's own internal model.

Based on the experience from banking, under Basel II, the supervisory approval process for a model can be challenging, costly and time-consuming. The challenge under Solvency II will be to demonstrate that the model meets five tests around data quality, calibration, validation, documentation and usage, or embeddedness. The use test will focus on the extent to which the model is trusted by the business as an integral part of its risk management and strategic decision-making process.

The Solvency II framework will hence encourage a wide co-operation across different functions within an organisation. In addition to the core functions listed within the Framework Directive (the risk management, compliance, internal audit and actuarial functions) we would expect finance, capital management, the business and the senior management team/executives to all be involved in some capacity in order to convince the supervisor that the business is Solvency II compliant.

The exact functions to be involved will of course be dependent on the individual company's organisational structure and allocation of responsibilities together with its ambition level for Solvency II. For example, companies will generally have a choice around whether to go down the internal model route or use the standard formula to assess the SCR. The expectation is that the Solvency II framework will encourage internal models as these may result in lower regulatory capital requirements than the corresponding SCR standard formula; in addition rating agencies are likely to push companies in this direction. The strategic decisions made by top management will obviously influence the remit and work of actuaries.

For each of the 3 pillars under Solvency II the illustration below lists the parts where actuaries are likely to get involved.

<b>Pillar I</b> Quantitative requirements	<b>Pillar II</b> Supervisory review	<b>Pillar III</b> Disclosure
Own funds		
Solvency Capital Requirement	ORSA	Disclosure
C-o-C Risk margin		
Technical provisions		
Best estimates		

For Pillar III the Framework Directive proposes that companies will be required to provide annual and publicly available reports on their solvency and financial condition. The reports should include information on the risk profile, governance systems, nature and performance of the business, along with the approaches to valuation and capital management. This is another area where the actuarial profession may have an important role to play.

The table below summarises the main components of the Solvency II framework focusing on the functions within the organisation that are likely to be involved and to be the drivers of the various components.

	Main owner	Other functions involved	Comments
Technical provisions Best estimate	Actuarial	Input from claims, reinsurance, underwriting as well as Finance  Overall responsibility with Board	The coordination of the best estimate is assigned the duty of the Actuarial Function within Article 47 of the Directive
Technical provisions Risk margin	Actuarial / Finance	Input from business and strategic planning  Overall responsibility with Board	Whether the calculation is driven by Finance or Actuarial is likely to be dependent on the calculation basis (ie. internal model or not)
SCR – Standard Formula	Finance/ Actuarial	The calculation may be owned and performed by Finance. Input/ part ownership likely to be required by actuarial function, investment department	The split of responsibility is also dependent on the approach taken and the application of the proportionality principle

SCR – Internal model	Senior management/ Executives / CRO	Actuarial is likely to drive the quantitative modelling at least for insurance risk. Risk management, investments, business planning are all functions that will be involved	Five tests need to be satisfied for model approval. In addition certain policies, process and procedures need to be in place
ORSA	Senior management/ Executives / CRO	Involvement across the organisation	Required to demonstrate the use of risk and capital management within the day to day decision making
Disclosure	Finance	Input required across the organisation including actuarial, risk management, investment department	Written procedures, system & processes required to ensure appropriateness of any information disclosed

In the remaining part of the paper we cover the duties of the Actuarial Function as set out in the Framework Directive proposals followed by for each of the areas above, an overview for each of the areas above of the Solvency II approach, the existing issues and the implications for the profession both in terms of development of technical knowledge and behaviour.

It should be noted that we have not included the Minimum Capital Requirement (MCR) in the above table, as the calculation method is as yet undecided. It is expected that the MCR will be a simple and easy to calculate measure. Whether it ends up as a percentage of SCR or as a linear function, our expectation is the calculation will be straight forward and most likely be performed by the Finance functions (or whoever in the organisation today calculates the Solvency I minimum capital requirement). In addition, a firm will need to monitor its free assets against the MCR and report regularly to its supervisors.

One area that will be important within an internal model and for any solvency assessment is own funds. Although not included explicitly in the above table, the tiers of capital and asset mix, although owned and assessed by the accounts and finance, need to be consistently applied within the internal model framework.

## **The Actuarial Function**

Companies will be required to formalise their systems of governance to demonstrate sound and prudent management under Solvency II. The system of governance should include a clear allocation of responsibilities and effective reporting lines, underpinned by thorough documentation and internal review. Companies are required to have risk management, compliance, internal audit and actuarial functions.

The risk based nature of Solvency II is a great opportunity for actuaries and we have a key part to play, thanks to the requirement for an Actuarial Function as set out in Article 47 of the framework Directive:

### *Article 47*

#### *Actuarial Function*

- 1. Insurance and reinsurance undertakings shall provide for an effective actuarial function to undertake the following :*
  - a) to coordinate the calculation of technical provisions;*
  - b) to ensure the appropriateness of the methodologies and underlying models used as well as the assumptions made in the calculation of technical provisions;*
  - c) to assess the sufficiency and quality of the data used in the calculation of technical provisions;*
  - d) to compare best estimates against experience;*
  - e) to inform the administrative or management body of the reliability and adequacy of the calculation of technical provisions;*
  - f) to oversee the calculation of technical provisions in the cases set out in Article 81;*
  - g) to express an opinion on the overall underwriting policy;*
  - h) to express an opinion on the adequacy of reinsurance arrangements;*
  - i) to contribute to the effective implementation of the risk management system referred to in Article 43, in particular with respect to the risk modeling underlying the calculation of the capital requirements set out in Chapter VI, Sections 4 and 5 and the assessment referred to in Article 44.*
- 2. The actuarial function shall be carried out by persons with sufficient knowledge of actuarial and financial mathematics and able where appropriate, to demonstrate their relevant experience and expertise with applicable professional and other standards.*

The majority of the responsibilities set out in the article focuses on our core competences around technical provisions (point a) to f)) whereas the requirements around opinions on overall underwriting policy and adequacy of reinsurance arrangements (points g) and h)) are areas provided by few if any actuaries today. Details are currently not available on what constitute an opinion and further guidance is likely to be developed as part of the implementing measures.

As a profession we have the challenge to get involved more widely in the risk management of the organisation to potentially assist and play a key role with the implementation of ORSA and the assessment of regulatory capital requirements. These parts of the solvency framework have not been assigned solely to the Actuarial Function

although it is acknowledged (point i)) that we should contribute in particular around the modelling components. We face the challenge of demonstrating that we can add value and should be involved.

## **Technical provisions – best estimate**

### ***Overview***

The best estimate technical provisions has been defined within the Framework Directive as the probability-weighted average of future cash-flows relating to the settlement of the current insurance/ reinsurance obligations taking into account the time value of money<sup>1</sup>.

The best estimate should be calculated gross, without deduction of amounts recoverable from reinsurance contracts and/or special purpose vehicles. The amount expected to be recovered should be calculated separately. In doing so companies should consider any adjustments required due to potential counterparties default and time lags between recoveries and direct payments.

The best estimate (gross and from recoveries) should according to the proposed legislation be based upon current and credible information, realistic assumptions and be performed using adequate actuarial methods and statistical techniques.

### ***Issues***

Current accounting practices (local GAAPs) across Europe are diverse and do not produce **consistent best estimates**. This issue has not been addressed by IFRS Phase I. In addition to the different local accounting rules, differences may exist in the interpretation of what constitutes a discounted best estimate (this can be between companies as well as between countries) e.g. there is not one exact answer to what constitutes the best estimate, as the results are ultimately driven by a number of underlying assumptions based on a combination of market as well as entity specific information (that could reasonably have been selected higher or lower).

Solvency II will therefore challenge and stretch national conventions and practices. This will mostly be a cultural issue and acquires a shift in mindset including the acceptance of potentially multiple versions of balance-sheets (this is clearly dependent on the developments in IFRS, which seem to be heading in the same direction as Solvency II<sup>2</sup>) i.e local GAAP versus discounted best estimate and recognition of difference in the assumptions and bases underlying these balance sheets.

The probability-weighted average of future cash-flows mentioned within the Directive could simply imply the mean value of the expected cash-flows. However in the context of most commonly used reserving methods being listed under acceptable proxies in QIS4 there appears to be a push for **stochastic reserving** within the Directive and in CEIOPS

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<sup>1</sup> Article 76 of the proposed Framework Directive

<sup>2</sup> IFRS DP 2007

publications. This is an area where the actuarial profession across Europe is currently engaged, although standard actuarial practice lags behind what is required, and there is in some quarters scepticism as to the advantages of such methods.

**Classification of business** for reserving purposes may be influenced over time by the line of business definition within the Solvency II framework, which is based on the Accounting Directive<sup>3</sup>. As a minimum the actuary/ company will require a mapping between reserving classes used and the specified line of business definition (within QIS4 12 lines of business have been defined that are subdivided by geographical areas). The split of reserves by the specified classification will be required for the calculation of the SCR standard formula, and for the comparison with internal model results (where applicable).

### *Implications for the actuarial profession*

#### *Technical knowledge*

Prepare for a **move towards more advanced reserving techniques**, including stochastic reserving, which aid in the assessment of uncertainty. The approach taken by any actuary should be proportionate to the nature, scale and complexity of the risks faced. The key is to communicate uncertainty in the assessment to the Management and Board of the company. However, we believe that the profession needs to enhance reserving techniques for non-life insurance to enable insurance firms to meet the requirements of Solvency II.

#### *Behaviour*

The best practice would be for the actuary to have **documentation** in place that justifies the assumptions made for the best estimate reserves including the use of market versus entity specific data and management decisions made. Furthermore the actuary should be in a position to explain any difference between potentially multiple versions of the balance-sheet. For the Solvency II balance-sheet the reserve booked will in many cases be different from the current local GAAP figures. This may not be an issue in the longer term provided IFRS Phase II and Solvency II end up aligned.

Processes and procedures have to be in place to regularly **compare the best estimate against emerging experience**. This may be in the form of run-off tables although directions are currently not set within the Solvency II framework. Further guidance might be expected as part of the implementing measures at Level 2.

According to the Directive, should the above comparison identify systematic deviation between experience and the best estimate calculations, the undertaking would be expected to make appropriate adjustments to the actuarial methods used or the assumptions made.

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<sup>3</sup> Directive link



With the increased transparency required the Actuary may face increased **challenge from the business**. Arguably this should already be taking place in most companies; the difference may be the fact that more extensive documentation is required.

There is a link between estimating the technical provisions and using an internal model to assess capital requirements. A firm cannot gauge whether it is meeting its economic or regulatory capital requirements unless it has an estimate of the uncertainty in its technical provisions estimate and a reliable estimate of the discounted mean value of the liabilities. Neither of these are trivial, and may well be addressed in the firm's own internal model.

## **“Cost of capital” risk margin**

### **Overview**

Solvency II requires companies to hold a risk margin over and above the best estimate technical provisions, calculated “by determining the cost of providing an amount of eligible own funds equal to the Solvency Capital Requirement necessary to support the insurance and reinsurance obligations over the lifetime thereof.”<sup>4</sup> The cost of capital rate to be applied is likely be set by the regulators.

The risk margin approach aims to ensure that the overall value of the technical provisions is broadly equivalent to market value, i.e. the amount another undertaking would require to take over and meet all current obligations.

Thus, a company calculating the risk margin is required to project the SCR for each future year where it still expects to have liabilities using either the SCR standard formula or its own internal model (subject to approval). The associated costs of holding the SCRs are discounted using prescribed term structures.

The calculation is to be performed for each class of business net of reinsurance. The risk margin for the company as a whole is currently set equal to the sum of the risk margins by line of business with no allowance for diversification.

### **Issues**

There is **no deep and liquid market** for insurance liabilities and the “cost of capital” margin is necessarily a proxy for the true market value, which will depend on many factors, several of which would be heavily dependent on the state of insurers' balance sheets generally, the appetite for such deals and the strength of each side's negotiating team.

However, the calculation has the advantage of being consistent across firms, and together with increased consistency in the assessment of the best estimates, this should make

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<sup>4</sup> Solvency II Framework Directive, Article 76

comparisons between firms easier and more reliable for supervisors, shareholders, policyholders and other stakeholders.

The **final approach and assumptions** underlying the calculation of the Cost-of-Capital risk margin is still under **some debate**. For example it is generally agreed that not all risk types should be taken into account when projecting the future SCRs, and the liabilities are assumed to be transferred to the entity itself with no real reference to the market. The latest approach is being tested under QIS4.

The risk margin is calculated by line of business with **no allowance** being made for **diversification**, which might be perceived to not be a logical approach.

### *Implications for the actuarial profession*

#### *Technical knowledge*

If a firm based the Cost-of-Capital calculation on the mechanical approach together with allowed simplification the additional analysis required by actuaries in addition to the best estimate reserves is limited.

It is yet to be confirmed that the Cost-of-Capital approach will definitely be based on the SCR from the internal model in the cases where the internal model has been approved. We would expect this should be the case, hence actuaries will face the additional challenges of projecting the SCR over the lifetime of the liabilities and the need to be clear about the assumptions made (i.e. which risks are included, which risks are not, what discount rates are used, etc).

For further discussion on different approaches and considerations on risk margins please see the IAA Paper.

#### *Behaviour*

The “cost of capital” margin will need to be explained to the firms’ management by the actuary, and compared to any previous margins held. The actuary will also need to explain how it compares with the firm’s own estimate of reserve margins in its internal model, and be clear about what the margin is meant to represent, and the circumstances where it might be inadequate.

## SCR standard formula

### Overview

The SCR standard formula calculates the required capital using a modular approach. An assessment of capital is made for each risk type and several sub-risks, and these are aggregated using a correlation matrix. The capital requirements for each sub-risk, risk and overall are set to a VaR of 99.5% over a one year time horizon.

The shape of the formula seems to be fairly settled now, as it has been reasonably consistent for the QIS3 and QIS4 exercises<sup>5</sup>, although the parameters may change following QIS4.

The formula has been described as “one size fits no-one”, as the parameters for non-life business are only as granular as the EU accounting classes, and are the same across all EU member states.

### Issues

The formula is **necessarily broad brush**, and may not reflect the risks faced by an individual company. This could lead to an incorrect reflection of capital requirements given the actual risk profile. The supervisors may according to the Directive have the powers to require a firm to use an internal model where the results are expected to materially affected.

The modular nature of the formula means that a firm will be able to assess which parts do not reflect its risks and hence it may prefer to **develop a full or partial internal model**. The challenge may be to properly justify to the regulator that there has been no bias (‘cherry picking’) towards risk areas that would reduce the overall capital requirement, where a limited scope model has been selected. A transitional plan towards a more extended scope of the model may be required as part of the approval process for the partial model.

A company with an internal model will have a requirement to provide supervisors with an estimate of the standard formula SCR for two years after approval. This will doubtless introduce a requirement to explain differences between the results of the formula and the SCR produced by the internal model.

### *Implications for the actuarial profession*

#### *Technical knowledge*

Solvency II provides an **opportunity** for actuaries to get involved in **assessment of all risks** that may affect the balance-sheet from a quantitative perspective.

The modular structure of the SCR standard approach will lead itself to splitting the responsibility for completion of the input by different parts of the organisation. For

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<sup>5</sup> References

example the Finance department might get involved with the assessment of own funds, tiers of capital, components of the market risk and the treatment of deferred tax. The actuarial background naturally leads itself to assessment of the underwriting and default risk in particular. Should the profession wish to play a larger role it will need to increase its knowledge and to focus wider than the liability side on which many actuaries to date have spent the majority of their time.

The analysis will also provide **insight into the data and analysis** required for calculating the SCR under the standard formula. Actuaries will need to understand the working of the standard formula – for firms that do not use an internal model, this will be useful when producing the ORSA.

For organisations that already have some modelling capabilities in place, or analysis assessing their capital requirements, actuaries will find it useful to assess the firm's capital requirements split into the same categories as the standard formula. This will allow the company to form an opinion on the appropriateness of the standard formula given their specific risk profile, business mix and past performance. Ultimately this may drive a decision on whether they should invest in the design or further development of an internal model.

#### *Behaviour*

The more risk based approach to the assessment of the SCR will doubtless lead to more questions from management. The actuary will need to be able to explain the rationale for the structure of the formula, the parameterisation and its drawbacks, and where and why the formula is problematic for the firm.

### **Solvency Capital Requirement – Internal model**

#### *Overview*

Subject to supervisory approval, the use of full or partial internal models will be allowed for the calculation of one or more of the risk modules, or sub risk modules, of the Solvency Capital Requirement Standard Formula<sup>6</sup>. According to the Directive, partial models may be applied to the whole business or only to one or more major parts of the business.

In the application for approval, documentation will be required. As a minimum the pack will have to provide evidence that the internal model meets the 5 tests namely: the statistical quality standards, calibration standards, validation standards, documentation standards as well as the use test. In addition evidence of an (at least) annual analysis of profit & loss contribution will be expected.

Any internal model should not only calculate the solvency capital requirement (partially or fully) but should also be used primarily to assess economic capital based on a firm's

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<sup>6</sup> Article 110

own risk appetite, to make business decisions and link to the wider risk management framework.

As part of the initial approval process of their internal model, companies will need to agree with the supervisory authorities on a policy for changing the model. The policy will have to define expected minor and major changes, where major changes have to be agreed with the supervisors prior to implementation.

### *Issues*

It is possible that the business requirements of a model may differ from what is immediately required or acceptable from a supervisory perspective. There is a risk that the **policy for changing models may restrict** companies and their actuaries in the development and continuous enhancement of internal models for the wider benefit of the business. However, an approved for use internal model will include an agreed change policy for the model, which will indicate when the supervisor needs to be consulted on changes. This approach, together with the supervisory review process and the ORSA (see below), will give an insurer the opportunity to demonstrate to their supervisor that they understand the risks they are facing.

**Existing capital models are unlikely to be in line with the requirements** anticipated under Solvency II. A key requirement is the use of an internal model to assess economic capital requirements. Another issue is that the valuation of assets and liabilities differs from that currently used. It is therefore important for companies to assess the implication on their models of the data and model requirements within the Directive. Another area of focus could also be the ease of comparing model results with the SCR standard formula's risk modules.

Although an organisation for their own internal modelling purpose may use a confidence level or a time horizon that differs from that underlying the SCR standard formula, it will be required to perform the calculation on the VaR 99.5% one-year basis in order to understand and explain any differences.

### *Implications for the actuarial profession*

#### *Technical knowledge*

Detailed analysis required for existing capital models and risk management frameworks to assess the **implication of moving** to a **Solvency II valuation basis** and potentially to a Solvency II business classification. Furthermore consideration is required on how to achieve **comparability** with the standard formula on an overall and/or (sub) risk module basis<sup>7</sup> as this is required for the first two years after internal model approval for use.

The focus of the Directive on the use of internal models for the purpose of economic capital calculations, the ranking of risks and strategic decision making will put demands on the actuaries and other key personnel to clearly communicate the capital model results

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<sup>7</sup> The level is dependent on whether it is full or partial internal model. For a full model it is likely that supervisors will request a split of capital by risk module.

and key drivers of these. It will increasingly be important for actuaries to understand, quantify and communicate **model error/ uncertainty**. There may be an increased use of sensitivity testing of the results to communicate findings to senior management (what if's).

The validation requirements within the Directive will push companies towards regular model validation. This will include designing an **approach for monitoring the performance of the internal model**, reviewing the on-going appropriateness of its specification, and testing its results against experience (emerging from both past data and new information). Further areas of focus for the model validation process include assessment of the accuracy/ completeness/ appropriateness of data and analysis of the stability of the internal model as well as a demonstration of how the categorisation of risk chosen in the internal model explains the causes and sources of profits and losses.

#### *Behaviour*

The actuary will to an even larger extent than today have to clearly **communicate and document** the multiple usages of the elements of the internal model for which they are responsible.

## **ORSA**

### **Overview**

The ORSA can be defined as the entirety of the processes and procedures employed to identify, assess, monitor, manage, and report the short and long term risks an undertaking faces or may face. The own funds necessary given the risk profile and internal controls should be determined independent of whether the company has selected an internal model route. Furthermore the company will need to demonstrate that the own funds meet the technical provisions, MCR and SCR at all times<sup>8</sup>.

The ORSA should be a key part of a company's risk management system and as such form 'an integral part' of strategic decision-making. The preamble to the proposed Directive explains that:

*The ORSA has a twofold nature. It is an internal assessment process within the undertaking and is as such embedded in the strategic decisions of the undertaking. It is also a supervisory tool for the supervisory authorities, which must be informed about the results of the own risk and solvency assessment of the undertaking.*

*The ORSA does not require an undertaking to develop or apply a full or partial internal model. However, if the undertaking already uses an approved full or partial internal model for the calculation of the SCR, the output of the model should be used in the ORSA. The ORSA does not create a third solvency capital requirement. The ORSA should not be overly burdensome on small or less complex undertakings. The supervisory authority*

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<sup>8</sup> Framework Directive Article 44

*reviews the own risk and solvency assessment as part of the supervisory review process of the undertaking. The results of each ORSA conducted shall be reported to the supervisory authority as part of the information to be provided for supervisory purposes under Article 35.*

## **Issues**

The description of the ORSA is **principles based**, and currently leaves a lot of room for interpretation as to the level of detail or the approach to be used<sup>9</sup>.

The ORSA may take **different levels of sophistication** according to the nature, complexity and scale of the risks inherent in the business (in line with Solvency II's overall proportionality principle). The ORSA may range from simple stress test calculations on the material risks to the use of more advanced methodologies similar to the ones used in partial or full internal models.

Actuaries should be well placed to be involved in the risk quantification underlying the ORSA, whether or not the insurer has an internal model approved for use.

## ***Implications for the actuarial profession***

### *Technical knowledge*

As part of the ORSA the vision by CEIOPS is that<sup>10</sup> *an undertaking should be able to explain and justify:*

- a) The methodology and key assumptions used in the assessment of each category of risk;*
- b) The results of the assessment, including the sensitivity of the results to any assumptions made;*
- c) The appropriateness of the assessment or modelling approach adopted, including how it captures all risks material to its business*
- d) The sources of data it has used in its ORSA and the systems and controls around it*
- e) The approach to dealing with parameter uncertainty and fluctuations.*

ORSA, like the internal model provides an **opportunity** for actuaries to get involved in **assessment of all risks** that may affect the balance-sheet from a quantitative perspective.

The ORSA requires a link between the risk appetite of a firm and the firm's overall solvency needs given its risk profile and level of internal controls. The ORSA is intended to be done for the firm's own business purposes to enable strategic decision making, therefore it may use a confidence level, a time horizon or underlying assumptions that differ from that of the SCR calculation. Hence the regulatory capital requirement might

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9 Framework Directive Proposal does not stipulate any Level 2 implementing measures regarding the ORSA, but there will be development of the principles relating to the ORSA in Level 3 guidance to be issued by CEIOPS. CEIOPS current thinking is set out in the Issues Paper 'Own Risk and Solvency Assessment' dated 27 May 2008.

<sup>10</sup> Paragraph 77 CEIOPS Issue paper ORSA May 2008

be a number that ‘drops out’ using a different assumption set from those used within the ORSA.

From a technical perspective the answer may not necessarily be to implement a complex capital model. The actuary will need to consider what is an **appropriate methodology** and approach to achieve the link between risks, risk appetite, economic capital and regulatory capital.

### *Behaviour*

The ORSA needs to be integrated into a firm’s business strategy – this requires **good communication skills** of the underlying methodology, its drawbacks and key areas of uncertainty. The actuary will need to appreciate the viewpoint of different users of the ORSA in order to make it as value-adding as possible.

## **Disclosure**

### *Overview*

The draft Directive proposes that companies will be required to provide annual and publicly available reports on their solvency and financial condition<sup>11</sup>.

The parts of the disclosure where the actuarial function is most likely to become involved are in the preparation of 1) the description for technical provisions of the bases and methods used, together with an explanation of any major differences that may exist between the Solvency II basis and the valuation in financial statements; and 2) the information that sets out the main differences between the standard formula and any internal model used for the calculation of its Solvency Capital Requirement.

Organisations are required to have appropriate systems and structures in place, along with a written policy ensuring the ongoing appropriateness of any information disclosed. Within the disclosures companies will be permitted to make use of, or refer to, other public disclosures made, where the information is relevant in nature and scope.

### *Issues*

The increased disclosure will make more information available to the market and enhance transparency. There is currently no guarantee that the increased disclosure will be in line with the IFRS Phases II requirements, hence the **reporting/ documentation burden** might be higher than desirable.

There is a need for internal functions within any organisation to agree who is primarily **responsible for the production** of the various items to be disclosed in the Solvency & Financial Condition Report and how the process is to be governed. It may also provide an opportunity to assess how data flow and information might be communicated more efficiently and used more consistently across the organisation.

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<sup>11</sup> Article 50



## ***Implications for the actuarial profession***

### *Technical knowledge*

See under technical provisions and internal models. The key issue for actuaries is making their analyses and results comprehensible and fit for purpose.

### *Behaviour*

The Actuarial Function needs to **work closely with Finance** and agree responsibilities for preparing the disclosures up front.

See also under technical provisions and internal models.

## **Conclusion**

The risk based nature of Solvency II is an excellent opportunity for actuaries and we have a key part to play, thanks to the requirement for an Actuarial Function as set out in Article 47 of the Framework Directive. We believe that Solvency II will fundamentally change and set standards for our work for years to come.

We need as a profession to prepare in terms of both technical knowledge and our ability to communicate effectively with colleagues across the organisation. This gives a series of challenges for the profession over the next four years and beyond (as covered in this paper), and we should be tackling these issues coherently. We all have a responsibility to make sure that Solvency II works well and gives European insurers a sound foundation for the future.