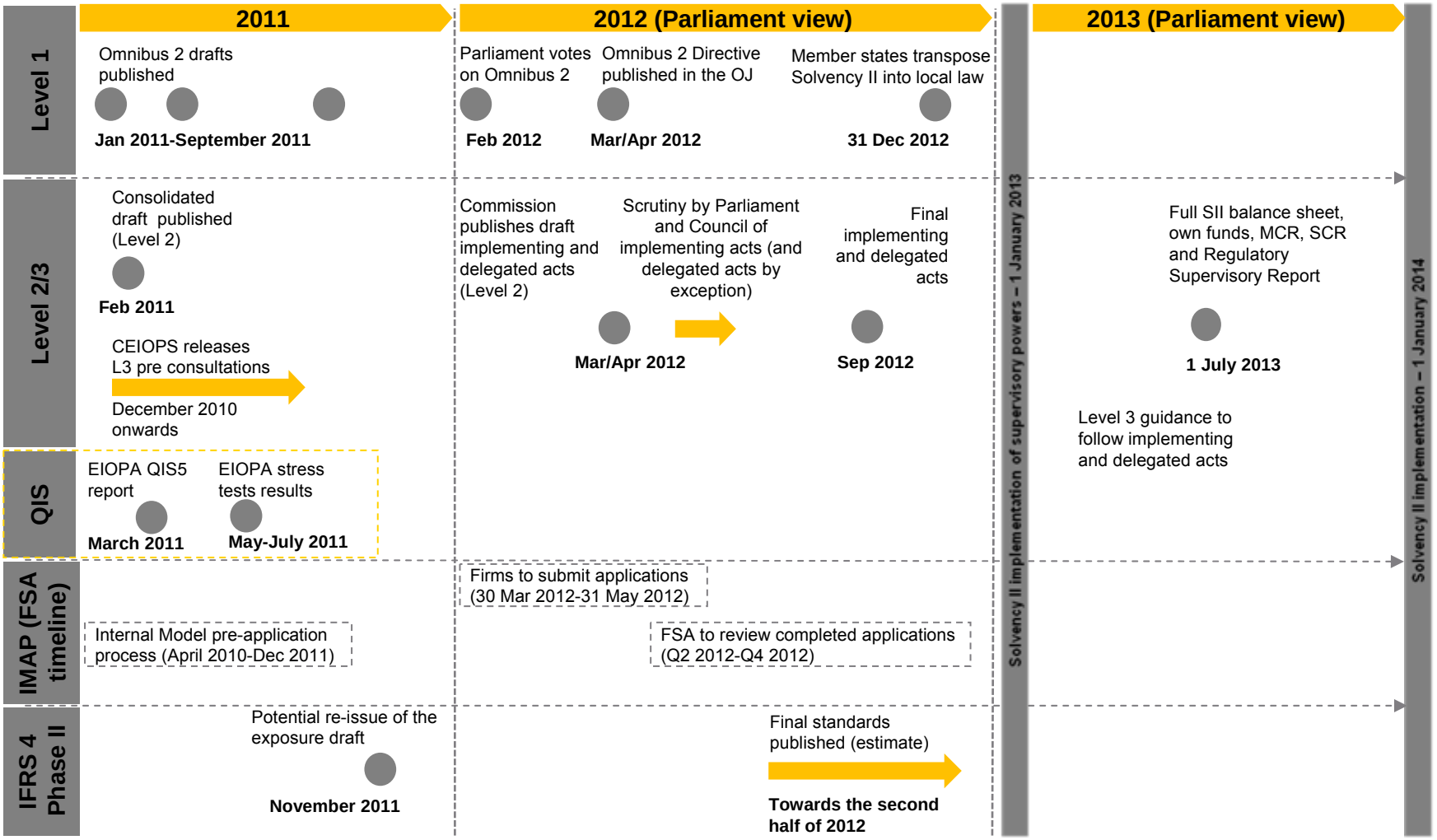
Current status of Solvency II and challenges down the line

Matthew Edwards

11 October 2011

Solvency II Timeline

Regulatory timelines



Omnibus II

- The original Solvency II directive required implementation of Solvency II from 31 October 2012
- However the original directive required amendment for the new European system of financial regulation. These amendments are brought together in the **Omnibus II directive** proposed by the European Commission
- Other amendments to the Level 1 text were also included and have evolved during the negotiations on the Omnibus II proposal. These amendments are not yet approved and recent concerns over the preparations of some Member States and the European insurance industry are leading to proposals to delay the implementation of Solvency II
- Omnibus II requires approval from both the European Parliament and the Council of the EU. This is expected to be completed in early 2012 and will involve further iteration of the Omnibus II text; both Parliament and Council are proposing an implementation date of **1 January 2014** for firms. (For supervisory powers, the implementation date is 1 January 2013.)

Omnibus II
Approval process

Any draft **Directive** or proposal amending Directive, such as Omnibus II, **requires approval** from the European Parliament and the Council of the European Union and **will be subject to intense political debate** and compromises

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Much of this debate on Omnibus II has to date taken place in the European Council under the Hungarian and now Polish Presidencies of the Council

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To conclude on the amendments of Omnibus II **there will be a trialogue exercise** comprising the Commission, Polish EU Presidency and rapporteurs from the European Parliament

This exercise is expected to be completed by the year end 2011, but may involve further changes to the Omnibus II text prior to a plenary vote by MEPs

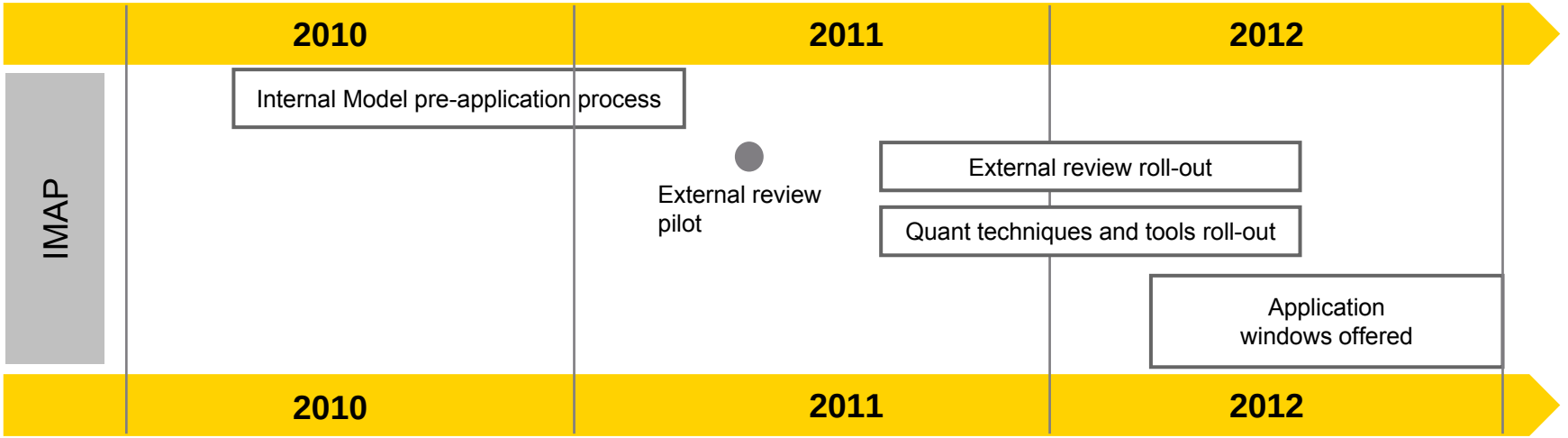
- It is expected that Omnibus II will be voted on by the European Parliament in February 2012 and will be published in the Official Journal of the European Union in March/April 2012
- This will update the Level 1 measures set forth in the original Solvency II Directive including: the implementation date for Solvency II, defining the transitional measures and their maximum duration, and vesting significant powers in EIOPA

Model approval process

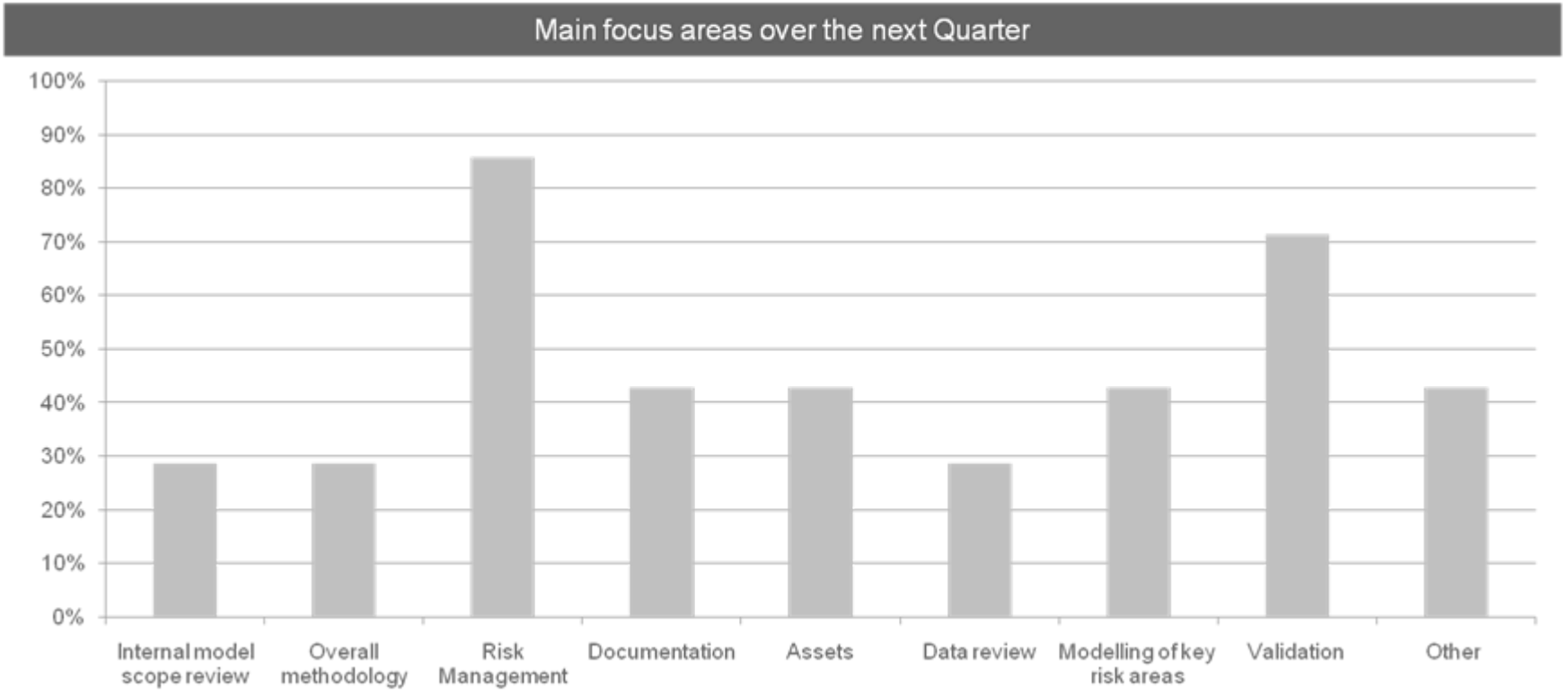
IMAP and the FSA

IMAP timetable

- Pre-application now closed
- Supervisors required to monitor firms' Self-Assessment Templates quarterly (some firms every two months)
- Applications for Internal Models open for firm-specific 'windows' during 2012 (Q2 onwards)
- The FSA has announced 1 January 2014 as the date for full implementation of Solvency II; this delay had been discounted for some time, but most firms have decided not to delaying their model development plans
- Still unclear what regime will apply in 2013 (can firms use internal model SCRs instead of ICAs?)



Work plan
Survey results (September 2011)



- Focus shifting from Pillar I to Pillar II – the setup of the Risk Management framework and Validation of the Internal Model are the top priority for the majority of respondents - this is an area where we would expect to see material challenge from the regulator
- Surprisingly, focus on Assets and Documentation of the model are not top priority for many companies
- Data review is not viewed as a key area despite the FSA releasing external data validation requirements recently
- Some firms are focusing on other aspects of the model such as ALM, Stress Testing and the Use Test

Market Insights

Clients

- **Challenge Processes**
  - Some clients have been getting considerable push-back from the FSA on their internal review and challenge processes
  - As a result some have set up various further levels of review committees to increase the level of challenge, particularly on their modelling methodology and statistical calibrations
  - Not just 'technical design authority' but appropriate review and challenge from business as usual forums
- **Validation processes**
  - Concerns expressed about finalising all validations
  - Some firms now intending to carry out a partial validation approach with a view to finalising a more complete validation next year
- **Methodology and statistical quality**
  - The variance-covariance approach to aggregation has recently been challenged by a European regulator
  - Level of challenge varies across different regulators
  - Companies have set the bar high in their methodology and initial SATs but on review, actual process carried out is not in line with initial proposal to FSA – some clients struggling to meet all of the statistical requirements initially articulated

FSA

- FSA is also looking to place significant reliance on each firm's independent assurance process. Positive assurance will be expected for this purpose. Many firms will seek to use internal audit teams, albeit with some external resource requirement
- FSA will review the validation policy and carry out interviews with the model owner, focusing on understanding of the drivers of the choices and judgements made. Important to document not just choice made, but choices rejected.
- The FSA are focusing mainly on 'compliance' at the moment, particularly with DOC 48/09. Technical challenges are likely to become more prevalent and firms will need to be prepared for these. We have noted this approach with a number of European regulators
- Firms need contingency plans for Internal Models not being fully approved in time

Model validation

Model validation - “3 Lines of Defence”?

Board

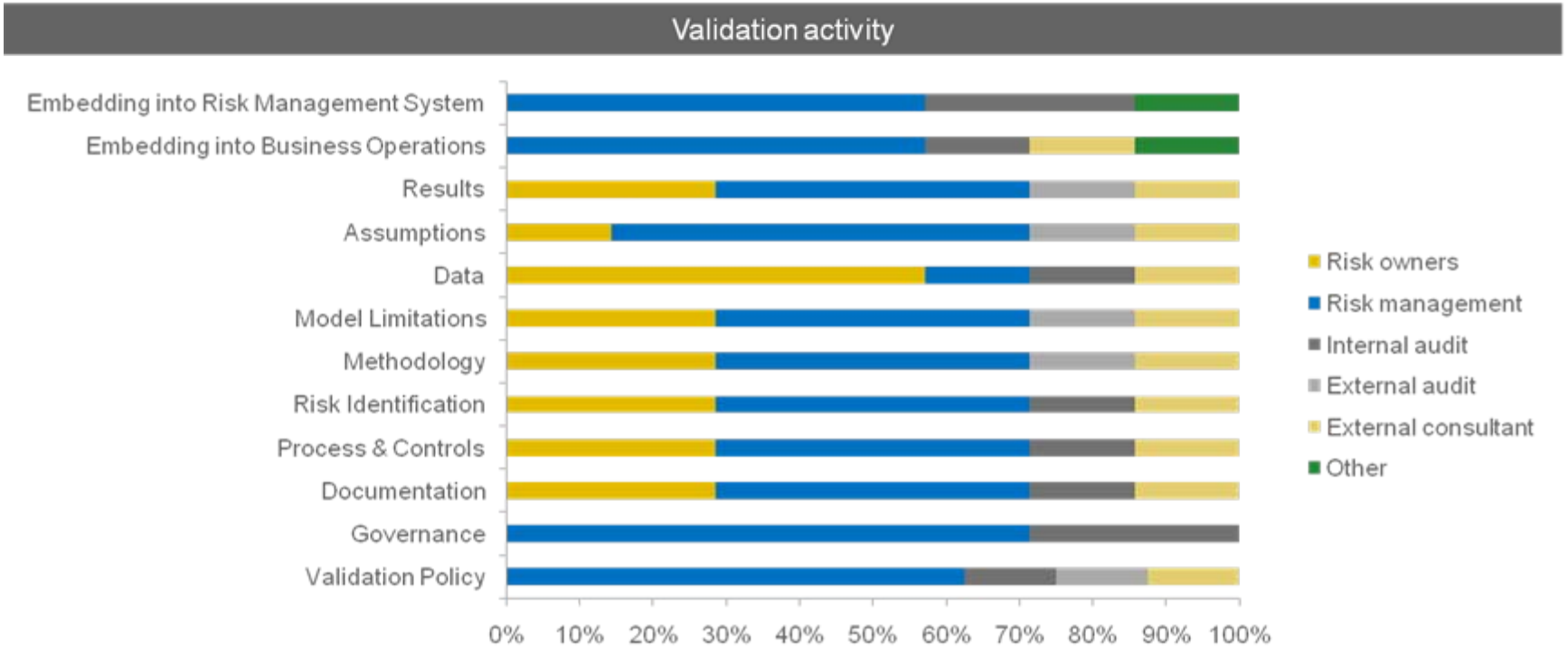
Strategy, risk appetite and policy

1st Line Preparation of Results	2nd Line Internal Control System	3rd Line Independent Assurance
Finance, actuarial and other operational business units	**Risk Function**	**Audit committee, supported by Internal Audit and external experts where required**
Delegated authority from the Board to develop and implement the Internal Model, measure and manage business performance, develop and implement internal control and risk management framework and ensure that the business is managed within the agreed risk appetite	Provides objective oversight Key responsibilities include: ► Design and deployment of overall Internal Model governance framework ► Development and monitoring of policies and procedures ► Monitoring adherence to framework and strategy ► Monitoring of application of Internal Control to Pillar 1	Provides independent and objective assurance over the effectiveness of corporate standards and business compliance, including assurance that the risk management process is functioning as designed and identifying improvement opportunities

- Although the “ 3 lines of defence approach” is commonly used, there are still some variants being seen in practice
- Some companies are using their risk function as the main validators of the Internal Model. Given that the risk function is supposed to “own” the model, it is unclear how they can demonstrate independence
- Some companies are having the Solvency II project team build the “validation procedure manual” and then getting that independently verified by risk, Internal Audit and possibly external consultants or external auditor
- Some companies are using external resource to ensure that the draft “validation procedure manual” is at the right standard, before it is passed to e.g., Internal Audit, to independently assure

Model validation
Survey responses (September 2011)

The respondents have indicated the following parties as primary validators of the following model components



- The Risk Management function has a major responsibility in the model validation process
- The Risk Owners have the lead responsibility in around a quarter of the main model elements
- Given the requirement for independent validation, we believe some companies have separated validation and assurance activities, where the Risk Owners and project team own the validation activities, the risk function is working with e.g. Internal Audit to provide a separate assurance

Model validation - Considerations

Areas	Considerations
Planning	▸ The validation process requires input from a wide range of people ▸ Many iterations may be required ▸ Timelines are stretching to develop each model component with clients concerned about ultimately missing some of the deadlines
Documentation	▸ Model documentation should capture the calculation of the BEL in detail. Assumptions used in the process should be clear with evidence suggesting as to why these are a firm's best estimate view of the future, given their risk exposures. ▸ Documentation should comply with TAS and meet high statistical quality requirements and validation standards set by the regulators ▸ There should be a robust process in place, to not only implement but also review the model documentation. Particular care on explicit documentation of expert judgement. ▸ Sign-offs should be clearly documented after sufficient levels of review
Senior management and independent review	▸ Senior management should provide the right level of challenge to the validation results and must provide evidence that they understand the implication of the results and awareness of the limitations in the model ▸ Firms can make use of any review / escalation lessons learnt from the ICA process
Validation policy	▸ The model validation policy should document the firm's risk management framework for its Internal Model ▸ Evidence of compliance with the validation policy should be disclosed in detail ▸ Roles and responsibilities of individuals should be clear
Data	▸ The FSA have published considerations on Data. This could be an indication of the level of detail the FSA expects for all other areas ▸ Firms should aim to address the requirements laid out with evidence of external validation carried out
Benchmarking	▸ Firms should aim to benchmark their key model inputs and, where the firm's view is divergent, provide evidence as to why the view is different, given its specific risk exposure

Current issues – internal model companies

Current issues – internal model companies

Most firms now in pre-IMAP have been devoting considerable resources for some time to internal model development. Much progress has been made, but many areas seem still to be under-developed.

These slides explore the main areas of weakness we are seeing across the market (with particular reference to UK life insurers) as we enter 2011 Qtr 4.

The main areas are:

- Validation
- Development of risk factors
- Consistency and quality of IMAP materials

Outside the S2 / internal model project teams, we are often seeing a lack of commercial and business readiness

Validation

- Many firms are having difficulties building up sufficient expertise in their risk management function to be able to challenge properly the internal model development team. Robust challenge (and evidence of this) is a key part of validation.
- Some firms seem weak on the development of their validation approach. More attention may be necessary in the areas of
  - Standards – validation methodologies, explicit requirements in respect of statistical quality standards, suitable depth of review, what are the acceptance criteria (quantitative and qualitative), how is expert judgement to be presented and evidenced?
  - Planning – what tests and outputs are required from line 1, with particular reference to validation across the whole IM scope (much more than just the calculation kernel 'core')?
  - Validation Report – who will produce this? Are those resources in place, with suitable skills? What degree of detail is intended? How to ensure an effective system of escalation and eventual model enhancement?

Development of risk factors

- Current problem areas at the moment:
  - Expert judgement – collating all expert judgement opinions / assumptions made throughout the internal model, setting these out in some organised way (template) with associated justification, striking the right balance between rigour and achievability
  - Work around the 'second XI' risks – eg expense risk, mortality risk, concentration risk seem to take second place to the 'big ones' of market risk, lapse risk ...
  - Evidencing a proper thought process for the derivation of stresses – in particular, show how the firm is starting from consideration of the underlying risk drivers and working from there, rather than simply taking a 99.5% point from a distribution fitted to recent data
  - Documentation – expert judgement and 'external models and data' are typical documentation pressure points
  - Preparation of all the material, tests, documentation necessary for validation – best practice is to have a dedicated validation workstream within the IM development team, responsible for coordinating materials and outputs and passing them to the validators
- Beyond the technical points relating to individual stresses, we are also seeing problems around the documentation of technical provisions
- Firms developing partial internal models are finding more work is being required to justify the appropriateness of the SF to their non-IM risk factors

IMAP materials

- What QA is being done on the material to be sent to the FSA as part of IMAP?
- This is not a question of validation per se, but quality control that the material
  - Fits what it is supposed to cover per the SAT/COAT,
  - Covers what regulations require it to cover (looking more at breadth here than depth),
  - Is consistent with firm's other material (eg check that a detailed P&L attribution note is consistent with the high-level P&L attribution policy – given the pace of development of materials in 2011, and their inter-connectedness, this is an easy place to stumble)
  - Is up to scratch from a TAS perspective? (FSA would be expected to look poorly on a firm claiming it will be up to S2 standards by Q2 next year if it is not yet up to current UK actuarial standards)
- Likewise with all of the supporting evidence proposed in the SAT/COAT

More than ‘ICA Plus’

- Many companies are confident that their hard work and rigour in model development during the ICAS regime will mean there is little to do in some areas
- But the internal model needs to meet much higher standards. For instance, take the example of a risk factor that has already been extensively analysed over the last 4-5 years for the ICA – is the firm now ready in the following areas:
  - Stresses at points other than the 99.5% level to provide a pdf
  - Evidencing the ‘risk driver upwards’ thought process
  - Documentation of all areas of expert judgement
  - Use test – involvement of senior management in the process
  - Justification of the use of any external models and data
  - Fully thought-out validation tests to provide comfort against agreed criteria
- The above points regard just individual risk factors – clearly there are many other areas where far more is required than was for the ICA (governance, data quality ...)

Current issues – standard formula companies

Data underlying technical provisions (1)

- Insurance and reinsurance undertakings shall compile a **directory of all data** used in the calculation of the technical provisions, specifying the source, characteristics and usage of the data in that calculation.
- In relation to the data used in the calculation of the technical provisions, insurance and reinsurance undertakings shall establish, implement and maintain a **data policy** which covers:
  - the **definition** and the **assessment** of the **quality of data**, including specific qualitative and quantitative standards for different data sets, based on the criteria of accuracy, completeness and appropriateness;
  - the use of **assumptions** made in the collection, processing and application of data;
  - the process for carrying out **data updates**, including the frequency of regular updates and the circumstances that trigger additional updates.
- Insurance and reinsurance undertakings may not consider the data used in the calculation of the technical provisions to be accurate unless at least the following conditions are met:
  - the data are **free from material errors**;
  - data from different time periods used for the same estimation are **consistent**;
  - the data are recorded in a **timely manner** and **consistently** over time.

Data underlying technical provisions (2)

- Insurance and reinsurance undertakings may not consider the data used in the calculation of the technical provisions to be **complete** unless at least the following conditions are met:
  - the data are of **sufficient granularity** and include **sufficient historical information** to identify trends and assess the characteristics of the underlying risk
  - data satisfying the condition in point (a) are available for **each of the relevant homogenous risk groups** used in the calculation of the technical provisions and no such relevant data is excluded from being used in the calculation of the technical provisions without justification;
- Insurance and reinsurance undertakings may not consider the data used in the calculation of the technical provisions to be **appropriate** unless at least the following conditions are met:
  - the data are **consistent with the purposes** for which it will be used;
  - the amount and nature of the data ensure that the estimations made in the calculation of the technical provisions on the basis of the data **do not include a material estimation error**;
  - the data are **consistent with the assumptions** underlying the actuarial and statistical techniques that are applied to them in the calculation of the technical provisions;
  - the data **appropriately reflect the risks** to which the insurance or reinsurance undertaking is exposed with regard to its insurance and reinsurance obligations.

Data underlying technical provisions (3)

- Any assumptions made in the collection, processing and application of data shall be **consistent** with the data to which they relate.
- Insurance or reinsurance undertakings shall ensure that their data are **used consistently over time** in the calculation of the technical provisions. Any inconsistent use of data shall be justified and documented by the undertaking.
- Insurance and reinsurance undertakings may use data from an **external source** provided the following requirements are met:
  - undertakings are able to demonstrate that the sole use of data which are exclusively available from an internal source is not **more suitable** than the use of data which includes data from an external source;
  - undertakings know the **origin of the data** and the assumptions or methodologies used to process that data;
  - undertakings identify any **trends** in the original data and the variation, over time or across original data, of the assumptions or methodologies in the use of the original data;
  - undertakings are able to demonstrate that the assumptions and methodologies referred to in points (b) and (c) appropriately reflect the **characteristics of the undertaking's portfolio** of insurance and reinsurance obligations.

Documentation

Requirement

Insurance and reinsurance undertakings shall document the following processes:

- the collection of data and analysis of its quality and other information that relates to the calculation of technical provisions;
- the choice of assumptions used in the calculation of technical provisions, in particular the choice of relevant assumptions about the allocation of expenses;
- the selection and application of actuarial and statistical methods for the calculation of technical provisions;
- the validation of technical provisions.

Assumptions

The documentation requirements focus on the assumptions used in the calculation of technical provisions. The documentation should include:

- a justification for the choice of the assumption;
- a description of the inputs on which the choice is based;
- the objectives of the choice and the criteria used for determining the appropriateness of this choice;
- any material limitations in the choice made;
- a description of the processes in place to review the choice of assumptions

Validation

Requirement

▶Article 255 of the (draft) Level 2 implementing measures requires firms to "validate the calculation of technical provisions, in particular by comparison against experience as referred to in Article 83 of Directive 2009/138/EC, at least once a year" and also if there are "indications that the data, assumptions or methods used in the calculation or the level of the technical provisions are no longer appropriate".

Methodology

The validation of technical provisions should cover:

- the appropriateness, completeness and accuracy of data used in the calculation of technical provisions and the compliance with data policy;
- the appropriateness of any grouping of policies;
- the remedies to data limitations;
- the appropriateness of approximations used in the case of inadequate data;
- the adequacy and realism of assumptions used in the calculation;
- the adequacy, applicability and relevance of the actuarial and statistical methods applied in the calculation;
- the appropriateness of the level of the technical provisions as referred to in Article 84 of Directive 2009/138/EC

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Ernst & Young LLP, 1 More London Place, London SE1 2AF.