

The Society of Actuaries in Ireland

The Solvency II Actuary

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8 December 2008

Content

- **Overview of Solvency II and latest developments**
- The Actuarial Function
- Impact on the role of the actuary
- Discussion

Guide to the jargon (1)

CEIOPS – Committee of European Insurance and Occupational Pensions Supervisors

VaR – Value at Risk

SCR – Solvency Capital Requirement

MCR – Minimum Capital Requirement

QIS – Quantitative impact study

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Guide to the jargon (2)

Lamfalussy – Belgian wise man

IA – impact assessment

FSAP – financial services action plan

3L3 – CEIOPS / CEBS / CESR

CEBS – Banking people

CESR – Securities people

Comitology – the science of committees

EIOPC – European Insurance and Operational Pensions Committee

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Why do we need Solvency II? (A European perspective)

- Desire to harmonise consumer protection across the EU:

With consumers able to buy insurance from any company within the EU, it makes sense to provide a consistent minimum quantitative and qualitative regulatory standard

- With harmonised regulation, well-run insurers enjoy a competitive advantage
- Solvency II is principles-based, and risk-based, calibrated at the 1-200 VaR level

Although, in principle, this is similar to current UK standards, there are many important differences

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Why do we need Solvency II? – Part 2?

Current regime (Solvency I) 30 years old

Lack of risk sensitivity and proportionality

- No incentives for insurers to manage risks adequately; or to improve & invest in risk management
- Does not facilitate accurate & timely supervisory intervention
- Does not facilitate optimal allocation of capital

Sub-optimal supervision of groups

Divergence of Business and Regulatory capital

Lack of convergence of supervisory practice across EU

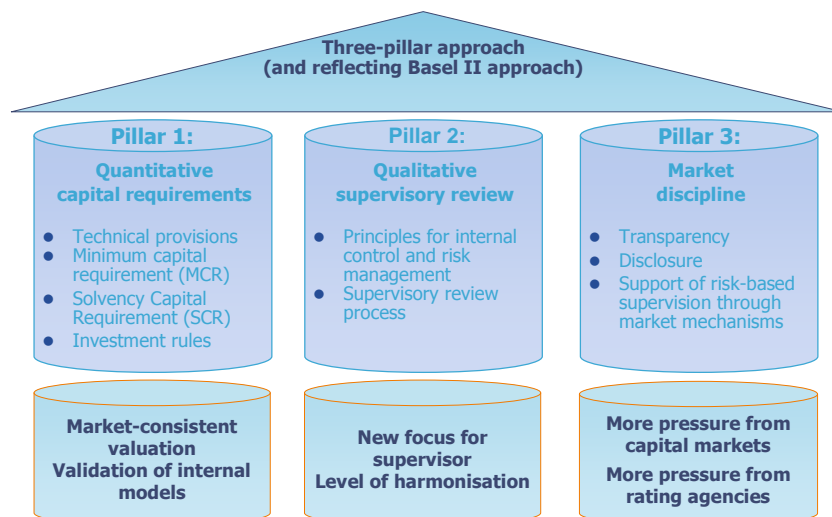
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Fundamental Principles

- Principles based, risk based
- Market Consistent Valuation Principles
- Ladder of Supervisory Intervention
- Proportionality - related to the nature, scale and complexity of a firm's business
- Incentives for firms to model their own risks
- Captures most firms – scope threshold is likely to be EUR5m (premium) / EUR25m (technical provisions)

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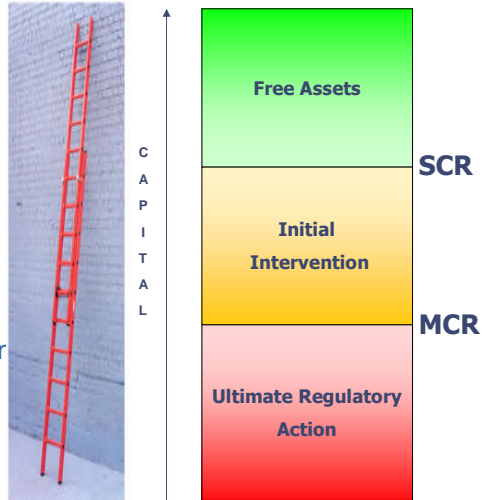
What is Solvency II?



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What is Solvency II?

- Risk-based approach to solvency requirements
- Based around a 2-Level capital requirement
 - SCR is at a 1-200 VaR level over a 1-year time horizon
 - MCR is intended to be at around the 1-10 VaR level
- Ladder of supervisory intervention
 - Breach of SCR / MCR triggers supervisory intervention



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Making it law ..

- A 'Lamfalussy' Directive...
- Split into 3 Levels:
 - Level 1 - High Level Principles
 - Level 2 - Implementing Measures
 - Level 3 - Supervisory Convergence / Guidance
- The Level 1 Directive text was published by the European Commission in July 2007, and is currently being discussed in a Council Working Party and by the European Parliament
- Political agreement is anticipated late 2008/ early 2009

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Where are we in the process?

- Lamfalussy Directive
- Draft Level 1 text was published in July '07 and is set to be agreed late this year prior to parliamentary elections
- CEIOPS due to deliver final advice to the Commission on Level 2 measures in October '09
- Proposals for the Pillar I measures being tested with Industry through QIS exercises
- Pillar II & III 'Issues Paper' from CEIOPS planned Oct '08 for stakeholder consultation

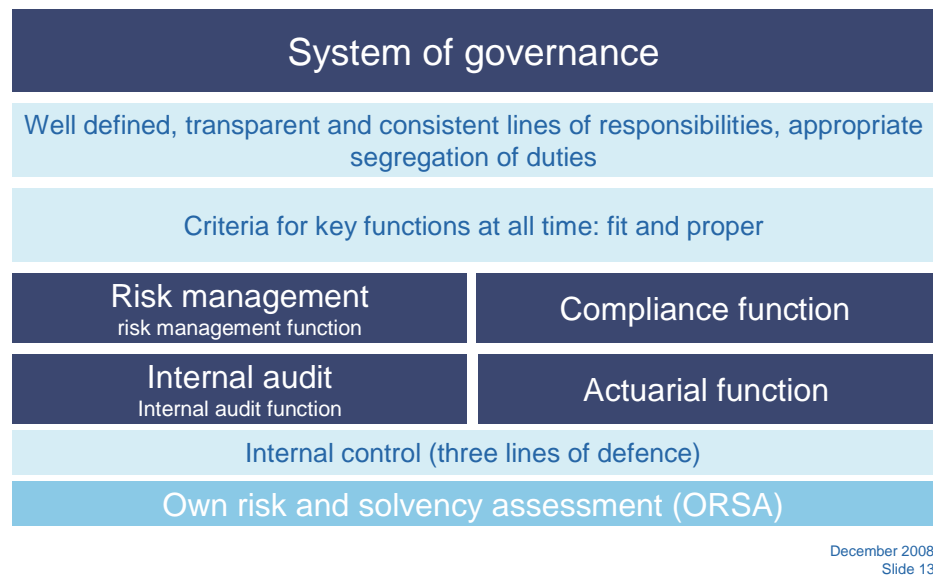
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Roles & responsibilities

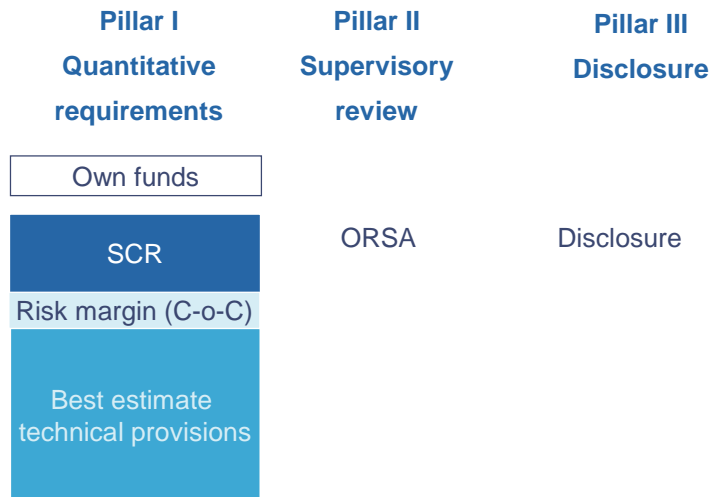


Framework Directive - Article 47

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 ...**
 - c) to assess the **sufficiency and quality of the data ...**
 - 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 ..**
2. The actuarial function shall be carried out by ...

Where actuaries are likely to get involved



Solvency II requirements – implication for actuaries

- Deliver Article 47
- Link to other professionals
- Importance of communication
- Opportunities to define our role

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Impact on the role of the actuary

Technical provisions

Evidence

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Article 76 – Calculation of technical provisions Best estimates

2. *The best estimate shall be **equal to the probability-weighted average of future cashflows, taking account of the time value of money** (expected present value of future cash-flows), using the relevant risk-free interest rate term structure.*

*The calculation of the best estimate shall be based upon **current and credible information** and **realistic assumptions** and be performed using adequate actuarial methods and statistical techniques.*

The cash-flow projection used in the calculation of the best estimate shall take account of all the cash in- and out-flows required to settle the insurance and reinsurance obligations over the lifetime thereof.

The best estimate shall be calculated gross, without deduction of the amounts recoverable from reinsurance contracts and special purpose vehicles. Those amounts shall be calculated separately, in accordance with Article 80.

Best estimates

According to the Framework Directive ..

- Both gross and net of reinsurance estimates required
 - Liabilities valued gross of reinsurance and SPV arrangements
- Recoverable amounts shown separately as an asset
 - Allowing for expected losses due to counterparty default, based on probability of default and loss-given-default
- Segmentation by homogeneous risk groups
 - As a minimum by line of business
- Comparison against experience

Impact on the role of the actuary

Groupe Consultatif paper *

Valuation of best estimate under Solvency II for Non-life insurance

Best estimate reserving process requires

- Judgement – Not a 'cook book'
- Knowledge & experience – Role of Actuarial Function and the Administrative or Management Body
- Process – Governance/ control framework/ data/ reporting/ documentation/ disclosure

Valuation of best estimate technical provisions

- Not necessarily true stochastic method will produce a more reliable best estimate than a deterministic approach
- Weight to be given to losses with low probability and high cost
- Stress & scenario testing have important role to play
- Communication of uncertainty

Best estimate needs to be integrated with other components of SII framework

Will constitute a change to the way we reserve

* Copy of paper is available at www.gcactuaries.org

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Impact on the role of the actuary

Risk margin

What's right?

Proxy for market value margin?

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Standard formula SCR

One size fits no-one

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Internal model SCR

Who is in charge?

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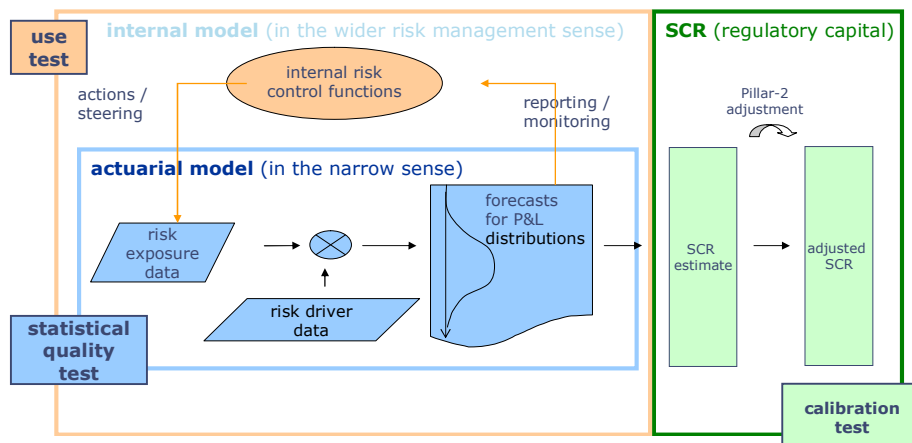
Internal models – Definition

“Risk management system of an insurer for the analysis of the overall risk situation of the insurance undertaking, to quantify risks and/or to determine the capital requirement on the basis of the company specific risk profile.”

Solvency II glossary, CEA and Groupe Consultatif, March 2007

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But do not forget what an internal model is...



- myth1:** main use is regulatory -> internal use more important
- myth2:** main goal is computation of SCR
 - > SCR/EC = "airbag": just one aspect of car safety
- myth3:** one risk measure
 - > distributions & several risk measures/metrics for reporting

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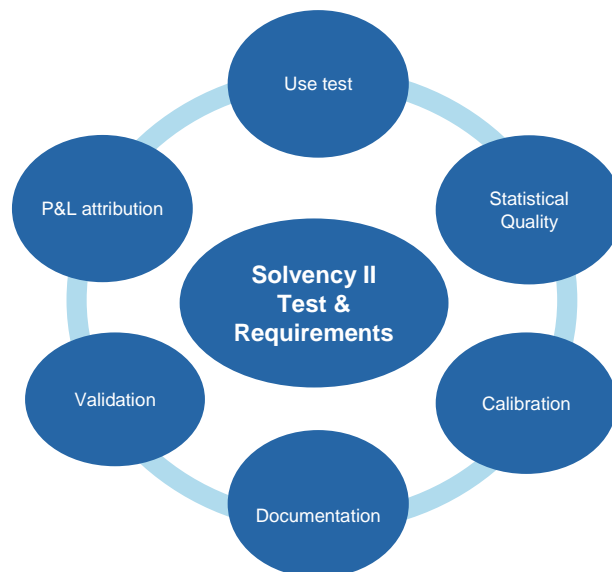
Economic versus regulatory capital - challenges

- Risk appetite
- Risk measure (VaR 99.5 vs Company specific)
- Time horizon (one year vs often going concern)
- Different balance sheets (economic vs local GAAP)
- Version of the business plan
- Link to risk and reserve margins (and other tech provisions)

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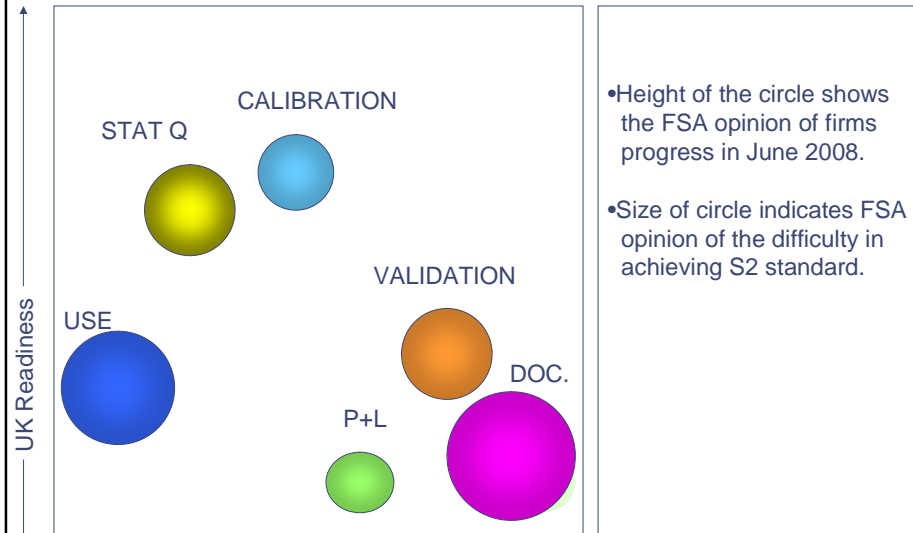
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The proposed Framework Directive – the key tests

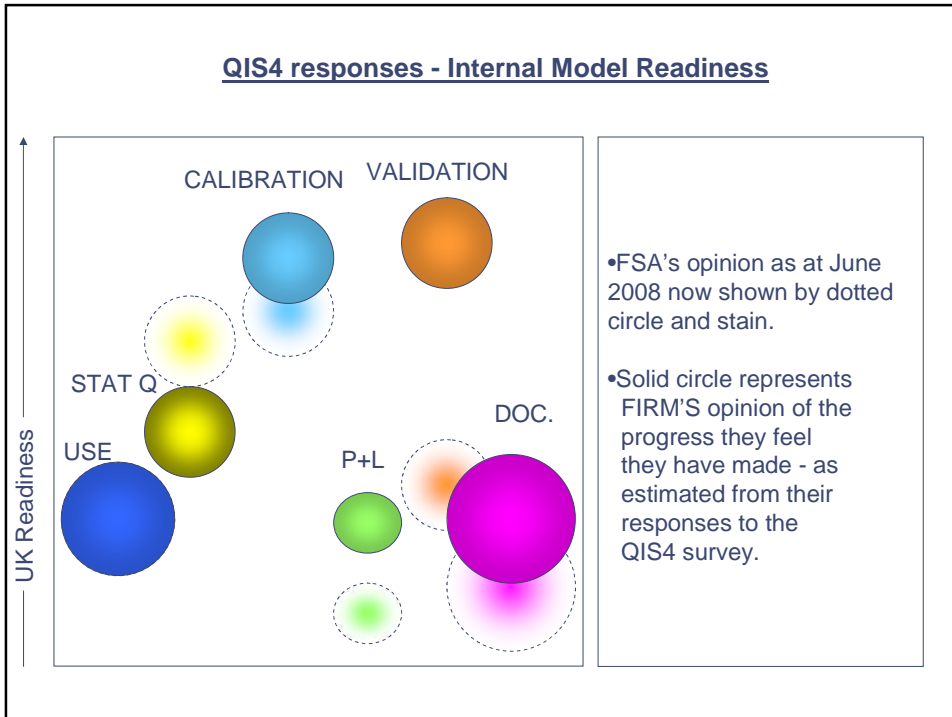


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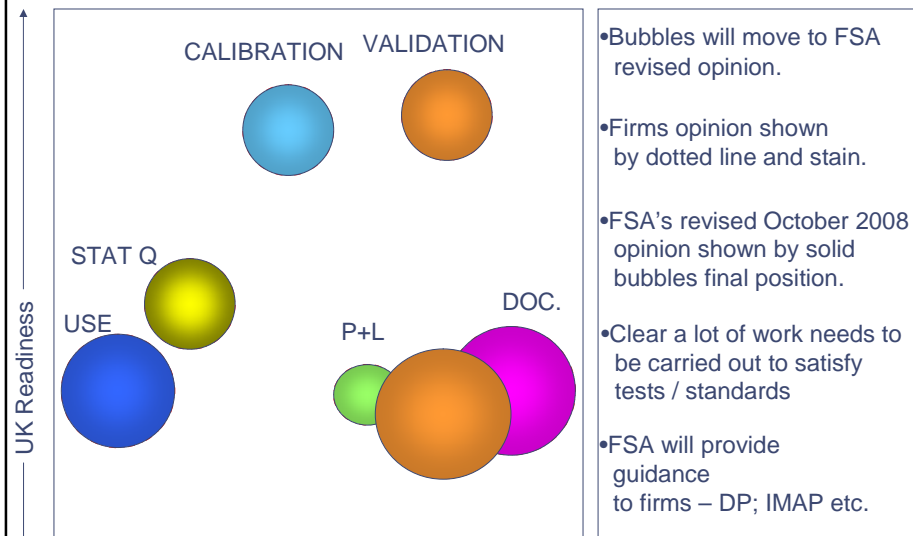
FSA View June 2008 - Internal Model Readiness



QIS4 responses - Internal Model Readiness



FSA QIS4 response 2008: Internal Model Readiness
Taking Models Beyond the Actuarial Domain Will Help



- Bubbles will move to FSA revised opinion.
- Firms opinion shown by dotted line and stain.
- FSA's revised October 2008 opinion shown by solid bubbles final position.
- Clear a lot of work needs to be carried out to satisfy tests / standards
- FSA will provide guidance to firms – DP; IMAF etc.

Impact on the role of the actuary

ORSA

Pillar 2 is much bigger than pillar 1

Impact on the role of the actuary

Disclosure

Public disclosure

Rating agencies

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CEIOPS Issues paper - Supervisory Review Process and Undertakings' Reporting Requirements

Reporting template

A. Business overview and performance

- A.1 Business and external environment
- A.2 Objectives and strategies
- A.3 Investment performance
- A.4 Performance from underwriting activities
- A.5 Operating/other expenses

B. Quantitative requirements

- B.1 Assets, technical provisions and other liabilities – nature of an undertaking's valuation techniques for asset, other liabilities and how it has set its technical provisions.
...
- B.2 Solvency capital management – nature of an undertaking's capital management processes along with its capital requirements and capital resources
...

C. System of Governance

- C.1 General governance requirements
- C.2 Fit and proper
- C.3 Outsourcing
- C.4 Internal audit
- C.5 Actuarial function
- C.6 Internal controls (including compliance function)
- C.7 Risk management (including capital management)
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Impact on the role of the actuary

Roles & responsibilities

System of governance

Well defined, transparent and consistent lines of responsibilities, appropriate segregation of duties

Criteria for key functions at all time: fit and proper

Risk management
risk management function

Compliance function

Internal audit
Internal audit function

Actuarial function

Internal control (three lines of defence)

Own risk and solvency assessment (ORSA)

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Impact on the role of the actuary

Solvency II requirements – implication for actuaries

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The views presented are those of the speakers and do not necessarily represent their employers

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Discussion

Questions

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CEIOPS publication

- www.ceiops.eu

September 2008 FSA briefing

- www.fsa.gov.uk

Groupe Consultatif

- www.gcactuaries.org

House of Lords Select committee report, (especially first 15 pages)

- <http://www.publications.parliament.uk/pa/ld200708/ldselect/lducom/42/42.pdf>

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