

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

A closer look at Solvency II  
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## Internal model approval

28 April 2010

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### Agenda

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

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## What did ICA ever do for us? Strengths in place

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- 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

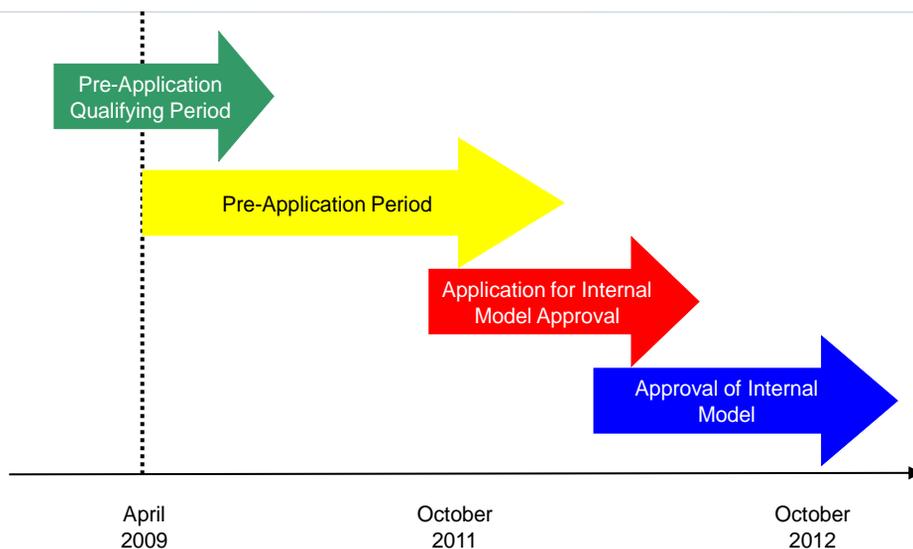
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- Weaker embedding use in business - and thus Use Test
  - Captured in ORSA and its integration of management activity
- Validation and independent review
  - Includes self-assessment and holistic overview of processes
- Known unknowns
  - Diversification;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

## 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



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## Some thoughts on IMAP

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- 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 -

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

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- 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

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## Pre-Application (April 2009 on)

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- 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

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## What is the Internal Model?

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- 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?

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## Key IMAP Issues

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

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## Key IMAP Issues

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- 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

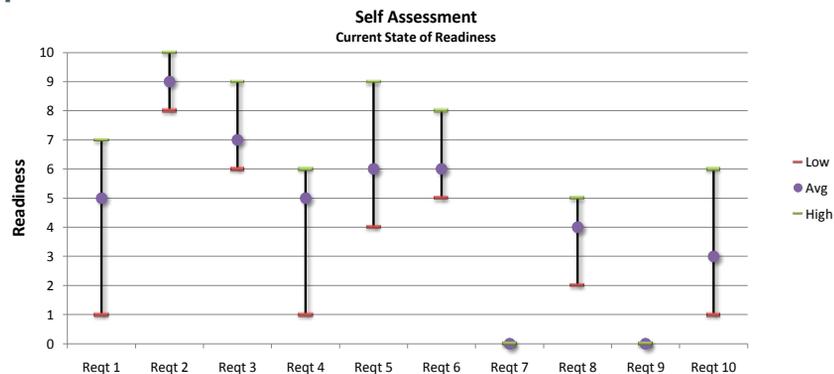
- Insurers' issues
  - Poaching of staff, short term and long term
  - Resources over spread – needed in risk management, internal audit
  - Industry's, FSA's, ability to ensure good practice circulates
- FSA issues
  - Basel experience of resourcing crunch
  - FSA further prioritisation of applications
- 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.

## 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

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- **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

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## Group Perspective - practicalities

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- **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

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## What happens if the Internal Model is NOT Approved?

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- 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....”