The Actuarial Profession
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A Closer Look at Solvency II
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Addressing the Data challenges of Solvency II

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Addressing the Data & Technology challenges of Solvency II

Objectives of today

- Recap on the Data requirements of Solvency II
- Review the guidance on implementation
- Clarifying the scope of the Data workstream
- Understand the Pre-Application process
- Focus on the tasks ahead

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Data requirements of Solvency II

"Given the high importance of data in internal modelling, undertakings and supervisory authorities should strive for the highest data quality standards to be applied."

CEIOPS CP56 – Tests and Standards for Internal Model Approval

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Data requirements of Solvency II

Data quality is a critical component of the internal model approval tests

- Statistical Quality
  - CEIOPS views data quality as applying to all data used to operate, validate, and develop the internal model
  - Methodological reviews required taking into account the relevant data
  - Data should be updated with the frequency the model is used
- Validation
  - Includes validation of data used in the internal model
  - Validation includes as a minimum back-testing, sensitivity & stability analysis and stress & scenario testing

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Data requirements of Solvency II

- An assessment of the quality of data should be carried out on the basis of three criteria: appropriateness, completeness and accuracy.

Accurate

Complete

Appropriate

The degree of confidence that can be placed in the data. Data must be sufficiently accurate to avoid material distortion of the model output.

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Data requirements of Solvency II

- An assessment of the quality of data should be carried out on the basis of three criteria: appropriateness, completeness and accuracy.

Accurate

Complete

Appropriate

Databases provide comprehensive information for the undertaking.

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Data requirements of Solvency II

- An assessment of the quality of data should be carried out on the basis of three criteria: appropriateness, completeness and accuracy.

Accurate

Complete

Appropriate

Data does not contain biases which make it unfit for purpose.

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Guidance on Implementation

"Given the vital importance of high data quality standards, CEIOPS advocates gearing interpretation towards a comprehensive scope of data quality requirements."

CEIOPS CP56 – Tests and Standards for Internal Model Approval

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Guidance on Implementation

Data subject

Data sources

Data directory

Data monitoring

Data deficiencies

Data policy

Level 2 extract

The data quality requirements apply to all data used in the internal model, i.e. any data used to operate, validate and develop the internal model, irrespective of whether it is internal or external.

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Guidance on Implementation

Data subject

Data sources

Data directory

Data monitoring

Data deficiencies

Data policy

Level 2 extract

The undertaking shall compile a directory of any data used, specifying its source, characteristics and usage.

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Guidance on Implementation

Data subject

Data sources

Data directory

Data monitoring

Data deficiencies

Data policy

Level 2 extract

The onus is on the undertaking to demonstrate that data is accurate, complete and appropriate. To this end, undertakings shall perform regular data quality checks. Data quality checks are processes which undertakings have specifically designed to provide assurance of the accuracy, completeness and appropriateness of the data used to operate, validate and develop their internal model.

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Guidance on Implementation

Data subject

Data sources

Data directory

Data monitoring

Data deficiencies

Data policy

Level 2 extract

Undertakings shall document all instances in which data quality may be compromised as well as its implications.

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Guidance on Implementation

Data subject

Level 2 extract

Data sources

CEIOPS recommends that undertakings shall establish their own policy on data quality and data update approved by senior management.

Data directory

Data monitoring

Data deficiencies

Data policy

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Scoping the Data workstream (internal model)

Data sources (recap):

"The data quality requirements apply to all data used in the internal model, i.e. any data used to operate, validate and develop the internal model, irrespective of whether it is internal or external."

5.15 "......When describing the scope of the internal model, undertakings need to consider carefully where to draw the line between the internal model and processes that are linked to the internal model but are outside it. They will need to be able to explain why some processes are not part of the internal model yet all the required standards are met."

5.16 "An example of this is the process for entry of claims data. The data entry process itself does not need to be in the internal model. The requirement that data be complete could be met with a data policy that specifies the requirements that this process has to meet. Undertakings can then change the process to collect data as necessary as long as they record how they meet this data policy. However, the data policy itself is part of the internal model. Once data is in the claims system, any database that uses the claims data to feed into the calculation kernel is also part of the scope of the internal model."

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Scoping the Data workstream (consistency of use)
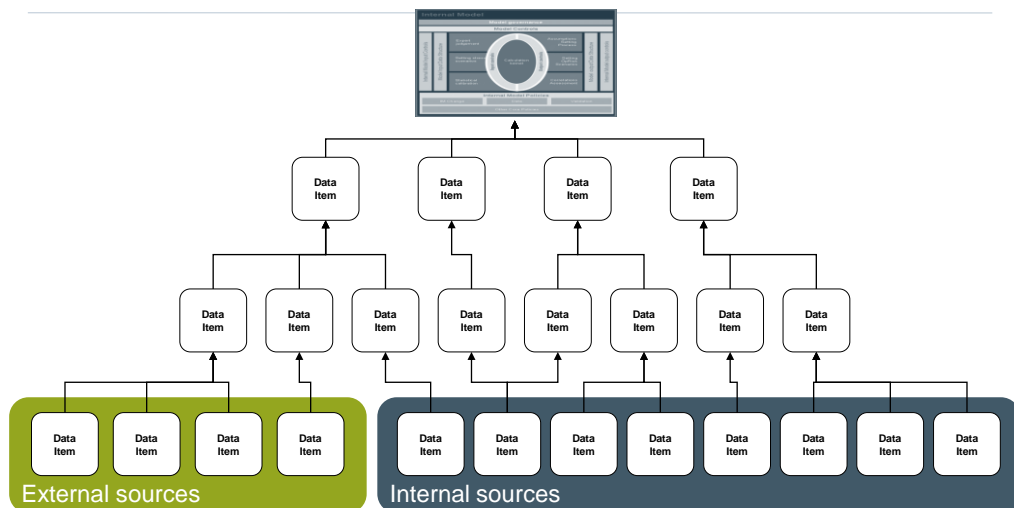
Level 2 extract

CP43 3.16 Accuracy means that a high level of confidence can be placed on the data. The undertaking must be able to demonstrate that it recognises the data set as credible by using it throughout the undertaking's operations and decision-making processes. The assessment of the accuracy criteria should include appropriate cross-checks and internal tests to the consistency of data (i.e. with other relevant information or with the same data in different points in time).

Key Points

In order for data to be considered accurate, it must be used consistently throughout the undertaking's operations.
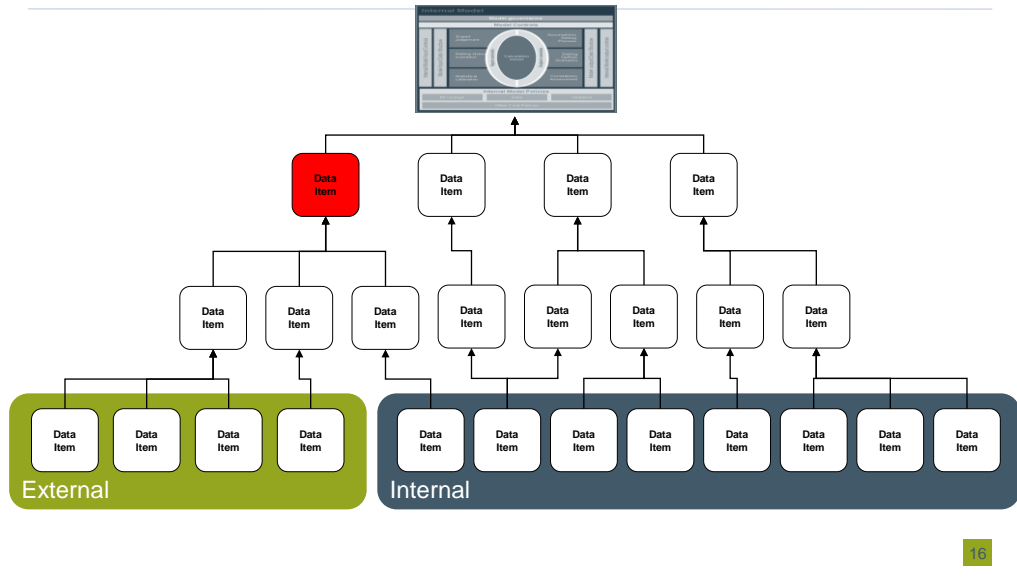
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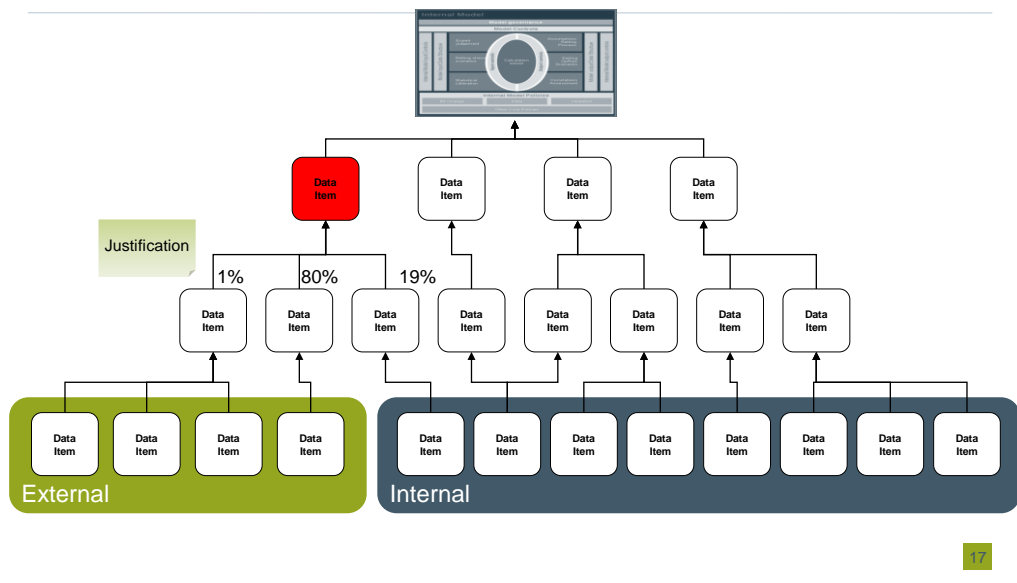

Scoping the Data workstream (prioritisation)

External sources

Internal sources

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Scoping the Data workstream (prioritisation, but thinking ahead)

= Constant

External

Internal

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The pre-application process ("achievability" and "credibility")

- 3.13 (c) - Criteria for judging current model state - "The undertaking has detailed plans for Solvency II implementation ......the planning encompasses a schedule that shows a timeline for bringing .... Data Collection.... to Solvency II standards within the Solvency II time constraints"

- For pre-application firms will need to have a plan showing how the will meet the data quality requirements in time for Solvency II (and progress).

- 5.6 "In addition to the actual parameters, methods and data, the supervisory authority may also want to review ..... the processes used to store and manage the data."

- For pre-application, the regulator may want to look at the data management processes and supporting systems.

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The pre-application process (the submission)

- Based on the Internal Model Approval Process (IMAP) update…approx 35 pages of documentation is required to be submitted.
- Submitted one month before the pre-application visit from the Regulator
- Including approximately 2 pages relating to data:
  - 2.2 Data Management – how will it be developed within your organisation?
  - 3.2 Model scope and architecture – helps to be clear on the scope of the Data workstream in terms of the model and key data sources
  - 3.5 External providers – provides comfort that the impact of third party data used for the model has been considered

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In summary

- Recap on the Data requirements of Solvency II
- Review the guidance on implementation
- Clarifying the scope of the Data workstream
- Understand the Pre-Application process
-     …..now to focus on the tasks ahead

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Any questions?

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Other Useful Information

Addressing the Data & Technology challenges of Solvency II

Progress of other Insurance companies

- Preparing for pre-application
- Planning the Data workstream
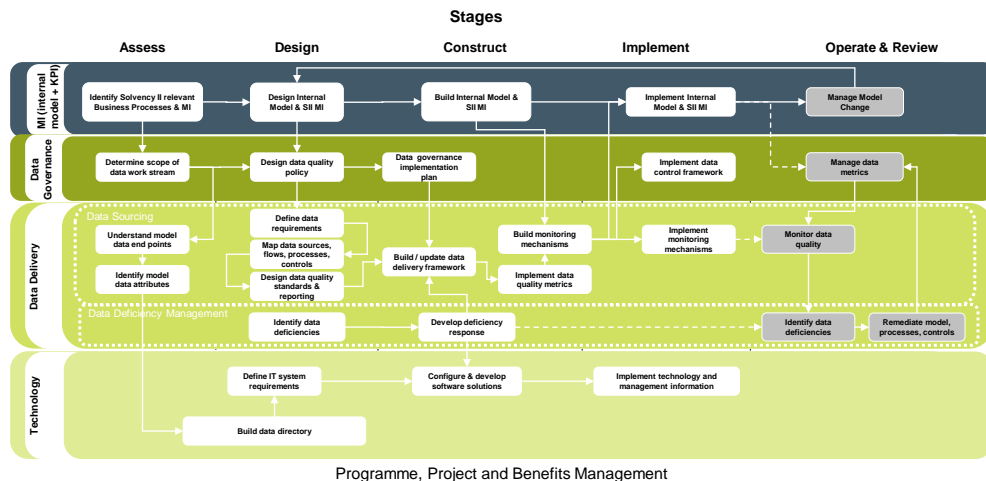- Writing their Data Policy
- Starting the Data discovery phases

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Addressing the Data & Technology challenges of Solvency II

Progress of other Insurance companies

- Planning the Data workstream:
  - Confirming the scope of the Internal model
  - Confirming the data relevant to the Internal Model
  - Indentifying key stakeholders
  - Assigning project responsibilities
  - Producing project plans (detailed for Pre-App and summary for Oct 2012)

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Progress of other Insurance companies

Programme, Project and Benefits Management

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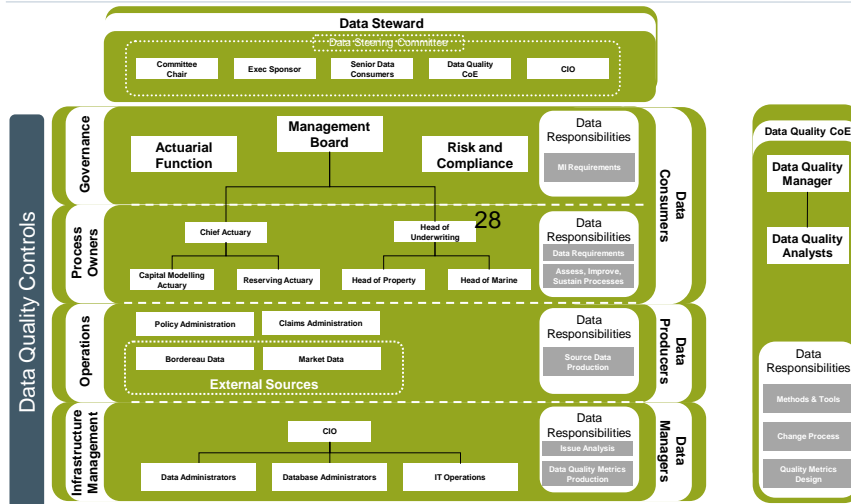Addressing the Data & Technology challenges of Solvency II

Progress of other Insurance companies

- Writing the data policy:
  - Vision for data quality within the organisation
  - Governance organisation that will support the data quality programme
  - How data quality management will work / be implemented
  - Consideration give to constraints and enablers
  - Focus on ensuring the process can evolve as the business changes
  - Use the vocabulary from the CEIOPS guidance

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Addressing the Data & Technology challenges of Solvency II

Progress of other Insurance companies

Addressing the Data & Technology challenges of Solvency II

Progress of other Insurance companies

- Starting the Data discovery phases:
  - Performing detailed analysis of actual source data content
  - Identifying and documenting data quality deficiencies (including root causes)
  - Facilitating workshops and targeted interviews to capture detailed data source information, data flows and control details
  - Advising on data relevant to the Internal Model (in conjunction with AIMS)
  - Developing and building a data directory to capture the characteristics, usage and source of relevant data (as required under Solvency II)

Scoping the Data workstream (not just the obvious)

Level 2 extract

CP43 1.7 Whereas this paper is focused on setting out advice in the context of a valuation of technical provisions, it is noted that the issue of data quality is also relevant in other areas of a solvency assessment, for example for the calculation of the Solvency Capital Requirement (SCR) using the standard formula or internal models.3 CEIOPS considers that, to the extent appropriate, a consistent approach to data quality issues needs to be taken across Pillar 1, without however disregarding the different objectives and specificities of each area.

Key Points

A consistent approach to data quality needs to be taken across Pillar 1 (wider than technical provisions).

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