

Aon Benfield

Developing Scenarios to Influence Insurance Decisions

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Best Practices in Scenario Development and Usage workshop, Cambridge

Scenario Development – For Whom and Why?

Important to focus on decisions:

1. What decisions and situations?
2. Who are the decision makers (and advisors)?
3. How might scenario based analyses influence the decision?

Decisions	Decision makers	Decision influences
<p>Original business</p> <ul style="list-style-type: none">▪ Reduce / increase exposure▪ Revise coverage <p>Risk / Capital management</p> <ul style="list-style-type: none">▪ Increase / reduce capital▪ Buy more / less vertical reinsurance▪ Buy retention clash reinsurance (or address through coverage)▪ Buy multi-event / aggregate reinsurance	<p>Range of perspectives and motivations</p> <ul style="list-style-type: none">▪ Underwriting▪ Business development▪ Reinsurance manager▪ Finance / capital manager	<p>Severity (and consequences)</p> <ul style="list-style-type: none">▪ Accumulation (across lines) gross and net <p>Likelihood</p> <ul style="list-style-type: none">▪ Plausible?▪ 1 in 200... Impact on capital <p>Risk understanding and scenario credibility</p> <ul style="list-style-type: none">▪ System workings – what interacts with what▪ Evidence and validation▪ Assumption sensitivity

Insurance Scenario Development Challenges and Issues

Coverage

- Need to recognise and respond to insurance coverages. May sometimes be ambiguous or “silent”
- Insurance and reinsurance perspectives (including risk and event limits)
- What is an event?

Impact complexity

- First and third party
- Multi-year exposures
- Indirect effects

Multi-line

- More established practices, thinking, and accountability for individual lines of business
- Large multi-line accumulation may not be especially significant for individual lines
- Where does ownership lie?

Audience

- Realism of scenario: actual and perceived
- Behavioural complications

Useful Lessons from Uncertainty Work...?

UK Actuarial Working Party on Managing Uncertainty since 2014 – work ongoing.
In 2016 the group put forward a set of high level principles for decision makers and experts.

Relevance to Scenario Development?

1. Face up to uncertainty

Help highlight uncertainties

2. Deconstruct the problem

Support understanding

3. Don't be fooled (un/intentional biases)

Help limit unintentional biases

4. Models can be helpful, but also dangerous

5. Think about resilience

6. Bring people with you

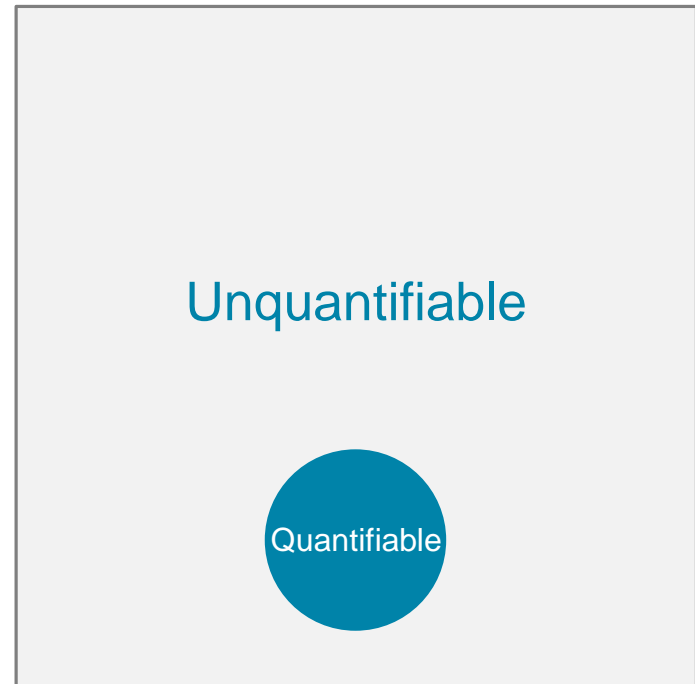
Make as engaging as possible

Face Up To Uncertainty

How much of the problem can be quantified?



A modelling challenge

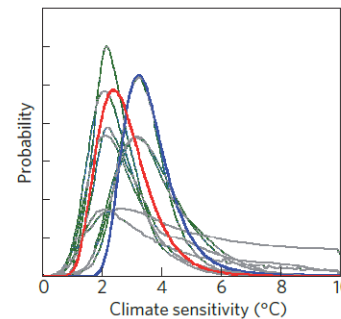
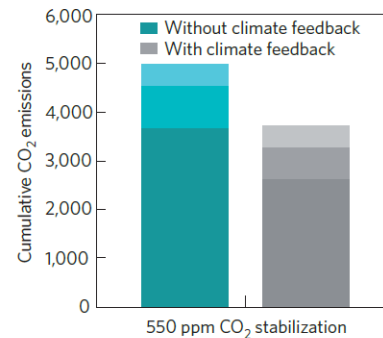
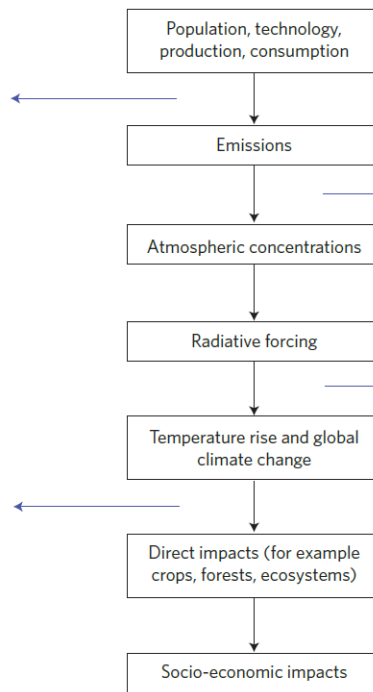
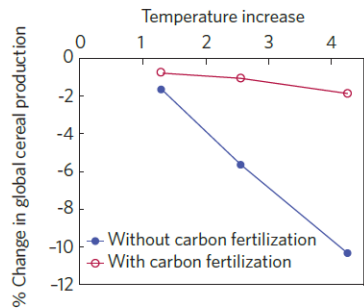
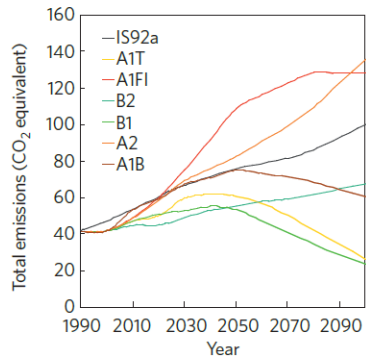


An adaptability and resilience challenge

➤ Scenario development and use should be open about what can be quantified

Deconstruct the Problem and Stimulate Engagement

Example: Sources of uncertainty in climate assessments*:



“Unless they receive the information that they need, people must guess at it”

“Understanding risk requires more than just knowing risk estimates. People also need cognitive representations (or ‘mental models’) of the processes creating and controlling the risks, and thus causing uncertainty about them”

* The role of social and decision sciences in communicating uncertain climate risks. N Pidgeon, B Fischhoff (Nature Climate Change, 2011 - nature.com)

Scenarios have an important risk education role
Just focusing on results limits engagement, trust, and influence

Don't be Fooled: Unintentional Biases and Traps

Latent Framing

Biases and heuristics (rules of thumb) that influence the perception of a problem and expectations of the outcome

Traps

Biases and heuristics that can deceive the decision maker and advisor

Over-interpretation

Biases and heuristics relating to reading too much or too little into data

Don't be Fooled: Unintentional Biases and Traps

Latent Framing

Affect heuristic the tendency for people to use their personal likes and dislikes to form beliefs about the world

Anchoring the process of using a starting point for evaluating or estimating unknown values

Confirmation bias tendency to seek evidence that is compatible with a given view

Halo effect the tendency to like (or dislike) everything about a person, including their opinions

Myopic loss aversion a phenomenon whereby investors are particularly concerned with the potential for a short term loss, even in the context of long-term investments

Trusting intuition the tendency for people to have a lot of confidence in their intuition

Status quo bias the preference for things to stay the same

Sunk cost bias costs incurred in the past are used as a justification to continue investing in suboptimal projects or strategies in the future

Survivor's Curse tendency for the lucky to survive and have misplaced optimism

Traps

Gambler's fallacy the tendency of decision makers to underestimate the probability of a repetition of an event that has just happened

Illusion of validity the use of evidence to make confident predictions even after the predictive value of the evidence has been disproved

Law of Least Effort the tendency for people to seek the easiest way possible to complete a task

Mean-reversion bias when decision makers assume that over time, a trend has to return to the mean

Planning myopia the tendency to consider consequences over a too restricted time horizon

Priming purposefully triggering thoughts or ideas

Temporal discounting the greater the delay to a future reward, the lower its present, subjective value

Winner's Curse tendency for winning bidders to overpay where incomplete information

Over-interpretation

As if bias the potential to be optimistic when restating historic behaviour due to exposure revisions or past misfortune

Availability heuristic the tendency for people to respond more strongly to risks when instances of those risks are more available to them (from memory, imagination, media, general social discourse, beliefs about the world)

Causal thinking bias tendency for people to seek patterns and explanations rather than believe in chance

Hindsight bias the false belief that events are more predictable than they actually are

Illusion of skill the tendency for people to mistake good luck for skill

Small probabilities a group of biases that can arise when people reason about rare events. Small probabilities tend to receive too much, or too little weight depending on the decision context

The overarching technique for countering biases and traps is to stimulate Slow Thinking*

* Thinking, Fast and Slow, Kahneman 2011

Engagement with well developed and presented scenarios will stimulate Slow Thinking

Three Best Practice Recommendations...

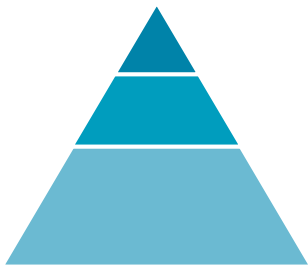
Consider management and communication of uncertainty (developer and user perspectives)

What is “unknowable”?

Complement measurable aspects with narratives, highlighting relative likelihoods

Identify key resilience (and adaptability) characteristics

Adopt a consistent tiered documentation structure



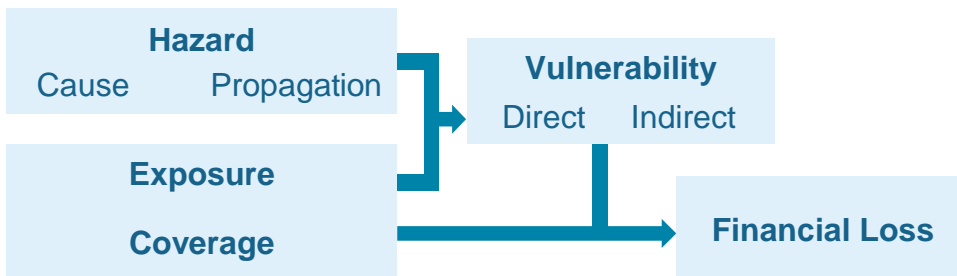
KID – Key Information Document (with summary)

Standard structure covering main features, assumptions, issues, results etc

Supporting detailed documentation

Tailored to specific scenario(s) with full information for expert user

Use a consistent and informative scenario “cognitive representation”



- Needs to be simple and accessible, but comprehensive and useful
- Include indicators to highlight levels of quantifiable uncertainty and “unknowability”
- How best to reflect multi-line and multi-year complexities?

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