

The Actuarial Profession
making financial sense of the future

Life Conference and exhibition 2011
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The Role of the Actuarial Function
Evolving into a Solvency II World

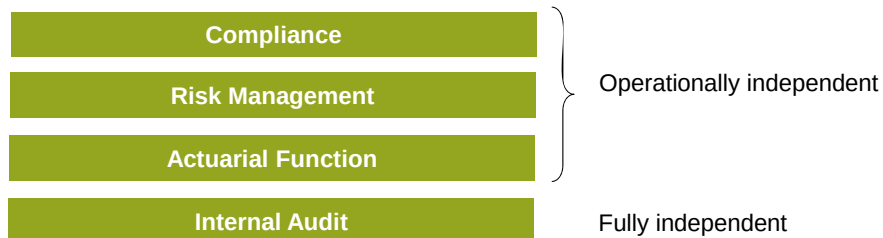
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Agenda

- The actuarial function
 - Requirements of the actuarial function under Solvency II
 - Target operating model for the actuarial function
 - Putting it into practice: Issues to be considered
- The international actuarial environment
 - Groupe Consultatif insights
 - Comparisons: UK/France/Germany
 - Positioning the role of the actuary

The 4 Key Functions in the Solvency II System of Governance



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Solvency II implies a wider range of tasks for the Actuarial Function

- Technical provisions
 - Coordinate the calculation of technical provisions

- Reporting requirements
 - Inform on the reliability and adequacy of the technical provisions
 - Express an opinion on the underwriting and reinsurance policies

- Methods, assumptions and data
 - Appropriateness of the methodologies, assumptions and models
 - Sufficiency and quality of the data used in the calculation of technical provisions
 - Compare best estimates against experience

- Risk Management
 - Contribute to the risk management system, with respect to the risk modelling and to the ORSA

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Technical provisions remain central to the actuarial function

- Technical provisions
 - Coordinate the calculation of technical provisions
- What is meant by “co-ordinate”?
- Is the actuarial function an “operating” or a “controlling” function?
- Need to also consider:
 - Intended deliverable
 - The timing of the actuary’s intervention
 - The standing of the actuary within the company

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The move from supplementary to statutory reporting will require more robust processes

- Methods, assumptions and data
 - Appropriateness of the methodologies, assumptions and models
 - Sufficiency and quality of the data used in the calculation of technical provisions
 - Compare best estimates against experience
- Data requirements includes elements of “operating” and “controlling”
 - Will also require interaction with other professionals
- Best-estimate assumption setting back in familiar actuarial territory
 - However, in a number of countries such analyses are performed only for supplementary reporting
- Analysis of roll-forward of technical provisions formalised

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Expect additional reporting requirements in the future

- Reporting requirements
 - Inform on the reliability and adequacy of the technical provisions
 - Express an opinion on the underwriting and reinsurance policies
- Greater role for benchmarking of technical provisions
- For reporting lines various possibilities exist
 - How to ensure independence?
 - Interaction of “operating” and “controlling” tasks
 - Whistle-blowing duty to supervisor?
- Commenting on underwriting and reinsurance requires actuaries to up-skill?

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Extent of interaction with Risk Management Function still to be developed

- Risk Management
 - Contribute to the risk management system, with respect to the risk modelling and to the ORSA
- Appropriate level of independence
 - Greater challenge if functions are combined
- Division of responsibilities
 - Internal model
 - ORSA

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Comparing the Actuarial and Risk Management Functions

	Technical Provisions	Internal Model	Risk Policies	ORSA
Actuarial Function	Design Implement? Validate Co-ordinate	Contribute to risk modelling Provide assistance	Express opinions • Underwriting • Reinsurance	Contribute
Risk Management Function		Design Implement Validate Document Inform	Written policies • Underwriting • Reserving • Investment • Liquidity & concentration • Operational • Reinsurance	Determine solvency needs Assess compliance Reconcile ORSA & SCR

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The Report of the Actuarial Function

- The primary audience is the management body
 - The supervisor may also request the actuarial report

Descriptions	Justifications	Opinions / Conclusions
• methodologies for assessing sufficiency of technical provisions • assumptions • the review of data • the contribution to the risk modelling	• differences between technical provisions in different years	• conclusions from comparing actual versus expected • an opinion on the overall underwriting policy • an opinion on the overall reinsurance policy • recommendations how shortcomings could be remedied

- EIOPA does not intend to define the structure and content of the Actuarial Function's report

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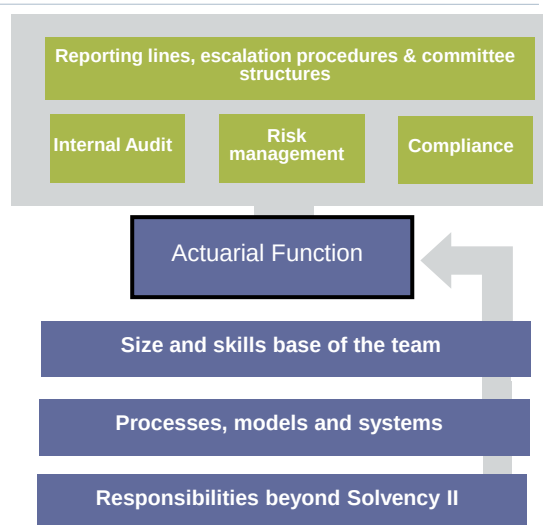
The Actuarial Function's playing field

- The technical standards will define the actuarial function's playing field
 - These are being developed by EIOPA and cover:
 - Review and validation of data
 - Segmentation and unbundling
 - Assumptions
 - Methodologies
- The Fit & Proper standards
 - These are yet to be developed at the European level
- EIOPA makes reference to the standards of the Actuarial Profession as an “additional benchmark”

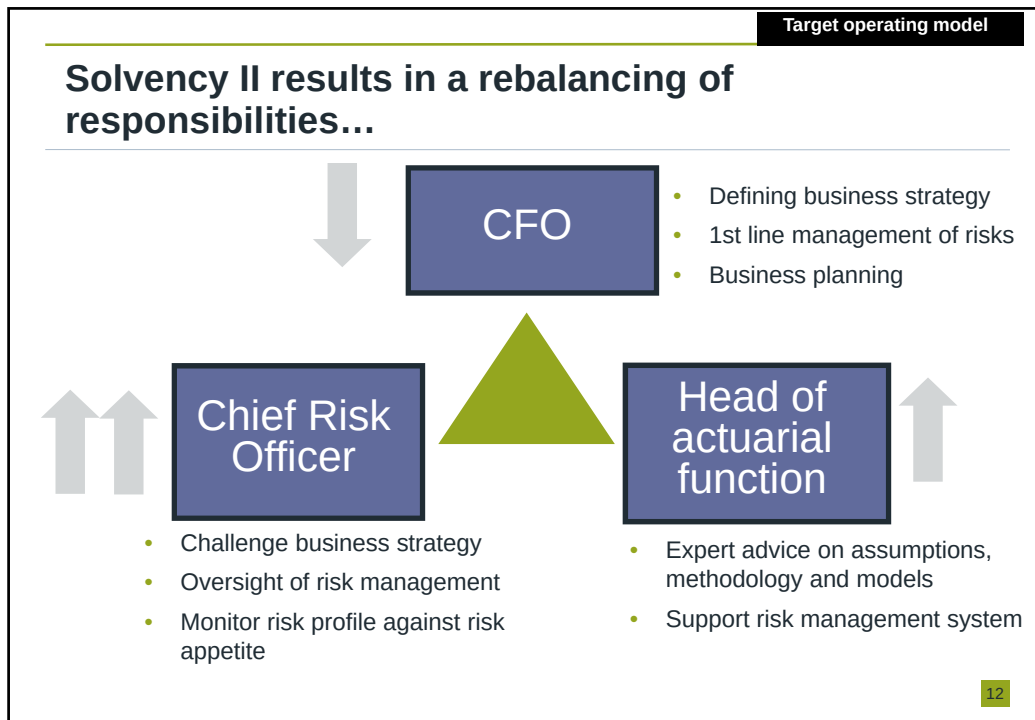
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Target operating model for the actuarial function

- Who leads the actuarial function?
- Centralised or decentralised
- Three lines of defence model
- Relationship with other control functions
- Board level position?
- Committee membership



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The AF in practice

The requirements raise a number of questions

- How do we interpret proportionality?
- What does this mean for firms without a tradition of cashflow projections & best estimate calculations?
- Is the actuarial function internal or external?
- Is the actuarial function centralized or decentralized?

We examine these questions
via some short case studies

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Smaller organisations – case study

Characteristics	Challenges
• Head of actuarial function likely to have multiple roles e.g. CRO • Closely knit management team • May currently be represented at Board level • Many companies do not have a tradition for best-estimate assumptions • Typically light on actuarial resources • Some may look to completely outsource the actuarial function	• Potentially conflicting requirements due to multiple roles • Where does the independent challenge comes from? • Resource capability to deal with the additional workload • Increasing technical capability around market consistency and best estimate assumptions

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Large national players – case study

Characteristics	Challenges
• Sizeable actuarial resource pool typically dispersed across the business – Separate units that can be silo-based • More recently seen the separation of CRO and actuarial function roles • Head of actuarial function may currently be represented on the Board • Most companies have some tradition of EV reporting	• Clear separation of responsibilities with other functions • Retraining / up-skilling throughout the organisation – Support move from value reporting to risk reporting • Building more robust models and processes • Model governance and managing changes

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Multinationals – case study

Characteristics	Challenges
- Actuaries dispersed throughout the business - Strong technical capabilities - Traditionally would have lead the developments around risk measurement - Role of the CRO has been enhanced over the last few years and may have Board representation - Disparate IT systems from acquisitions - Sometimes develop “centres for excellence” which provide services for a number of territories	- Centralised or decentralised actuarial function - Establishing clear responsibilities - Among functions within a legal entity - Between group and legal entities - Building a consistent framework across the organisation - Likely to face IT issues - Model governance and managing change - In-sourcing of actuarial function for parts of the group

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Summing up...

- The landscape is changing and will continue to change
- This change represents both a threat and an opportunity
- The formalised requirements on the Actuarial Function may be a positive development
- We should be careful not to confine the role of actuaries only to the Actuarial Function
- Companies are revisiting their wider target operating model for the control functions
 - Are actuaries sufficiently engaged in the process?
- Solvency II means the skills requirements for actuaries are evolving
 - Are we doing enough in training and knowledge management within organisations?
- The new standards for the actuarial function are currently being developed
 - Are we sufficiently proactive in developing these standards?

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The international actuarial environment

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Solvency II and the Actuarial Profession

- The Groupe Consultatif has organised a Solvency II project in the context of the Insurance Committee over the last 6 years with the active participation of more than 50 colleagues from several countries in Europe
 - Project Manager is Seamus Creedon
- The Groupe Consultatif has decided to mirror the Solvency II structure in EIOPA expert groups (and Coordination Group)

Financial Requirements	Internal Models	Internal Governance	Group Supervision
Non Life A. Olesen Life Dylan Brooks	Mark Chaplin	E. Kivisaari	H. Van Broekhoven

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Solvency II and the Actuarial Profession

- The Groupe Consultatif is a stakeholder in the consultation process
 - Active input during on the relevant consultation papers
 - Joint working groups on ad hoc subjects
- Solvency II is a trigger for the standard setting process at a European level
 - Standards, Freedoms and Professionalism Committee
 - Actuarial Standard Project Team with Chris Daykin as Convenor
 - Actuarial Standard of Practice 2 (GCASP 2) : Actuarial Function Report under Directive 2009/138/EC
- Role of the Actuary (under Solvency II) task force
 - Survey 2010-2011
 - Position Paper

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In some ways the Actuarial Function represents an opportunity for us...

- What is the current statutory role for life actuaries across Europe?
 - In life insurance, the existence of a statutory role is almost universal
 - Technical provisions and solvency are the typical statutory roles
 - However, as risk aspects are involved the statutory role tends to be less developed
- Changes to the role of the actuary
 - Role expanded, particularly on risk management and on the asset side
 - Increased focus on capital aspects
 - More formalisation of requirements
- How will the Solvency II Actuarial Function and the existing statutory roles interact?

Life statutory role	Country	Company	Actuary
Technical provisions	92%	65%	93%
Solvency margin	65%	42%	81%
Premium rating	65%	38%	80%
Reinsurance	42%	25%	53%
Distribution	50%	37%	80%
Financial projections	42%	55%	80%
ALM	35%	31%	54%
New products	38%	18%	12%
Risk management	19%	18%	45%
Internal model	15%	16%	48%
Technical provisions			
Valuation	92%	65%	93%
Data	73%	59%	91%
Methods	85%	63%	91%
Assumptions	81%	62%	90%
ALM			
Modelling	35%	31%	54%
Investment strategy	35%	26%	12%
Solvency			
Individual capital requirement	27%	26%	45%
Investment strategy	65%	42%	81%

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However, Solvency II will raise challenges...

- Who will carry out the Actuarial Function?

- General expectation that role will be carried out by those currently in statutory actuarial positions
- But some concerns that the actuarial function will become less important than currently, and that restrictions on who can carry out the role will be relaxed

Staffing of Actuarial Function (Life)	Number of countries
Only qualified actuaries	10
Mostly qualified actuaries	14
Mostly non-actuaries	0

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Are there sufficient actuaries in Europe ?

- Towards 20,000 qualified actuaries working in insurance in Europe with roughly two thirds in life and one third in non-life business
- However, significant variation by country and company

Field of work	Full members
Life	8,368
Non-life	4,920
Health	742
Pensions	5,017
Reinsurance	644
Total	19,691

Country	Qualified actuaries per company
Austria	1
Belgium	10
Channel Isles	1
Croatia	2
Czech Republic	5
Denmark	3
Estonia	1
Finland	8
France	1
Germany	7
Greece	7
Hungary	2
Iceland	1
Ireland	4
Italy	3
Lithuania	1
Luxembourg	2
Netherlands	1
Norway	6
Poland	1
Portugal	1
Spain (Col.leg)	1
Sweden	1
Turkey	1
Ukraine	1
United Kingdom	16
Average	3

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Reactions differ by country regarding the Actuarial Function				National issues
	UK	France	Germany	
Typical actuarial education	Professional exams whilst working	- IA validates actuarial masters degrees from a select few universities - Professional dissertation	Professional exams whilst working	
Existing statutory role	- Actuarial Function Holder - With-profits actuary	None (apart from mortality table certification)	Verantwortlicher Aktuar (VA)	
Issues for insurance industry	- Undersupply of skilled actuarial resources - Neither actuaries nor firms want to confine actuaries to the AF	- What legal risk will the actuary face in new role? - How can non-actuaries in AF role demonstrate "relevant professional standards"? - Who should write new technical standards?	- Does creation of AF hand monopoly powers to actuarial profession? - Who defines the standards and who reviews compliance with these standards?	
Issues for local actuarial profession	- Interaction of existing statutory roles with AF of SII - Increased competition from non-actuaries in RMF	- IA has no jurisdiction over the many non-actuaries in AF role - Little tradition of actuarial independence - Need to develop standards from scratch	- Interaction of VA with AF - VA has heavier focus on policyholder protection - However various overlapping responsibilities between AF and VA	
Existing standards	- Technical: BAS - Ethical: Profession	- Guidelines & standards for certification of mortality & disability tables - Ethical but no technical	DAV: Technical & ethical (independence, confidentiality, conflicts of interest, CPD)	24

SII Actuarial Function versus existing statutory role - Position of the Deutsche Aktuarvereinigung		National issues
The Responsible Actuary is a cornerstone of German insurance regulation and has contributed substantially to the stability of insurers in Germany in the recent financial crises.		
The Responsible Actuary - Has a sovereign mandate to conduct self-regulation at company level - Operates on the principle of independence by law, additionally ensured by the professional standards of the DAV - Has greater focus than the SII AF on policyholder protection and on equitable profit-sharing	The Solvency II Actuarial Function - Is an administrative capacity to conduct certain specified tasks - Will have its structure and relationship with other functions defined by firms themselves - Goes further than the remit of the Responsible Actuary regarding risk management	
- The Responsible Actuary and the SII Actuarial Function therefore differ - In legal form - In practical implementation - In their relative remits		
The role of the Responsible Actuary should be retained, in the interests of policyholders and of ensuring that actuaries retain their strong independent role within insurance firms		25

Level 3 Guidance: Unresolved issues

- Issued raised by the Groupe Consultatif
 - Nature & prerequisites for operational independence
 - “Fit & proper” requirements will lead to Europe-wide standards
 - Does a whistle-blowing requirement exist?
 - Is an actuarial report required for non-EEA business?
- Issues raised by the Financial Services Authority
 - All of the above!
 - Must the Actuarial Function assist the RMF in implementing the internal model, or can the assistance be provided the other way around?

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Positioning of the Role of the Actuary

- 1° *The member fellows of the actuarial association are best fit for the Actuarial Function.*
 - Article 48 says that the Actuarial Function shall be carried out by persons who have knowledge of actuarial and financial mathematics, commensurate with the nature, scale and complexity of the risks inherent in the business of the insurance and reinsurance undertaking, and who are able to demonstrate their relevant experience with applicable professional and other standards.
 - The European actuarial organisations are organised in a professional way (statutes, ethical code, technical standards, CPD, mutual recognition agreement) and are a full stakeholder in the implementation process of SII and therefore assure the appropriate education, support and guidance of their members.
 - Members of the Actuarial Professional Organisations with the relevant experience comply with the fit and proper requirements.

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Positioning of the Role of the Actuary

- *2° The actuary is actively involved in the risk management system*
 - The actuary is not only best placed for the Actuarial Function, but is also suitable for the Risk Management Function.
 - Actuaries have the opportunity to develop the appropriate competencies via the Certified Enterprise Risk Actuary (CERA) organised or to be organised by the actuarial bodies all over the world.

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Positioning of the Role of the Actuary

- *3° The actuary is available to certify the Solvency II Financial Condition Report*
 - To give comfort to the public, the shareholders, the policy holders, the supervisor it is required to make an appeal on the integrity of the appropriate experts.
 - The actuary is best placed to certify the adequacy of the methods and assumptions, the accuracy of the models and to confirm the interpretation of the results.

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Positioning of the Role of the Actuary

- 4° *The actuary can act in an external and an internal role*
 - Actuaries can be employees, outsourced resources or external experts
 - The actuarial professional bodies make sure that members can act in an independent (intellectual position) way,
 - The operational independence (economic position) is defined by the legislator or the specific application. The individual actuary complies with the requirements.

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Positioning of the Role of the Actuary

- 5° *The actuary works together with other experts*
 - Governance implies that different competencies are involved
 - The broad education of the actuary, the professional experience, and the functioning of the professional bodies are optimal conditions for actuaries to communicate accurately and to take on joint responsibility.
 - The interventions of the actuary during the implementation, the control and the reporting of Solvency II give the necessary comfort in combination with the intervention of the other functions and the auditor
 - The division of roles takes into account the specific competencies of each expert

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Positioning of the Role of the Actuary

- 6° *The interaction with the external auditor can best be organised as follows :*
 - The auditor certifies the completeness and accuracy of data, the reconciliation with the accounts, the application of the company's valuation rules and the presentation of the balance sheet
 - The actuary certifies the accuracy of the projection model, the methods and assumptions, the interpretation of results and the appreciation of how the models are used in the decision process