

ISG IMEG – Use Test Group

Consolidated Slide Pack

Article 118 – Use Test

Insurance and reinsurance undertakings shall demonstrate that the internal model is widely used in and plays an important role in the following:

- (1) their system of governance, referred to in Articles 41 – 49, in particular
 - a) their risk-management system as laid down in Article 43 and their decision-making processes;
 - b) their economic and solvency capital assessment and allocation processes, including the assessment referred to in Article 44.

In addition, insurance and reinsurance undertakings shall demonstrate that the frequency of calculation of the Solvency Capital Requirement using the internal model is consistent with the frequency with which they use their internal model for the other purposes covered by the first paragraph.

The administrative or management body shall be responsible for ensuring the ongoing appropriateness of the design and operations of the internal model, and that the internal model continues to appropriately reflect the risk profile of the insurance and reinsurance undertakings concerned.

Introduction

The Use Test group has identified 7 Core Discussion Points, listed below. This pack contains a summary of our views and findings to date.

- a) The linkage between Article 43 “Risk Management” and Article 118 “Use Test”
- b) The linkage between Art.44 “ORSA” and Art.118 “Use Test”
- c) What are issues with frequencies of re-calibrating or refreshing internal models - for business and for regulatory purposes?
- d) Consider actions / roles of board and senior management team and how these affect “Use Test”
- e) How broad should the requirement be for consistency of models?
- f) How to tackle inherent conflict between (a) readily adaptable "fleet-of-foot" models for business and (b) heavily controlled, formally documented models which meet regulatory standards ?
- g) Divergence of regulatory and economic capital models

a) The linkage between Article 43 "Risk Management" and Article 118 "Use test"

- We should have a working definition of 'the Model'. An example would be the one used by the IAIS, derived from a glossary by the CEA and the Groupe Consultatif:
 - “A risk management system developed by an insurer to analyse the overall risk position, to quantify risks and to determine the economic capital required to meet those risks”
[IAIS – Guidance Paper on the Use of Internal Model for Risk and Capital Management Purposes by Insurers (October 2007)]

- We need to consider the level of prescription that is appropriate for *company structure*, including the defined Risk Management function. A specific question was raised as to how the '3 lines of defence' approach would fit in.

- Also need to expand on what the directive says on *responsibility*. How much of the work on the quantitative part of the model has to be reported through the Risk Management function, particularly if Risk Management reports into the board independently of finance and actuarial teams?

- What does an entity need to do to obtain approval?
 - Demonstrating decision making, and what level of reliance?
 - A list of all areas where the Model is used; possible specified uses e.g. reinsurance purchase?
 - How can a regulator objectively say that a given set of systems and processes are satisfactory? How is the link between risk measurement and risk management considered?

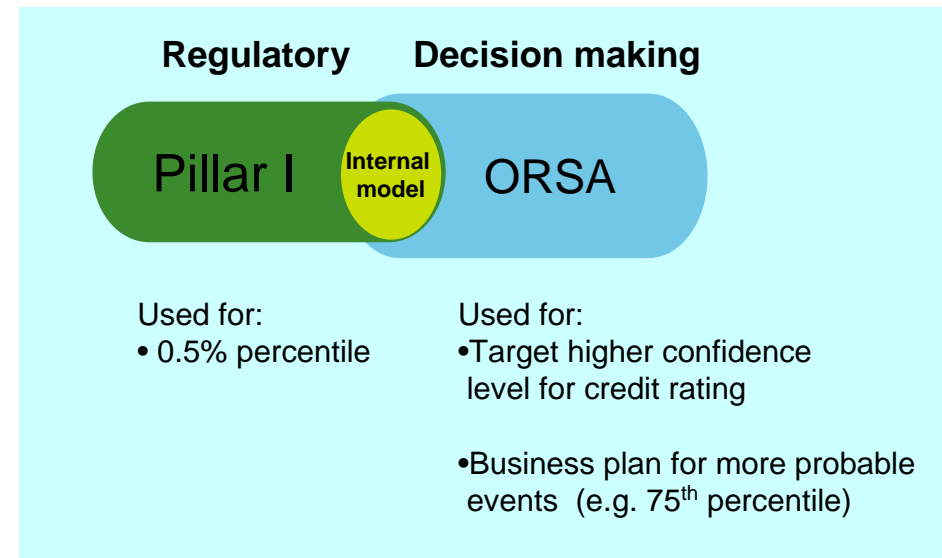
b) Discussion of Issues surrounding the use test and ORSA - linkage between Art.44 “ORSA” and Art.118 “Use test”

Inter-relationship between ORSA and business strategy use

- ORSA should influence strategy decisions and strategy decisions should first be considered through ORSA – this interrelationship is a clear demonstration of use
- Frequency of calculation is also key in demonstrating use
- ORSA needs to be forward looking, making use of plans and projections in order to be useful
- The output from the internal model used in Pillar I is different to the output used in ORSA
- These aspects need to be taken into account in the use test.
- The diagram shows possible different uses of the information and model functionality

Some outputs of Pillar 1 internal model that could be used in the ORSA

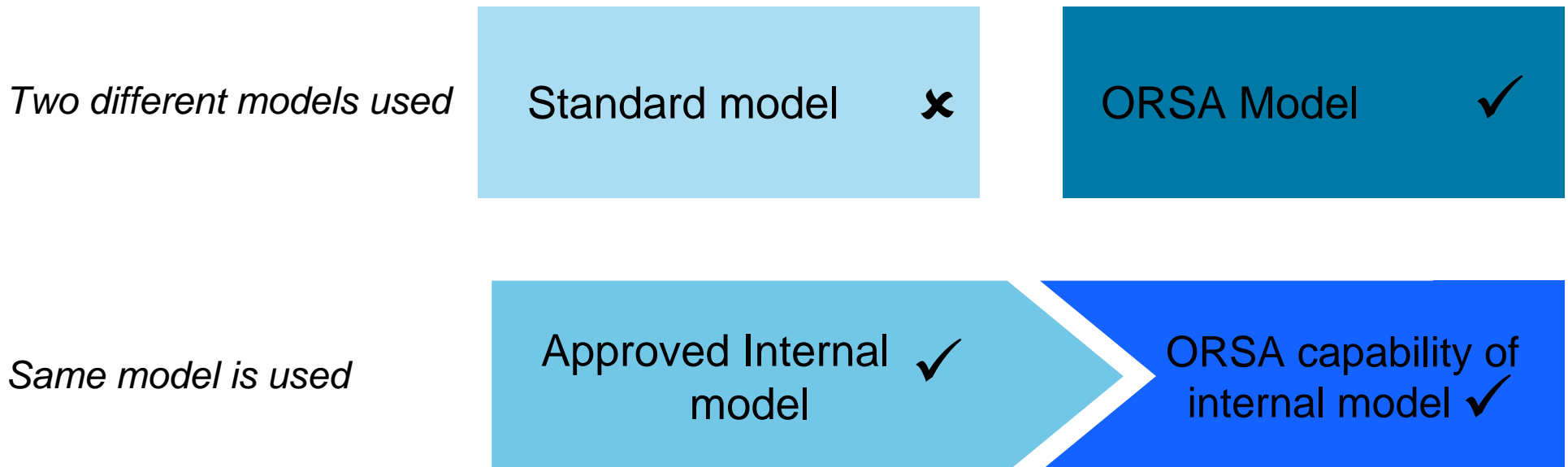
- Projection of run-off of Pillar 1 SCR
- Economic capital at t=0 and projection of run-off
- Assessment of risk of failure to meet SCR over the run-off



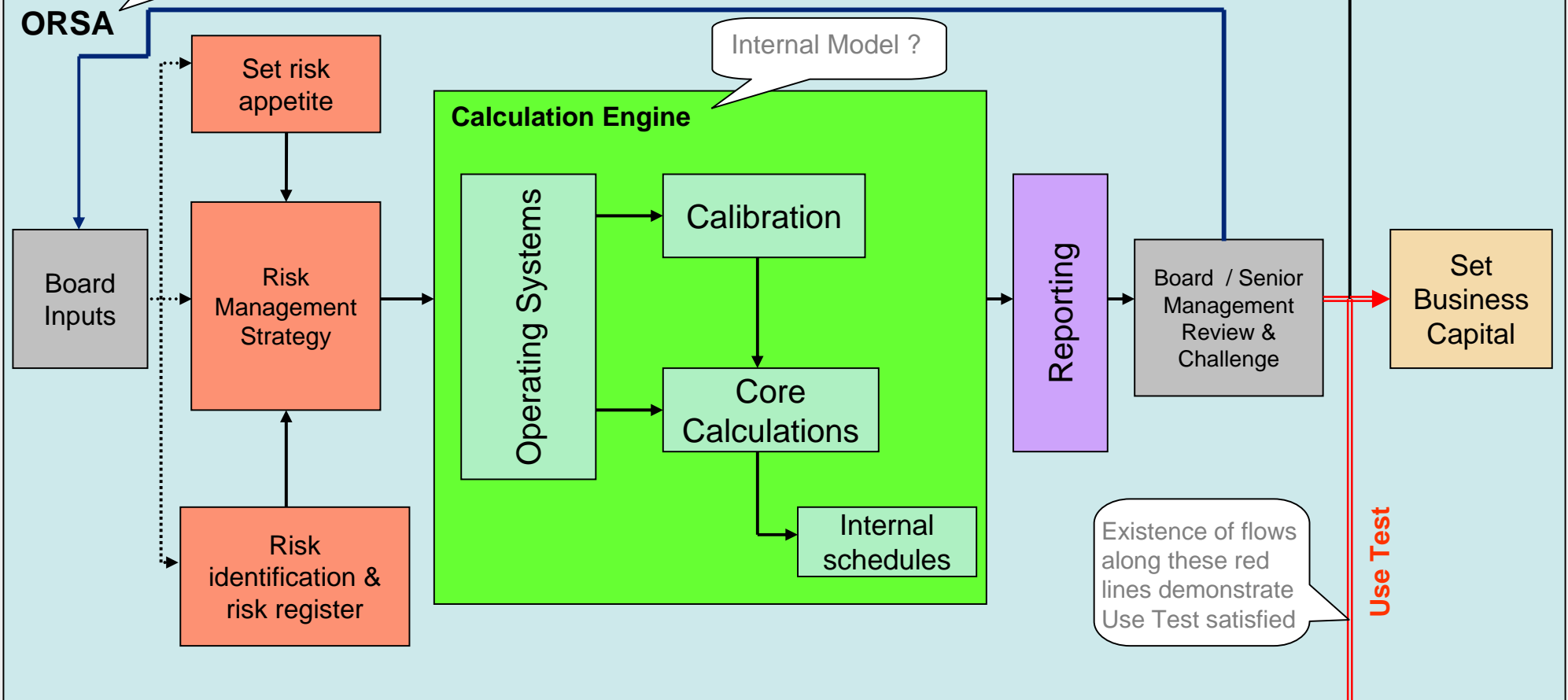
b) Linkage between Art.44 “ORSA” and Art.118 “Use test”

Review of internal model and ORSA

- There is an overlap between internal model approval process & review of the content of ORSA
- A firm using the standard model will only have its ORSA reviewed once, while a firm using an internal model may in effect have its ORSA model reviewed twice (once in for Pillar I approval process and once again for Pillar 2 Supervisory Review Process)
- The review of ORSA needs to be limited to prevent scope creep in compliance with the use test *Scope of review*



CORPORATION



Data integrity an issue for SQS

eg Reporting exposures against limits & appetite

Use Test



c) What are issues with frequencies of re-calibrating or refreshing internal models - for business and for regulatory purposes?

- The SCR needs to be re-calculated any time the internal capital numbers are re-calculated.
- This will be an additional overhead, depending on the differences between internal capital and regulatory capital methodologies.
- Internal model numbers will need to be refreshed more frequently than currently done for ICA.
- Existing modelling tools may need to be upgraded to improve performance to allow this .
- One view is that re-calculations should only be required when there's been material changes in conditions.
- ...another view is that routine frequent (e.g. quarterly) recalculations can be a good discipline and give you more confidence in "emergency" recalculations
- ...also there is a risk that supervisor could challenge - how do your processes tell you when's there's been a material change? In extreme could lead to the need for monthly recalculations.

d) Consider actions / roles of board and senior management team and how these affect "use test"

- The Board is responsible for high level strategic decision making incorporating the outputs of the (actuarial) internal model. They are the ultimate owners for the internal model
- Timely, accurate and succinct risk MI should be reviewed regularly by the Board
- Risk appetite should be agreed by the Board and aligned to parameters within the (actuarial) internal model
- The Board should ensure the business is aware of its risk and capital management responsibilities.
- The Board should appoint a risk and capital representative for its major decision making Boards and Committees, and ensure that there is a clear line of delegation and responsibility for risk and capital decisions.
- The Board should review and challenge the internal model, including, but not limited to, the MI (outputs) being generated by the (actuarial) internal model
- The Board should regularly (depending on which part of the internal model is being considered) review the internal modelling process and the risks being modelled
- The Board should ensure the reward framework of the business is transparent and recognises the risk management approach taken.

e) How broad should the requirement be for consistency of models?

- **Key question:** *Is it enough if capital calculations are consistent between business and regulatory bases - or should consistency test extend to reserving, pricing, reinsurance optimisation etc. models?*
- General consensus is that there should be consistency of approach (including for reserving, pricing, reinsurance optimisation...) between economic and regulatory models to demonstrate that the internal model is actually used in the business decisions of the firm.
- Economic and regulatory capital should be estimated using the same infrastructure, albeit with potentially different calibrations and assumptions, eg for business planning purposes the company will likely want to target a level of economic capital in excess of the regulatory minimum.
- Other applications (e.g. pricing models, regular solvency monitors, bespoke investigations) should, in an ideal world, be outputs of the engine. In practice this may be hard to achieve so there needs to be a fairly strong and documented audit trail connecting the engine to these other applications.
- However some debate on the appropriate level of consistency between models in different firms.

f) Conflict between readily adaptable "fleet-of-foot" models and heavily controlled, formally documented models

- Requirements for the full internal model are fairly onerous being both time and resource intensive.
- In certain areas of the business, the firm may prefer to have a lighter "fleet-of-foot" model that is able to be run more quickly to speed up business decisions, eg a simplified economic capital model with just the central capital driver updated, but other parameters left unchanged.
- This would present a conflict if they replace the use of the main model. However, regular assessment and reporting of the differences between the simplified and full approved capital model (ie calibrating the proxy/simple to the approved capital model) would support use-test.
- Where a component of a capital model is carved out to speed up run time (eg insurance risk module used for reinsurance optimisation), this would be a readily adaptable "fleet-of-foot" model but same as the approved model - with some of the functionality that is not required turned off.
- Business decisions need to be made in a timely manner in order to be effective which often precludes the production of formal documentation. Nevertheless, models (approved or fleet-of-foot) are run and analyses carried out to inform the decisions so documentation could take the form of minutes from a meeting and form part of the governance process around decision making.
- One must highlight which models are being used in each situation/decision and evaluating compliance with the use-test may require a review of all models used in the business to ensure they are consistent with the approved capital model.
- Validation of the fleet-of-foot models should be performed against the full model as well as validating any business decisions made using the fleet-of-foot models against the full model.

g) Divergence of regulatory and economic capital models

- *Background* - In theory the regulator will "sign off" an internal model for use and it is then fit for calculating the SCR. The same model is to be used for regulatory capital and for economic capital, the main difference being confidence interval and perhaps horizon before run off commences.
- *Pitfall* - The regulator takes a high degree of interest in model build and assumptions and it is not possible to agree a common modelling choice - result is regulator stipulates a model setting. The business fundamentally disagrees and chooses to run a different setting for EC. Over time this results in numerous differences between internal model and regulatory model.
- *Capital add-ons* - A capital add-on approach to modelling differences implies that in a given year the risk the regulator feels is not modelled correctly is a fixed quantum - this is often not the case and you have to adjust the add-on each year which is resource intensive. Hence regulators will insist on model changes not add-ons. Add-ons will be the tool for changing capital once normalisation across insurers occurs.
- *Result* - Divergence on many dimensions between regulatory internal model and the model used to run the business (EC). This will happen despite a common framework and the best of intentions.
- *Implications for Use Test* - Businesses will use EC as primary tool (not regulatory model) to make business decisions, although of course they will be mindful of not breaching regulatory capital.

Thank you