



Solvency II - Internal Model

Risk management tool and key challenges for regulatory approval

Agenda

- Why an internal model?
- The benefits
- What's the problem? - Challenges of regulatory approval
 - Implementation cost
 - Technical challenges
 - Data shortcomings
 - Regulator's view and readiness
 - Change in culture
- What's next?

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Background

Where are we in the implementation of IM around the world?

- Europe
 - Over 100 insurance groups in Europe are applying for internal models in preparation for Solvency II
 - Application for transitional measures higher than initially expected
- Solvency II equivalence transitional regime
 - United States
 - Switzerland
 - South Africa
 - Chile
 - Mexico
 - Australia
 - Canada
 - Japan
 - Bermuda
 - China
 - Hong Kong
 - Singapore
 - Israel
 - Brazil



Why bother having an Internal Model?

- Compliance?
- Strategic differentiator?
- Capital savings?
- Better risk management from using Internal Model versus Standard Formula?

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The Benefits....or so they say

- Reputation → Strategic differentiator: Your company's strategic goal is to lead the market
 - Risk management tool
 - Capital savings → YES, PLEASE
 - Innovation with confidence
 - Better return in the long run
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- The change in culture as a benefit... it is **ALSO** a requirement, otherwise SII may become just a financial burden



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Key challenges facing IM implementation

- Implementation Costs: Financial & Time
- Regulatory View and Clarity of Regulations
- Data Shortcomings
 - Data quality effort
 - Know “unkowns”
- Technical challenges:
 - Workload and documentation
 - Achieving the Use Test
 - Model adaptability to local specifications
- Embedding Risk-based Culture

Implementation Cost

Solvency II Internal Model Approval Process

- Substantial costs to applicants
- Major costs coming from:
 - time and resources dedicated to implement the necessary framework
 - building up documentation requirements whilst meeting tight deadlines
- European firms have had to weight up
 - The cost of securing approval vs. benefit to the firm
 - The cost of maintaining the model and its relevance to the business over time
- Withdrawals from the approval process
 - Almost 1/3 of UK applicants have dropped out since 2011
- Back up plans
 - Firms have also been expected to ensure they have plans to cover a range of outcomes following the regulator's decision in case their internal model is rejected

Regulators & Regulations

Insufficient clarity & differentiated focus

- Rules open for interpretation from regulators and rating agencies
 - ‘model should operate on a continuous basis’
 - ‘regular cycle of validation’
 - a “proportionate increase” when the solvency capital requirement is calculated with an internal model
- Sovereign risk
 - Differences in focus from one regulator to the next w.r.t. expected thoroughness in modelling sovereign risk more (e.g. risk of default and rating migration)
- Use of transitional measures
- Matching adjustment and volatility adjustment
 - EIOPA’s lack of clarity and transparency on methodology and calculations → hard to replicate for internal model firms

Ensuring Data Quality

- Assumptions
 - Very high standard required of justification and understanding of where the assumptions for the model are coming from
- Loss data and new products
 - Insurance industry has shortcomings of loss data in certain products
- Data maintenance and integrity
 - Maintaining complete, accurate and up-to-date data for the model



Workload and documentation

- **Extensive documentation**
 - Multiple audiences (external & internal) different levels of detail/exposition
- Cross-border firms → manage **expectations from different regulations**
 - Specific documents for each standards required
 - Multiple standards for evidencing the use-test
- **Increasingly specific functions** paired with lack of human resources and expertise
- Documenting the **use of expert judgement**
- Pressure of getting IM application correct within tight timescales whilst regulations are still being finalised/clarified

Achieving ‘the use test’

- **Readiness and availability of the IM information** - Producing information from the internal models sufficiently quickly and frequently to support day-to-day decision-making in the business
- Extending “use” to senior management level
- Educating staff across a wide range of business units and departments in order to **ensure buy-in to the internal model**
- Striking a balance between the complexities needed to fully represent the business and user friendliness so that it can be used, accessed, and appreciated by a wide range of staff
- **Evidencing that the model is being widely used** without creating a value-destroying documentation burden
- Cross-border groups need to manage multiple specific expectations

Adapting model to local specifications

- Large cross-border groups and their local subsidiaries face additional challenges in adjusting the model to fit local markets of varying size and industry sophistication
- Difficulties in understanding complex models and the appropriateness of the model for local conditions
- Require model to be flexible enough to produce results under different reporting standards
- Solvency II has now outlined three categories for third countries

Embedding a risk-based view and culture...



- Introducing an internal model and applying the use test requirement
 - Senior management need to have its own internal risk assessment that it is believed is most suitable for the business
- Considering other forms of measurement that may be less appropriate to its own business model may conflict between different assessments of risks
- Change in culture may impact other areas of the business

Other Challenges

- Technology
 - Models restricted because technology choices made previous to the model specifications
 - Trade-off between efficiency and flexibility in the model
 - Performance problems due to pick usage

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Conclusions

- We have discussed:
 - Clear benefits
 - Important challenges
 - Potential high cost
- So what's next?
 - Understand your risk profile and potential benefits
 - Pilot-prove your internal model and explore before committing
 - Continuous open communication with regulators
 - Go beyond compliance



Obrigada!

Questions?