

**The Actuarial Profession**  
making financial sense of the future

**GIRO 2011**  
Solvency II Actuarial Function Working Party



## Workshop

© 2010 The Actuarial Profession • www.actuarial.org.uk

### Actuarial Function Working Party Workshop

- Taking a proper “workshop” approach
- Reviewed the EIOPA guidance
- Picked out the controversial / interesting areas
- Asking the view of the room.



Note: None of the working party set exam questions for the institute. However, if we did, they might be something like these, so it's probably just as well we don't.

© 2010 The Actuarial Profession • www.actuarial.org.uk

1

## Actuarial Function Working Party

### Question 1 “Background”

Article 13 of the Solvency II Directive level 1 text defines what as:

*“within a system of governance, [XXX] means an internal capacity to undertake practical tasks;*

**A** Function

**B** Empire

**C** System

**D** Department

## Actuarial Function Working Party

### Question 2 “Background”

Which one of the following is not a Function under the system of governance:

**A** Risk Management

**B** Compliance

**C** Pricing

**D** Internal Audit

---

## Actuarial Function Working Party

### Question 3 “Article 48”

---

The Actuarial Function must do what to the calculation of the Technical Provisions

- A Control
- B Co-ordinate
- C Validate
- D Check

© 2010 The Actuarial Profession • www.actuaries.org.uk

4

---

## Actuarial Function Working Party

### Question 4 “Article 48”

---

Complete the missing words from Article 48

*The actuarial function shall be carried out by persons who have knowledge of actuarial and financial mathematics, commensurate with the nature, scale and complexity of the risks inherent in the business of the insurance or reinsurance undertaking, and who are able to demonstrate their XXX with applicable professional and other standards*

- A Relevant Experience
- B Business Acumen
- C Expertise
- D Presentation skills

© 2010 The Actuarial Profession • www.actuaries.org.uk

5

---

## Actuarial Function Working Party

### Question 5 “Article 48”

---

Complete the missing words from Article 48

*.. assess the sufficiency and quality of the XXX*

**A** Business Written

**B** Benchmarks

**C** Data

**D** Board

---

## Actuarial Function Working Party

### Article 48: Level 1

---

- Technical Provisions
  - Co-ordinate
  - Methodology, Models, Assumptions
  - Data
  - A v E
- Underwriting
- Reinsurance
- Risk management

---

## Actuarial Function Working Party

### Article 48: Level 1, 2 and 3

---

- Level 1: Directive
- Level 2: Implementing Measures
- Level 3 Supervisory Guidance

---

## Actuarial Function Working Party

### Aims of Working Party

---

- To provide suggested interpretations and approaches, illustrated by examples (where appropriate).
  - e.g. How a large multiline insurer may respond differently to a small monoline.
- To provide a (optional) source of consistency in the implementation of the Actuarial Function within the industry; and
- To provide a basis for further discussion within the actuarial profession and to facilitate the collection of others' views.

## Actuarial Function Working Party

### Question 6

What is the point of the Actuarial Function?

- A To create a new reserved role for actuaries.
- B To define the minimum role, responsibilities and practical tasks of a department within an insurance entity carrying out actuarial work.**
- C To generate work as we're not really very busy and need something to stop us getting bored.

## Actuarial Function Working Party

### Question 6

Working party view:

- B To define the minimum role, responsibilities and practical tasks of a department within an insurance entity carrying out actuarial work.**
- Level 2 text goes into more detail as to what EIOPA expects.
- Vague as to the exact meaning.
- Trying to find the balance between prescription and flexibility.

## Actuarial Function Working Party

### Question 6

Article 48

Actuarial function

1. Insurance and reinsurance undertakings shall provide for an effective actuarial function to:

- (a) coordinate the calculation of technical provisions;
- (b) ensure the appropriateness of the methodologies and underlying models used as well as the assumptions made in the calculation of technical provisions;
- (c) assess the sufficiency and quality of the data used in the calculation of technical provisions;
- (d) compare best estimates against experience;
- (e) inform the **administrative, management or supervisory body** of the reliability and adequacy of the calculation of technical provisions;
- (f) oversee the calculation of technical provisions in the cases set out in Article 82;
- (g) express an opinion on the overall **underwriting** policy;
- (h) express an opinion on the adequacy of **reinsurance** arrangements; and
- (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 capital requirements set out in Chapter VI, Sections 4 and 5, and to the assessment referred to in Article 45.

2. The actuarial function shall be carried out by persons who have knowledge of actuarial and financial mathematics, commensurate with the nature, scale and complexity of the risks inherent in the business of the insurance or reinsurance undertaking, and who are able to demonstrate their relevant experience with applicable professional and other standards

© 2010 The Actuarial Profession • www.actuaries.org.uk

12

## Actuarial Function Working Party

### Question 7

What will the effect of Solvency II be on the amount of influence non life actuaries wield within an insurance entity?

- A** It will increase
- B** It will decrease
- C** It will stay about the same

© 2010 The Actuarial Profession • www.actuaries.org.uk

13

## Actuarial Function Working Party

### Question 7

Working party view:

**A** It will increase.

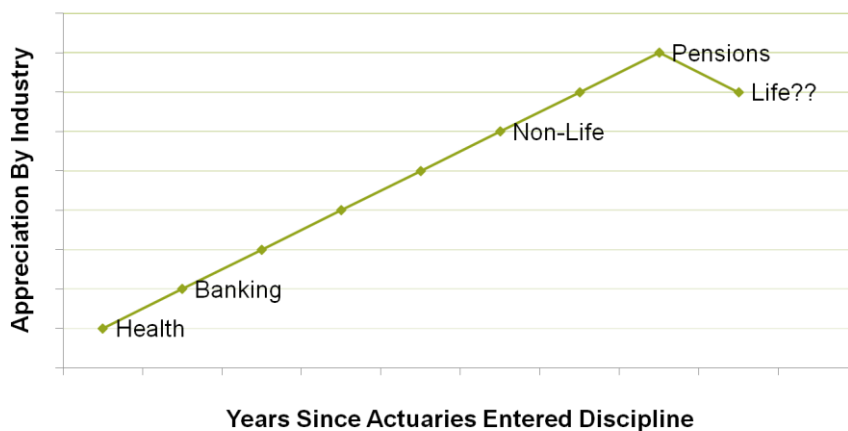
- Although the Actuarial Function doesn't have to be staffed by individuals with an actuarial qualification, we are probably best placed to fill this role.
- Must continually demonstrate the value we add and why we are best placed to deliver this...

© 2010 The Actuarial Profession • www.actuaries.org.uk

14

## Actuarial Function Working Party

### Question 7 – Appreciation Of Actuaries



© 2010 The Actuarial Profession • www.actuaries.org.uk

15



## Actuarial Function Working Party

### Question 8

GinormCo is a general insurer:

- writing 15 lines: 6 short 9 long (liability)
- asbestos and pollution exposures
- result of a three way multi-territory merger 2007
- IT systems redeveloped in 2010 reclassifying all claims into new lines of business.

How many staff should be in the Actuarial Function?

- A** 1 – 10
- B** 11 – 50
- C** Over 50
- D** Any of the above

© 2010 The Actuarial Profession • www.actuaries.org.uk

16

## Actuarial Function Working Party

### Question 8

Working party view:

- Any of the options given.
- It doesn't matter how big the actuarial function is, so long as there is one.

© 2010 The Actuarial Profession • www.actuaries.org.uk

17

## Actuarial Function Working Party

### Question 9

TeenyCo is an insurer that employs no actuaries and outsources the calculation of its reserves to ActOut Limited. Which of these options is possible and most likely under Solvency II.

**A** ActOut are the Actuarial Function and current arrangements continue

**B** TeenyCo create an internal Actuarial Function who supervise the work done by ActOut

**C** TeenyCo create an internal Actuarial Function and take the reserving work in-house

## Actuarial Function Working Party

### Question 9

Working party view:

**B** TeenyCo create an internal Actuarial Function who supervise the work done by ActOut.

Consider options **A and C**

- Actuarial Function must be internal to the insurer and must retain responsibility for the work set out in Article 48.

## Actuarial Function Working Party

### Question 10

Do the Solvency II technical provisions and the financial reporting (e.g. IFRS) reserves have to be on the same basis (same core assumptions)?

- A** Yes
- B** No
- C** Depends

## Actuarial Function Working Party

### Question 10

Working party view:

**A** Yes.

- Try explaining to an auditor why you have two views on the same thing...

## Actuarial Function Working Party

### Question 11

Who will have the final say on the reserves for Solvency II?

- A** The Actuarial Function
- B** The Board (through Reserving Committee, etc)
- C** Both

© 2010 The Actuarial Profession • www.actuaries.org.uk

22

## Actuarial Function Working Party

### Question 11

Working party view:

- Level 1 text says the Actuarial Function should:  
“Ensure the appropriateness of the methodologies, models [and] assumptions...”.
- So:  
**A** The Actuarial Function?
- Would Board accept ceding this power to someone else?

© 2010 The Actuarial Profession • www.actuaries.org.uk

23

## Actuarial Function Working Party

### Question 11 (again!)

Who will have the final say on the reserves for Solvency II?

- A The Actuarial Function
- B The Board (through Reserving Committee, etc)
- C Both

© 2010 The Actuarial Profession • www.actuaries.org.uk

24

## Actuarial Function Working Party

### Question 11

Working party view:

- Four possibilities:
  - Board and Actuarial Function **agree** on SII technical provisions
  - Board **disagree** with the Actuarial Function and set their own Solvency II TPs
  - Board **yield** and let Actuarial Function set SII TPs but set their own **inconsistent** financial reporting reserves
  - Board **yield** and let Actuarial Function set SII TPs and adjust their financial reporting reserves to be **consistent**.

© 2010 The Actuarial Profession • www.actuaries.org.uk

25

## Actuarial Function Working Party

### Question 11

Working party view:

- Best option for all is for negotiations between Actuarial Function and Board until agreement or compromise reached.
- Remember... Actuarial Function reserves and Board's view don't need to be the same: Actuarial Function just needs to agree the final technical provisions are *appropriate*.

## Actuarial Function Working Party

### Question 12 “Co-ordinating the TPs”

The directive is specific on:

- A How the AF should be structured
- B The tasks the AF have to perform**
- C The level of challenge the AF should give
- D How the AF should pad out its time

---

## Actuarial Function Working Party

### Question 13 “Reporting to the board”

---

Comparing the Solvency II required reports produced by members of the Institute and Faculty of Actuaries in the UK to reports produced by those outside actuarial professions, reports by actuaries will be?

- A No different
- B Longer and more complicated
- C More concise
- D More useful to the board**

© 2010 The Actuarial Profession • www.actuaries.org.uk

28

---

## Actuarial Function Working Party

### Question 14 “Reinsurance”

---

What are the responsibilities of the Actuarial Function in respect of reinsurance

- A Write the reinsurance policy
- B Give a view on the reinsurance arrangements**
- C Ensure reinsurers will not default
- D Implement the reinsurance strategy

© 2010 The Actuarial Profession • www.actuaries.org.uk

29

## Actuarial Function Working Party

### Question 15 “Risk Management”

Under the Level 2 guidance, the risk management function shall do what with the Actuarial Function

- A Take advice from it
- B Co-operate closely with it**
- C Police it
- D Work in harmony with it

## Actuarial Function Working Party

### Question 16 “Underwriting”

The Actuarial Function must give an opinion on the underwriting and so can not have input into the original pricing decisions.

- A True
- B False
- C False, but the level of justification will need to be higher in such cases**



---

## Actuarial Function Working Party

### Question 16 “Underwriting”

---

Working party view:

**C** False, but the level of justification will need to be higher in such cases

We believe the intention is not to create an audit style relationship between actuaries and underwriters, but to ensure key issues have been considered from an actuarial perspective.

---

## Actuarial Function Working Party

### Question 17 “Underwriting”

---

What is not the purpose of the Actuarial Function’s Underwriting Opinion?

**A** To ensure the development of technical pricing models

**B** To encourage greater communication between actuaries and underwriters

**C** To increase the recognition of the level of robustness in the underwriting process

**D** To improve the underwriting input into the reserving process

## Actuarial Function Working Party

### Question 18 “Data”

What will the Actuarial Function not be responsible for with regards to data?

- A Assessing the completeness and accuracy of the data
- B Carrying out an audit of the data**
- C Communicating the impact of data deficiencies
- D Understanding the completeness of the data

## Actuarial Function Working Party

### Question 19 “Data”

What should not be included in the annual report with regards to data?

- A Any shortfall of the data relative to the Data Quality Policy
- B Recommendations for improvements to be made to data and the materiality of each of these
- C Limitations on the internal controls, processes and assessments used to form a view on the data quality
- D Assurance that improved data quality will lead to accuracy in the results of actuarial analyses**

---

## Actuarial Function Working Party

### Question 20 “Skills and Knowledge”

---

Should the Actuarial Function be performed by...?

- A Qualified actuaries only
- B An outsourced Actuarial Function
- C Those with relevant skills and experience to fulfil the role – not necessarily actuaries**
- D A responsible function within the company, but with the actuarial work outsourced

---

## Actuarial Function Working Party

### Question 20 “Skills and Knowledge”

---

Working party view:

- C Those with relevant skills and experience to fulfil the role – not necessarily actuaries**

Or could be...

- D A responsible function within the company, but with the actuarial work outsourced

---

## Actuarial Function Working Party

### Question 21 “Skills and Knowledge”

---

What skill set should be considered for an Actuarial Function – for example, a new London Market Aeroplane Insurance Company?

- A Good level of aviation experience
- B Ability to communicate trends to management
- C Combine past experience with a good understanding of new risks undertaken
- D All of the above**

---

## Actuarial Function Working Party

### Question 21 “Skills and Knowledge”

---

Working party view:

- D All of the above**

- Whilst the core analytical and communication skills are important, insurers may wish also to ensure that the Actuarial Function has a certain level of direct experience in the relevant business areas. For example, an insurer writing London Market aviation business may place a high priority on having an Actuarial Function with aviation experience in addition to the core trend spotting skills.

---

## Actuarial Function Working Party

### Question 22 “Technical provisions”

---

Solvency II requires that the technical provisions shall be subject to external audit

**A** True

**B** False

**C** Combination of A and B

© 2010 The Actuarial Profession • www.actuaries.org.uk

40

---

## Actuarial Function Working Party

### Question 23 “Reinsurance”

---

The Actuarial Function is well placed to give an opinion on the adequacy of the reinsurance arrangements because..

**A** It achieves the ultimate goal of actuaries: company domination

**B** Understands reinsurance spirals

**C** Has insight gained from co-ordinating the technical provisions

**D** Has expertise in risk profiling

© 2010 The Actuarial Profession • www.actuaries.org.uk

41

---

## Actuarial Function Working Party

### Question 24 “Actual versus Expected”

---

The level 2 text requires the Actuarial Function to perform actual versus expected analysis to confirm the appropriateness of the:

- A Data
- B Methodology
- C Assumptions

**D All 3**

---

## Actuarial Function Working Party

### Question 24 “Actual versus Expected”

---

**D All 3**

The comparison of actual results with expected results only looks at the predictive accuracy of the combination of data, methods and assumptions used to estimate the technical provisions. This type of analysis can highlight both inappropriate use of methodology or inaccurate underlying data or assumptions.

All 3 should be considered where possible and the impact on the Technical Provisions and Solvency Ratio discussed

---

## Actuarial Function Working Party

### Question 25 “Risk Management”

---

The core interaction with the Risk Management should probably not relate to

- A Contributing to the ORSA
- B Using risk management tools to profile the company's risks**
- C Identifying and modelling emerging risks
- D Production of capital models

---

## Actuarial Function Working Party

### Question 26 “Underwriting”

---

What factors need to be discussed in the Underwriting Opinion?

- A Anti-selection and inflation
- B Legal Risk
- C Expected profitability
- D All of the above**

---

## Actuarial Function Working Party

### Question 27 “Data”

---

What data needs to be validated by the Actuarial Function?

- A Internal data only
- B External data only
- C Both internal and external data**

---

## Actuarial Function Working Party

### Question 27 “Data”

---

Both internal and external data will need to be validated by the Actuarial Function. Of course the methods used may differ. Eg

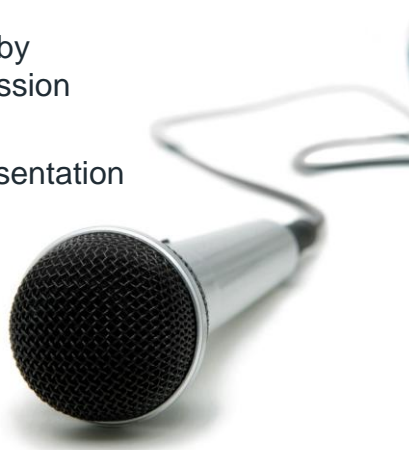
- Validation of the source vs
- Validation of controls around inputs and processing



## Questions or comments?

Expressions of individual views by members of The Actuarial Profession and its staff are encouraged.

The views expressed in this presentation are those of the presenter.



## Actuarial Function Working Party Appendix 1 Article 48

### Article 48

#### Actuarial function

1. Insurance and reinsurance undertakings shall provide for an effective actuarial function to:

- (a) coordinate the calculation of technical provisions;
- (b) ensure the appropriateness of the methodologies and underlying models used as well as the assumptions made in the calculation of technical provisions;
- (c) assess the sufficiency and quality of the data used in the calculation of technical provisions;
- (d) compare best estimates against experience;
- (e) inform the administrative, management or supervisory body of the reliability and adequacy of the calculation of technical provisions;
- (f) oversee the calculation of technical provisions in the cases set out in Article 82;
- (g) express an opinion on the overall underwriting policy;
- (h) express an opinion on the adequacy of reinsurance arrangements; and
- (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 capital requirements set out in Chapter VI, Sections 4 and 5, and to the assessment referred to in Article 45.

2. The actuarial function shall be carried out by persons who have knowledge of actuarial and financial mathematics, commensurate with the nature, scale and complexity of the risks inherent in the business of the insurance or reinsurance undertaking, and who are able to demonstrate their relevant experience with applicable professional and other standards

---

## Actuarial Function Working Party

### Appendix 2 Working Party

---

- Members:
  - Laurence Townley (chair)
  - Nicki Barke
  - Uma Baska
  - Erica Nicholson
  - Richard Williams
  
- Deliverables:
  - To produce a document offering our view as to the interpretation of the guidance provided by EIOPA; and
  - To hold a workshop to collect the opinions of others in the profession.