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## Turning the Spotlight on Expert Judgement

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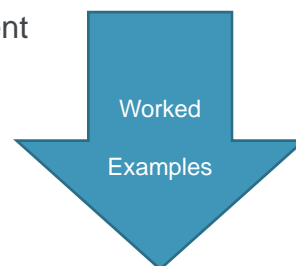
on behalf of the Solvency &  
Capital Management  
Research Group



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### Agenda

- Background
- Preliminary assessment of judgement
- Defining the problem
- Elicitation of expertise
- Decision-making
- On-going monitoring
- Conclusions
- Q&A



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## Background

- What is a model?
- Simplification of reality...
- ...so judgement is inherent in all models.
- Some judgements have small impact; others have significant impact.
- When does a judgement become an “expert judgement”?
- Expert judgement policy should define this, but materiality will be an important factor.

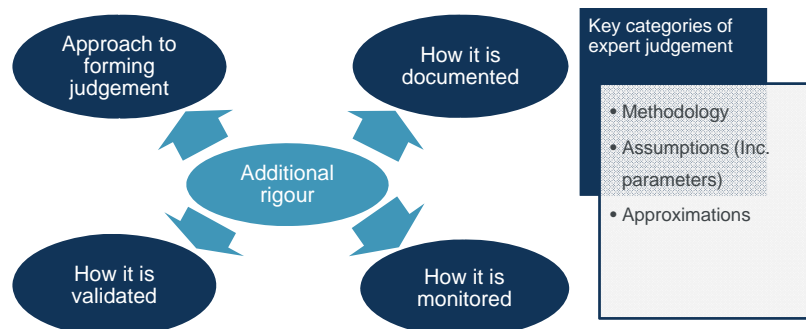


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## Background

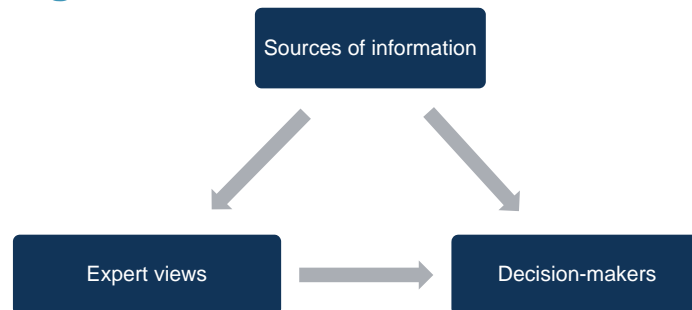
- So what is the consequence of something being considered expert judgement rather than judgement?



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## Background



- Good process is essential, and needs to be tailored and proportionate.
- In certain circumstances, the experts may also be the decision-makers.



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## Some useful concepts

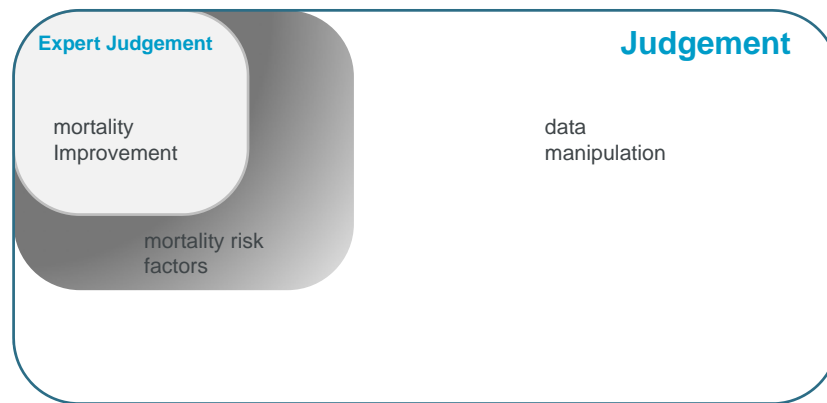
- Plausible range.
- Uncertainty tolerance.
- Uncertainty reduction budget.
- Regions of expert judgement.



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## Preliminary assessment of judgement



## Defining the problem

- Define terminology.
- Articulate what expert judgement relates to:
  - Context and ultimate purpose.
  - Output metrics of interest.
  - Practical constraints.
- What was done previously?
  - Previous judgement will often exist and will be a useful source of information.

## Defining the problem

- Identify potential drivers for change.
  - What drivers exist which may mean that previous expert judgement needs to be changed? E.g.:
    - Updates to information in previous data sources.
    - Identification of new data sources.
    - The desire for greater precision.
- Articulate the reason why expert judgement is required.
  - E.g. poor data in terms of quality, volume or relevance.
  - Specific event triggering the expert judgement to be considered.



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## Defining the problem

- Prepare initial estimate of plausible range.
  - Quick and approximate.
  - Two aspects:
    - Plausible range of expert judgement.
    - Impact of that plausible range on output metrics.



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## Defining the problem

- Assess potential and appetite for reducing plausible range.
  - Would further analysis of existing data help?
  - Could analysis of new data sources help?
  - Would additional experts help?
  - Engage with decision-makers.
  - Is there any uncertainty reduction budget available?



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## Worked Example: Mortality risk factors

- Articulate what judgement relates to:
  - Context and ultimate purpose
    - Setting new mortality risk factor
    - Better reserving and understanding of risks in business
  - Output metrics of interest
    - BEL / Capital for realistic bases
- What was done previously?
  - Data not good enough previously



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## Worked Example: Mortality risk factors

- Identify potential drivers for change.
  - What drivers exist which may mean that previous expert judgement needs to be changed? E.g.:
    - Best industry practice
    - More / better data
- Articulate the reason why judgement is required.
  - Analyse and interpret new the data
  - Derive assumptions & methodology where the data is lacking



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## Worked Example: Mortality risk factors

- Prepare initial estimate of plausible range.
  - Methodology: number and size of each grouping
  - Assumption: parameter for each grouping
  - Starting point: previous expert judgement (if this exists).
    - Wide range as new assumption



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## Worked Example: Mortality risk factors

- Assess potential and appetite for reducing plausible range.
  - Would further analysis of existing data help?
    - Yes. Data on annuity size and deaths to be analysed
  - Is there any uncertainty reduction budget available?
    - Appetite: high if large annuity book
    - Spend internally?: data analysis
    - Spend externally?: Expert Judgement



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## Defining the problem

- Identify personnel involved:
  - Internal experts.
  - External experts?
  - Engage with those experts to establish availability, interest, costs, etc.
  - Elicitation manager.



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## Defining the problem

- Set out draft brief for experts:
  - Terminology.
  - What judgement relates to and why it is required.
  - What was done previously.
  - Potential drivers for change to previous judgement.
  - Initial estimate of plausible range.
  - Potential sources of information.
  - Practicalities e.g. timescales, proposed elicitation approach, etc.
  - Finalise brief.



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## Elicitation of expertise

- Different approaches.
- The most appropriate will depend on a number of factors.
- Should be a clear and logical thought process.
- Establish triggers for non-scheduled review.
- Be careful of bias.
- Combine the views of the experts into an overall plausible range.
- Calibration and informativeness.



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## Worked Example 2: Longevity improvement

- Identify personnel involved:
  - Internal experts
    - Longevity Actuary
    - AFH / Group function
  - External experts
    - Publicly available material
    - Independent Actuaries/ Consultants
    - Other Professions: Doctors?



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## Worked Example 2: Longevity improvement

- Set out draft brief for experts:
  - What judgement relates to and why it is required.
    - Detailed document
  - Potential sources of information
    - Annuitant data provided
  - Practicalities e.g. timescales, proposed elicitation approach, etc
    - Output expected.



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## Worked Example 2: Longevity improvement

### Elicitation of expertise

- Different approaches
  - Written / Interview ?
- Be careful of bias
- Combine the views of the experts into an overall plausible range
  - Independent / collaborative view?



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## Decision-making

- After appropriate scrutiny and challenge of experts' views, decision needs to be made.
- Again, should be a clear and logical thought process.
- May need to go through further layers of governance with more iterations.
- Expert judgement register.
- Feedback to experts on final decision.



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## On-going monitoring

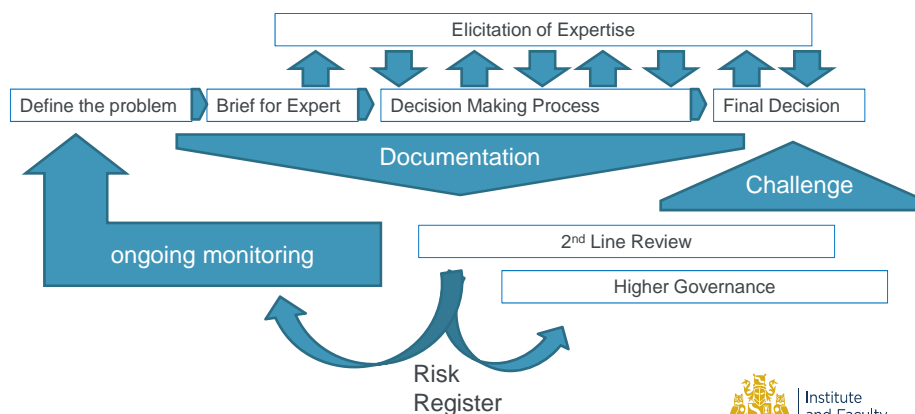
- Needs to be robust.
- Monitor environment against triggers for non-scheduled review.
- Also pick up when expert judgement is due for scheduled review.



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## Worked Example: Decision-making



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## Conclusions

- Expert judgement is inherent in models.
- Concepts such as plausible range and uncertainty tolerance are helpful.
- Need a robust but proportionate process, tailored to the firm's needs.



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## Questions

## Comments

Expressions of individual views by members of the Institute and Faculty of Actuaries and its staff are encouraged.

The views expressed in this presentation are those of the presenters.



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