

The Actuarial Profession
making financial sense of the future

A closer look at Solvency II
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Internal model approval

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Agenda

- Where are we now?
- The journey to Model Approval
- Pre Application Qualifying Criteria Document
- Pre-Application
- Aims of Approval
- IMAP
- Groups
- Consequences

What did ICA ever do for us?

Strengths in place

- Wide comfort with concepts of economic capital
- Model design
 - considerable work in train
 - broad agreement on approaches
- Add-ons
 - Add-ons endemic in ICAS
 - In Solvency II: badge of shame or goes with the territory?

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What did ICA ever do for us?

Weaknesses remaining

- Weaker embedding use in business - and thus Use Test
 - Captured in ORSA and its integration of management activity
- Validation and independent review
 - Includes self-assessment and holistic overview of processes
- Known unknowns
 - Diversification; Expert judgement; extent of documentation needs

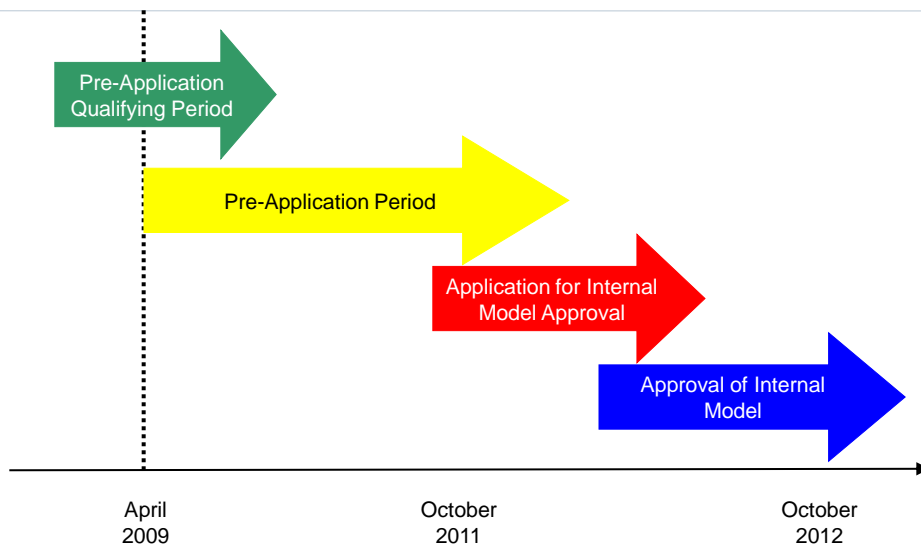
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Internal Model Approval Process The 4 Stages

- Pre Application Qualifying Criteria Document
 - Plans, Progress, Budget, Documentation, QIS4
- Pre-Application period
 - Self Assessment and Preparation
 - Working with FSA / College of Supervisors
 - Giving comfort on model design and implementation
- Internal Model Application for Approval
- Model Approval from College of Supervisors
 - Starts October 2011 expected to take 6 months

Internal Model Approval Process - Timeline



Some thoughts on IMAP

- End Game clear – Get Approval
- Route unclear – Rules still being written
- FSA - approach varies by country
- Structured process needs:
 - Good Documentation
 - Project Management
 - Continuous Communication
- ORSA brings it together
 - Does the UK have an advantage with ICAS?
- Groups -

Pre-Application Qualifying Criteria (PAQC) What is it?

- Structured Document
- Limited to about 35 pages...
- Outlines Solvency II Implementation plan:
 - Who? What? When? How? and How much?
- Purpose
 - To show ready to enter pre-application
 - If you can write it (easily) you (should) be in....
- Outcome
 - Accepted, Deferred or Rejected for initial Pre-Application

Pre-Application (April 2009 on)

- Preparation for IMAP application
- Process:
 - 18 months
 - Structured Self-Assessment measured against expected deliveries required for final application
 - Input and review from FSA during process to give “benchmarking” of progress
- Output:
 - Documentation required for IMAP Application

What is the Internal Model?

- Not just a complicated spreadsheet
- But also:
 - How is risk managed?
 - How is the model used?
 - What lessons have been learned?
 - Where are the Board and Senior Management?

Key IMAP Issues

- Actuarial resources thin across Europe
 - Project Management essential
 - FSA recruiting
 - Rest of Europe?
- Don't forget the day job – ICAS / QIS 5 / IFRS

Key IMAP Issues

- Expert judgements and data
 - Robustness of process around data, around judgements
 - External models and their openness
- Scope
 - Partial or full model
 - “Internal model” more than calculation kernel – where do you stop

Key IMAP Issues

- Most models expected to be partial – some risk or product lines excluded
 - CEIOPS CP65 on partial models therefore very important
- Issues include:
 - what can be outside model while still meeting Use Test
 - rational treatment of ring fenced funds such as with-profits
 - Integration of standard formula and internal model

Key IMAP Issues

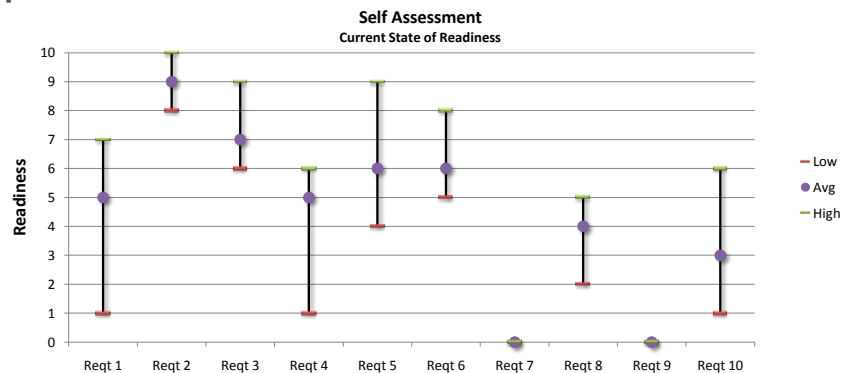
- Insurers' issues
 - Poaching of staff, short term and long term
 - Resources over spread – needed in risk management, internal audit
 - Industry's, FSA's, ability to ensure good practice circulates
- FSA issues
 - Basel experience of resourcing crunch
 - FSA further prioritisation of applications
- Threat is one's own resource crunch, or that of the FSA?

Documents required for IMAP

- A) Application Covering letter
- B) Declaration re clarifications and omissions
- C) Approval from firm's management
- D) ORSA
- E) Scope of application
- F) Risk management process and profile
- G) Self-assessment
- H) Technical characteristics of internal model
- I) External models and data
- J) Model governance, systems and controls, organisational chart
- K) Independent review/ validation report
- L) Change policy
- M) Plan for future improvement
- N) Capital requirement

Pre Application – How ready?

- Use of Heat-Map to indicate readiness for approval
- FSA will look for this to be updated on a regular basis
- Goal will be to have blocks at 10 for each area of the application



The Tests for IMAP

Use Test

Senior management needs to understand, and consider the risk and capital evaluations from the internal model as a core driver in its business planning and strategic decision-making processes.

Statistical Quality (Data)

Evaluations need to be based on timely, reliable, consistent and comprehensive risk data and be underpinned by current, credible and verifiable risk assumptions.

Calibration

Outputs need to be calibrated to a 99.5% value at risk (VAR) over a one year period.

Profit and Loss Attribution

Companies need to regularly check whether the categorisation of risk and attribution of profit/loss in their models accurately reflects the causes and sources of profit/loss within business units.

Validation

Evaluations and underlying assumptions need to be regularly sense-checked against actual experience. Companies also need to gauge the sensitivity of outputs to changes in key assumptions.

Documentation

Companies need to keep written and regularly updated records covering the design, operation, mathematical basis and underlying assumptions of their model.

Model Governance

Not an official "test", however supervisors have emphasised its importance; the internal model may only be approved if the insurer has adequate governance and internal controls in place.

External Models and Data

The tests specified apply also to data or models supplied by a third party.

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ORSA - key to demonstration of Use Test

- Need ORSA alive and active by 2010, 2011, 2012?
- The timetable for development of ORSA
 - Business planning cycle
 - Risk management reporting
 - Capital assessment cycle
- Needs strong connection to parallel discussions with rating agencies and other stakeholders
- Updated CEIOPS issues paper due October 2010
- May 2008 issues paper on ORSA becoming outdated

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Group Perspective

- **Third country equivalence CP 78**
 - Assessment criteria – not the answer as to which regimes are deemed equivalent – but high hurdle
 - Equivalence of supervision for reinsurance activities and non EU groups
 - Group model with non EU subs – equivalence of TPs and SCR
- **Participations CP 67**
 - Confusion of definitions - IGD's view of a participation
 - Option of treatment as equity investment

Group Perspective - practicalities

- **Extensive process requiring supervisory engagement from various jurisdictions**
 - Working with your group regulator
 - Working with subsidiaries and their regulators
- **Considerable public material**
 - Addendum to CP56 on Groups part of final advice
 - CEIOPS teams on internal model and on groups working closely
 - CEIOPS CP80 on pre-approval processes across EU
 - Equivalence recognition of non EU jurisdictions

What happens if the Internal Model is NOT Approved?

- Standard Formula SCR > Internal Model SCR
 - Differential significant if latest calibrations hold
 - Board needs to raise extra capital
- CEO: “Need more capital because internal model not approved”
- Market: “Why wasn’t it approved?”
- CEO: “Our risk management was deemed inadequate”
- Market: “And you want us to give you more money?”
- CEO: “Yes....”
- Market: “The price is....”