Solvency II
Advanced Workshop

Tim Edwards
James Orr

25th September 2008

Introduction

– This presentation provides an update on progress towards Solvency II:
  - Timeline
  - Results of the QIS4 exercise
  - Publication of a Discussion Paper, “Insurance Risk Management: The Path to Solvency II”

– We signal recommendations for action by firms in preparation for Solvency II implementation

Solvency II – political process

- **Political agreement on the Level 1 text (Directive) is expected late 2008 / early 2009**
- **CEIOPS has begun preparing advice to the Commission on Level 2 (implementing measures), to detail Solvency II requirements**
  - CEIOPS advice will be published mid-2009, with the Commission seeking to confirm implementing measures by mid-2010
- **Firms now need to take action to ensure their plans for Solvency II implementation are robust**
- **Implementation is targeted for October 2012**

QIS4 Participation

- **Total of 146 spreadsheets received**
  - 66 from life firms
  - 63 from non-life firms
  - 17 from groups
- **Plus 74 completed questionnaires, and many useful supplementary notes**
- **Size of participating firms**
  - 54 large
  - 50 medium
  - 25 small
- **Market coverage by provisions (Life firms) and annual premium (Non-Life)**
  - 75% for life
  - 85% for non-life

Overall impact on solo firms

- **Calibration for QIS4 still fairly provisional! Overall, any changes may have minor effect on the capital amounts but more justification of the standard formula is required.**
- **Under QIS4, most firms would see a reduction in their solvency ratios, but most would still be well above 100%**
- **89% of non-life firms and 73% of life firms could cover their SCR and 95% of firms could cover their MCR**
- **Internal model SCR was higher than the standard approach for life and lower for non-life**
- **Some categories of firm observed a poor fit between the QIS4 standard and Solvency I or ICAS – mainly:**
  - **Annuity providers**
  - **Motor insurers**

Summary of perceived Key Issues for UK firms from QIS4

- **Equity risk methodology and calibration**
- **Design and calibration of counterparty risk module**
- **Use of Internal models / Comparison of SCR**
- **Segmentation and calibration of SCR for non-life u/w risk**
- **MCR design and calibration**
- **Application of Solvency II to Groups**

MCR – non-life

Equity risk - comparison of approaches

- **Compared with 39% equity stress:**
  - 32% equity stress results in reduction in required capital
  - “dampener” approach leads to further reduction of around 20% in required capital for life firms

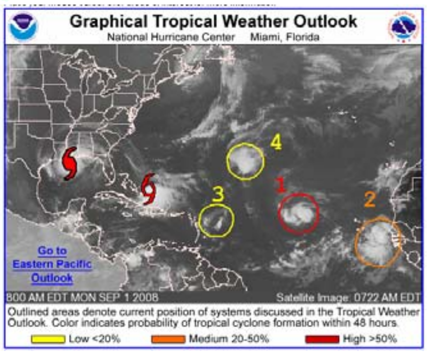
based on undiversified requirements

- **Average equity stress for internal models was 41%**
  - leads to questions about incentives to adopt internal models

Other issues noted from QIS4

- **Many other useful issues raised about suitability, practicability and calibration, including**
  - Risk margin calculation
  - Operational risk
  - Non-life Cat risk
  - Calibration of parameters for SCR
  - Classification of own funds

Non-Life cat risk – occurrence v annual basis



Next steps

- **Presentation of key results by CEIOPS to EP on 22nd September**
- **CEIOPS will discuss QIS4 results with representatives of the European industry in October**
- **CEIOPS will send completed QIS4 report to European Commission in late October**
- **The report and ensuing discussions will then lead to the production of advice by CEIOPS on the draft implementing measures for Solvency II**

Discussion Paper – published Thursday 25th September 2008

- **Insurance Risk Management: The Path to Solvency II**
  - This is the first public presentation of the FSA's Discussion Paper on Solvency II
  - It is relevant to all non-life actuaries, particularly if you are involved or interested in capital management

Insurance Risk Management: The Path to Solvency II – key messages

- **Solvency II will bring changes in UK regulatory requirements**
- **Firms should be making effective plans now for the implementation of Solvency II**
- **These key messages are aimed at insurance company boards and senior management:**
  - "To ensure firms successfully implement this new regime, it is essential that senior management consider now the implications for their business and start planning immediately"
  - The DP indicates how these activities might be managed / delegated

Suggested actions

- **Draw up an implementation plan for Solvency II**
  - key responsibility, risk management framework, resourcing and timelines – a form of gap analysis
- **Make sure you have completed the QIS4 spreadsheets**
  - firms who have done this have confirmed that they have a better understanding of Solvency II
- **Think about "internal model v standard formula"**
  - UK firms will be invited to indicate to the FSA, by June 2009, whether they intend to follow a (full or partial) internal model route for SCR calculation

Caveat

- **The detail of Solvency II standards and their implementation is subject to the uncertainty that accompanies all international negotiations and policymaking.**
- **However, although the detail of the European requirements is not finalised, the aim is now clear**
- **The risks of waiting before starting to plan for implementation are considerable in terms of non-compliance in 2012 and/or being forced into costly high-risk programmes of work at short notice.**

Systems of governance (Pillar 2) and reporting requirements (Pillar 3) under Solvency II

FSA

Governance:

- **an effective risk management system**
  - owned and implemented by senior management
- **a risk-based evaluation of the whole firm**
  - based on the chosen risk appetite and level of capital required to run the business
- **Own Risk and Solvency Assessment (ORSA)**
  - Report to supervisors (private), annual Solvency and Financial Condition (SFC) report (public) and standardised reporting forms.
- **Under Pillar 3, disclosure requirements, both public and supervisory, will be different from current UK requirements.**

Extract from the Directive – actuarial function

FSA

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 modelling underlying the calculation of the capital requirements set out in Chapter VI, Sections 4 and 5 and the assessment referred to in Article 44.

- **Are you ready to meet these responsibilities ?**

Pillar 1

FSA

- **Technical provisions**
  - Art 76 - definition of "best estimate", application of risk margin, discounting (on the basis of what?),
- **Own funds**
  - Classification into three tiers, principles-based
- **Standard formula**
  - Relevant to all firms, tested in QIS, standards will be subject to further refinement

Extract from the Directive – technical provisions

Article 76

Calculation of technical provisions

1. The value of technical provisions shall be equal to the sum of a best estimate and a risk margin as set out in paragraphs 2 and 3.

2. The best estimate shall be equal to the probability-weighted average of future cash-flows, 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.

- **You need to consider the implications of this Article**

Internal models

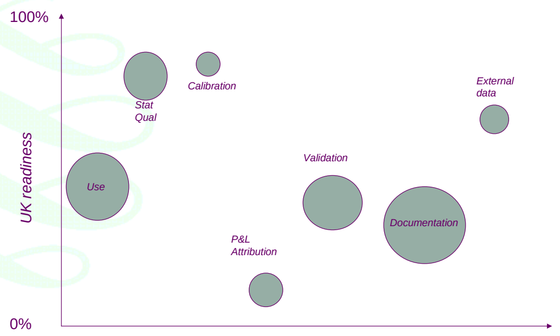
- **Seven tests / requirements:**
  - Data
  - Statistical quality
  - Calibration
  - Validation
  - Profit & Loss attribution
  - Documentation
  - Use

Internal models

- **Approval is not based on your chosen software platform**
  - Nor is it based on the number generated by your model
- **Approval is required at the level of the model itself – i.e. its scope, design, build, integrity and application**
  - To embed the model into the business, you first have to embed the business into the model

UK Firms – preparation for Internal Models :

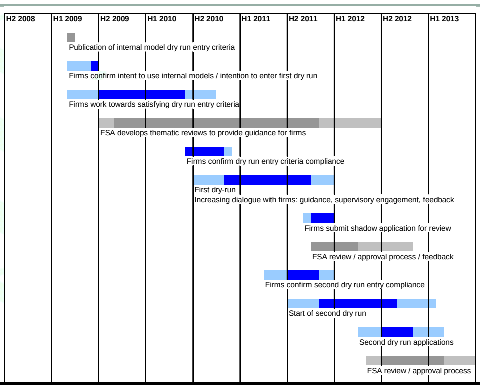
Indicative progress as at September 2008 (size of balloon indicates relative importance)



Implications for supervision

- **FSA has started our own preparation for Solvency II implementation**
  - For each action required of firms, there is a matching supervisory implication, e.g.
    - Mapping existing ICAS / ARROW activity to Solvency II, incl public and private reporting
    - Regulatory intervention
    - Regulatory reporting forms
    - Internal model approval process
  - Work practices, resources, systems issues and training requirements are being evaluated with structured gap analyses and workplans

Internal Model Approvals Process



Internal model approvals process – key dates

- **March 2009 – firms to advise:**
  - intent to apply for model approval, and
  - intent to enter the “dry run” process of preparing their application
- **June – Nov 2010:**
  - firms to demonstrate compliance with dry run entry criteria
    - High-level implementation plan
    - Internal model development plan
    - QIS exercise completed
    - Model documentation essentially complete, incl indication of how Directive requirements / tests will be met
  - start of “dry run” process
    - Working towards preparation of the application

Summary of Solvency II Preparation Responsibilities - 2008/09

	Key Messages	Governance and reporting	Financial resources	Internal models	Implications for supervision
Board and senior management	*****	*****	*	*	*
Risk management	*****	*****	**	****	***
Finance	*****	****	*****	***	**
Actuarial	*****	****	*****	*****	***
Internal audit	**	**	*	*	*

*****	Action now	Responsible for initiating and directing organisational activity
****	Key responsibility	Responsible for the design / delivery of the organisational objective
***	Active involvement	Day-to-day involvement, as part of normal responsibilities
**	Contribute	contribute to the process of preparing for Solvency II
*	Be aware	need to understand the requirements in the context of your role

Contacts

- **For general Solvency 2 input and feedback:**
  tim.edwards@fsa.gov.uk
- **For general insurance actuarial team:**
  james.orr@fsa.gov.uk