

Insurance

CILA*

Solvency II - Update

May 2008


The Actuarial Profession

making financial sense of the future



Solvency II Update

Monica Cornall



Agenda

- Principles
- Timetable
- Directive
- QIS4 Overview
 - Technical Provisions
 - SCR
 - MCR
 - Internal Models
- Planning for the Future

The Actuarial Profession

making financial sense of the future

Slide 3

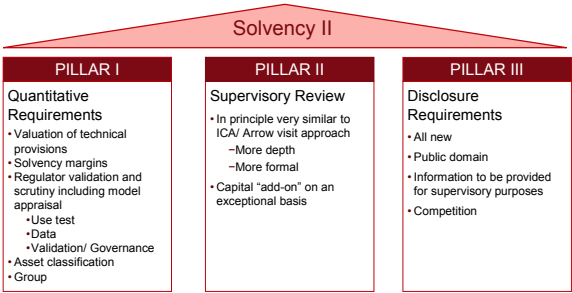
Principles



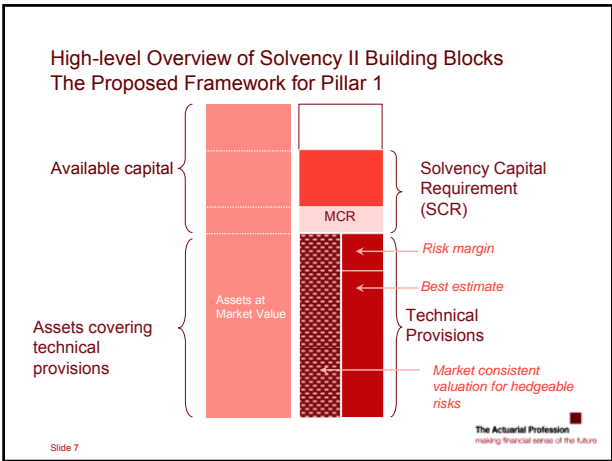
“This is an ambitious proposal that will completely overhaul the way we ensure the financial soundness of our insurers”

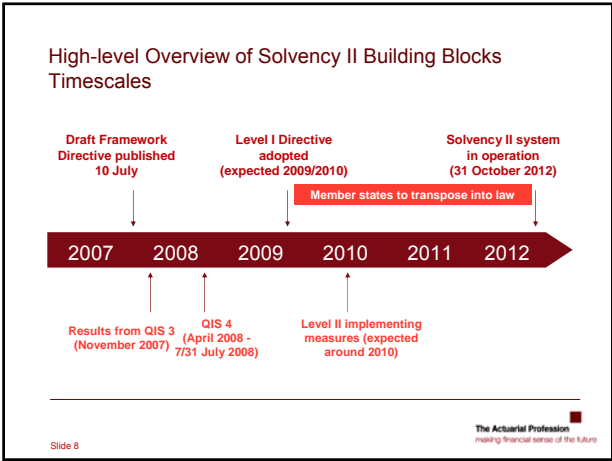
Charlie McCreevy, European Commissioner for Internal Market and Services

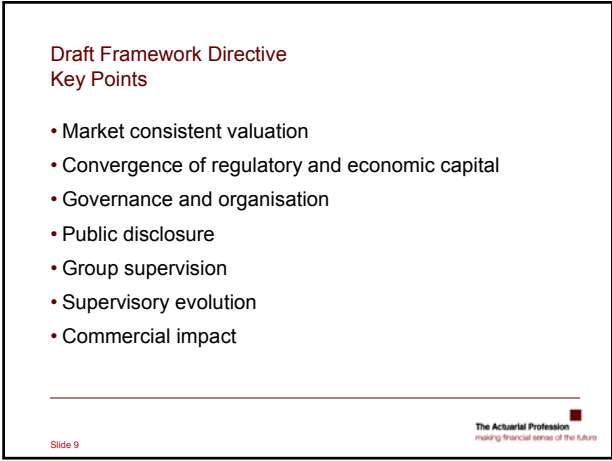
Principles
Key Differences From the Current UK Regime




Slide 6







QIS4
Overview



Introduction to Solvency II and QIS4

QIS4 Overview
Objectives

- Consider issues including,
 - Diversification effects,
 - Proportionality,
 - New linear MCR approach,
 - Group calculations.
- Provide all stakeholders with information on detailed impact of the potential future level 2 measures on Solvency balance sheets,
- Encourage all stakeholders to start preparing for the introduction of Solvency II.

Slide 11

The Actuarial Profession
making financial sense of the future

QIS4 Overview
Highlights from QIS3 Results – UK participants

- Most firms saw a reduction in their solvency ratios (available capital/SCR) under QIS 3 – although most still well above 100%.
- The firms most adversely affected were those with a lot of unit-linked (because of lapse cat stress) and/or annuity business (because of risk margin).
- Capital requirements were significantly lower when using internal models for unit-linked and annuity business.
- Widespread concern among companies that preparing internal models for the approval process may be challenging.

Slide 12

The Actuarial Profession
making financial sense of the future

Introduction to Solvency II and QIS4

QIS4 Introduction

Highlights from QIS3 Results – UK participants (continued)

- KC factor for participating business – widespread agreement that the design of the approach is not appropriate for UK with-profits.
- MCR – the QIS 3 modular approach does not always produce sensible results. Many large negative results – conversely a number of MCRs close to 100% of SCR.
- Operational risk – widespread belief that the current approach is arbitrary and will not incentivise good operational risk management.
- Niche insurers typically saw an increase in capital requirements due to lack of diversification.

Slide 13

The Actuarial Profession
making financial sense of the future

QIS4 Overview

Key Differences from QIS3

- Risk margin – market risk removed, only operational and insurance default risk considered,
- Proportionality can be applied to SCR calculations,
- MCR linear approach rather than modular approach,
- KC factors replaced by 'n' approach
- Survey on internal models included
- More detail on groups

Slide 14

The Actuarial Profession
making financial sense of the future

Introduction to Solvency II and QIS4

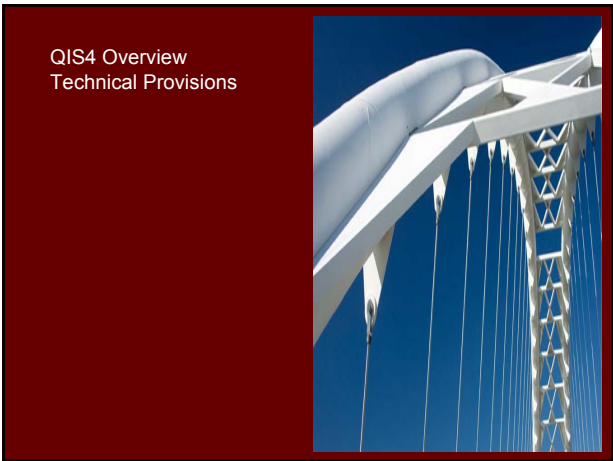
QIS4 Introduction

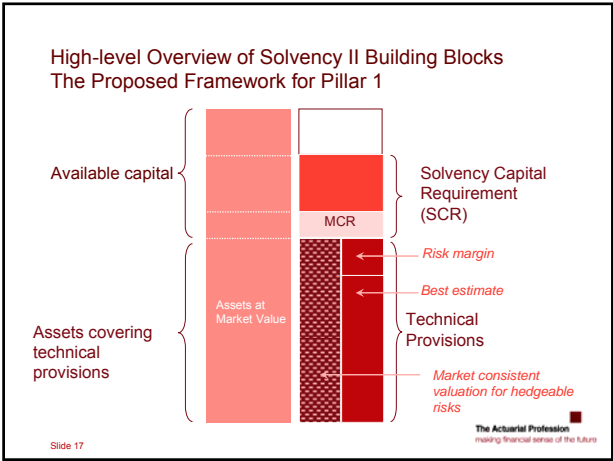
Why it is important to take part in QIS4

- Gain insights into the current proposals,
- Assess the capital implications for your business,
- Gain insights into the potential time, resource and cost requirements of Solvency II,
- Gain a competitive advantage by making more informed strategic decisions,
- Last chance to lobby before the Level 1 legislation (the Framework Directive) is written into law.

Slide 15

The Actuarial Profession
making financial sense of the future





Technical Provisions
Calculation approach

Risk Margin

The risk margin represents the amount that a third party would require to take over and support the insurance liabilities over the lifetime of the contracts.

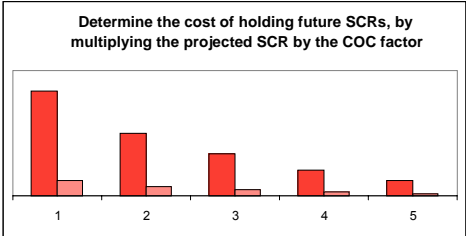
"The risk margin should be an explicit and unbiased estimate of the margin that market participants require for bearing risk".
IASB Discussion Paper

The methodology for calculating the risk margin is the cost of capital approach. This approach has been welcomed by the majority of parties.

Slide 18

Technical Provisions
Calculation approach

Risk Margin – Calculation



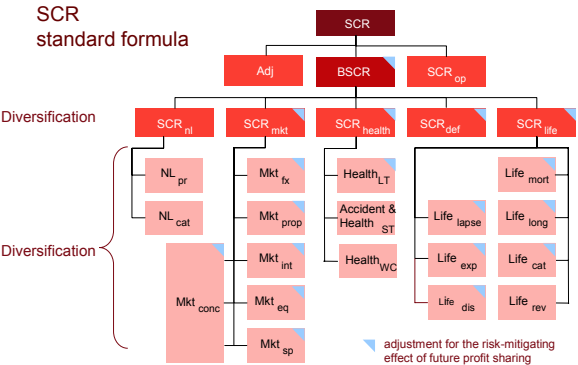
Slide 19

The Actuarial Profession
making financial sense of the future

QIS4 Overview
SCR



SCR
standard formula



Source: QIS 4 Technical Specifications
Slide 21

The Actuarial Profession
making financial sense of the future

Life Risks - SCR_{life} Calculation approach

Correlation matrix – CorrLife

CorrLife	Life _{mort}	Life _{long}	Life _{dis}	Life _{lapse}	Life _{exp}	Life _{rev}	Life _{CAT}
Life _{mort}	1						
Life _{long}	-0.25	1					
Life _{dis}	0.5	0	1				
Life _{lapse}	0	0.25	0	1			
Life _{exp}	0.25	0.25	0.5	0.5	1		
Life _{rev}	0	0.25	0	0	0.25	1	
Life _{CAT}	0	0	0	0	0	0	1

Slide 22

The Actuarial Profession
making financial sense of the future

Life Risks - SCR_{life} Changes since QIS3

There has been no change in the number or type of sub-modules

Other changes

- Proportionality – can use simplifications if not material
- Treatment of profit-sharing business
- Correlation matrix – one change to the life risk correlations
- Treatment of lapse risk – now includes mass lapse, and lapse_{down} simplified
- Treatment of catastrophe risk –now excludes lapse catastrophe

Slide 23

The Actuarial Profession
making financial sense of the future

Life Risks - $Life_{lapse}$

$$Life_{lapse} = \max(Lapse_{down}; Lapse_{up}; Lapse_{mass})$$

$$Lapse_{down} = \sum_i (\Delta NAV | lapseshock_{down})$$

$$Lapse_{up} = \sum_i (\Delta NAV | lapseshock_{up})$$

Where i denotes each policy and the other terms represent:

- ΔNAV = The change in the net value of assets minus liabilities
- $Lapseshock_{down}$ = Reduction of 50% in the assumed rates of lapsation in all future years for policies where the surrender strain is expected to be negative
- $Lapseshock_{up}$ = Increase by 50% in the assumed rates of lapsation in all future years for policies where the surrender value is expected to be positive
- $Lapse_{mass}$ = 30% of the sum surrender strains over policies where strain +ve

Slide 24

The Actuarial Profession
making financial sense of the future

Life Risks - $Life_{CAT}$ Calculation approach

The capital charge for life catastrophe risk component is defined as follows:

$$Life_{CAT} = \Delta NAV | life\ CAT\ shock$$

Where shock is combination of the following events all occurring at the same time:

- an absolute 1.5 per mille increase in the rate of policyholders dying over the following year
- an absolute 1.5 per mille increase in the rate of policyholders experiencing morbidity over the following year.

Plus calculations of $nLife_{CAT}$.

Slide 25

The Actuarial Profession
making financial sense of the future

SCR_{op} Operational Risk

- Formulaic approach as in QIS3
- Not risk sensitive
- Can result in 'unfair' high capital charges
- Little incentive for internal models
- No diversification with other risks

Slide 26

The Actuarial Profession
making financial sense of the future

SCR_{def} – Counterparty Default Risk

- The risk of default of a counterparty to risk mitigating contracts
 - reinsurance
 - financial derivatives
 - receivables from intermediaries
- Main inputs:
 - Loss-given-default (LGD) of reinsurance, financial derivative or intermediary. LGD is the magnitude of likely loss on the exposure and is expressed as a percentage of the exposure.
 - Probability of default of counterparty (based on S&P rating)
 - Unrated counterparties not subject to Solvency II given PD of 30%

Slide 27

The Actuarial Profession
making financial sense of the future

QIS4 Overview
SCR

MCR
Combined Approach

- CEIOPS linear MCR approach
- Simplifies the modular approach tested under QIS3
- Plus
 - Cap of 50% of SCR
 - Floor of 20% of SCR

Slide 29

The Actuarial Profession
making financial sense of the future

QIS4 Overview
Internal Models

Internal Models
Questionnaire

Key messages from QIS 3

- Expectation that UK companies will use internal models from the outset.
- Therefore important that requirements are not too onerous.....
- and not too far from current ICA requirements
- Models gave significant reductions in capital requirements for most companies - relative to standard formula (up to 60% reduction for some product lines)

Slide 31

The Actuarial Profession
making financial sense of the future

Internal Models
Questionnaire

Models to be included

".....those that include any risk management system analysis to quantify risks and to help assess the economic capital needed to meet those risks."

QIS 4 Technical Specification - TS.XIV.A.6

Slide 32

The Actuarial Profession
making financial sense of the future

Next Steps
Planning for the Future



Next Steps
Planning for the Future

- QIS4
- Internal models – FSA survey and QIS4 questionnaire
- Governance and organisation – ‘embedding’
- Fit with future strategy
 - Efficiency of group structures
 - Profitability and viability of individual portfolios
- Synergies with IFRS Phase II

Slide 34

The Actuarial Profession
making financial sense of the future

CILA*
Solvency II - Update

The Actuarial Profession
making financial sense of the future