Institute and Faculty of Actuaries

Managing Uncertainty with Professionalism

Members of the Working Party
September 2017

Contents

- Introduction
- Case Study 1 – M&A
- Case Study 2 – Reserving
- Discussion
  - What is unknown?
  - Next steps?

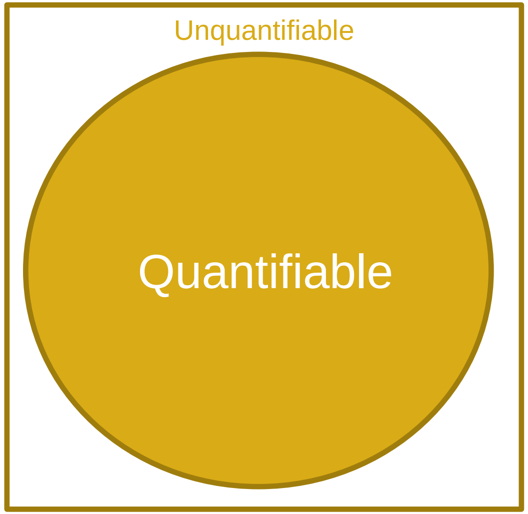
Institute and Faculty of Actuaries

Introduction

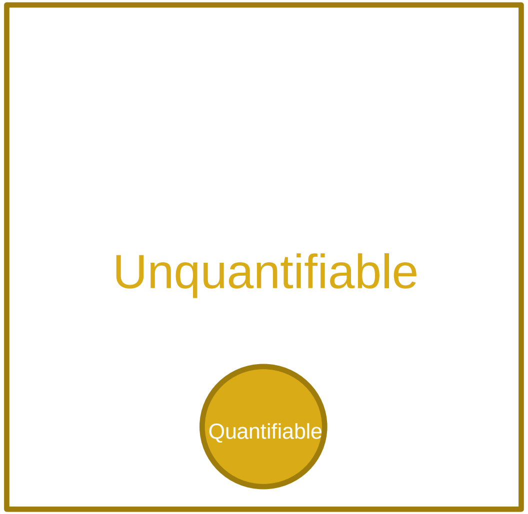
- Working party since 2013. Focus on decision making
- GIRO workshop 2015: slides circulated for pre-reading
- Proposed high level principles for managing uncertainty
    1. Face up to uncertainty
    2. Deconstruct the problem
    3. Don’t be fooled (un/intentional biases)
    4. Models can be helpful, but also dangerous
    5. Think about resilience
    6. Bring people with you

Institute and Faculty of Actuaries

Some things are unknown and cannot be modelled



A modelling challenge



Not a modelling challenge

Institute and Faculty of Actuaries

In an uncertain world …

1. What are the risks? What are the opportunities?
2. How well do I understand them?
3. How much is at stake? How much can I afford to lose?
4. Do I have a clear view of my risk appetite and tolerance?
5. Who else is around? Who are my stakeholders? Where are my competitors?
6. What are my goals and objectives? What would success or failure look like?

Institute and Faculty of Actuaries

Which character should I play?

The Owl – manages expectations about risks, where possible, before they happen – faces up to uncertainty – understands how bias comes into play when outcomes are uncertain

The Fox – like the owl, but doesn't always act in public interest or for long-term benefit of organisation … - may have a hidden agenda

The Lemming …

Institute and Faculty of Actuaries

Institute and Faculty of Actuaries

Uncertainty in decision making
M&A case study

05 February 2019

Intro

The following case study is framed through a typical actuarial exam type question.

It was road tested on a group of nearly / newly qualifieds at LCP in order to draw out the “text book” answer.

Parts 1 and 2 are fair-game for an exam question.

Part 3 goes beyond and tackles the sorts of issues that the working party have been thinking about.

Institute and Faculty of Actuaries

Question 1

You work for an insurer and an opportunity has arisen to acquire another firm.

Discuss the considerations that would be made in deciding whether or not to proceed.

Institute and Faculty of Actuaries

Q1 guinea pig answers

Consider the different stakeholders and what is in it for each of them. Who is making the suggestion and “Always ask why me?”

Reasons to acquire firm:

- market share;
- diversification;
- synergies;
- expertise in a field;
- human capital;
- purchasing power;
- culture;
- relationships;
- reputation;
- IP;
- assets and;
- market access.

What to consider:

- How has the price been calculated?
- What will the new culture be and how will both parties be affected?
- Is the acquisition a transfer of a back book or bringing across new business?
- How will the IT systems link up?
- Are there any effects on the policy holders?
- Talk to the people who run the company, to help understand:
  - If they know the business, and how well?
  - How likely they are to stay, and if you want them to stay?
  - The culture of the firm?

Institute and Faculty of Actuaries

Question 2

Your financial model suggests a price 20% below the asking price.

Management has asked you for a report setting out your projections and valuation of the company.

Outline what you what say in this report.

Institute and Faculty of Actuaries

Q2 guinea pig answers

Report to include;

- Set out suggested price and highlight key areas of uncertainty.
- Methodology used to derive the valuation.
- Explanation of any assumptions used in the valuation.
- Discussion and explanation of all uncertainties.
- Scenario analysis, what does flexing the assumptions look like.
- Opinions on the validity of the data, highlighting what is and isn’t covered.
- The impact of risk management.

Possible framework to consider impacts

Soft factors	Existing business	New business
Diversification		
Management style		
Expertise		

Also think about …

- What the 20% below asking price looks like.
- What the reasons are for the sale.
- Ensuring all of the business engages in order to fully understand the issues affecting the decisions.
- Ensuring professional communication.

Institute and Faculty of Actuaries

Question 3

You concluded that the price being considered would have a negative impact on the financials of your firm.

However, the CEO is adamant to proceed with the acquisition.

What should you do?

Institute and Faculty of Actuaries

Q3 answers?

Will open up for discussion shortly, but first a few thoughts to get started…

Range of acceptable estimates

There is a range of uncertainty, the price lies within an acceptable range of our central view.

So it may turn out to be good value…

… but we still think that it is more likely that it will not.

Institute and Faculty of Actuaries

“Good” (rational) reason to pay a higher price?

A text book answer would touch on this, but in reality there is a lot to consider here:

Warning - some of this may seem <u>un</u>professional, but we should recognise real influences that management may have.

- Increase scale - not just for economies of scale (textbook), but for market perception – more influence, leverage with brokers etc.
- Perception that we’re being pro-active and have a strategy.
- May protect us from takeover ourselves!

Institute and Faculty of Actuaries

How to ~~communicate~~ influence

CA3 exam – be clear, avoid jargon, blah…

Yes, but want to go beyond that and actually influence, e.g:

- Warm people up – informal chats, get people on-side
- Personalities – adapt communication style to different types
- Politics – who are the key players, what are their motives
- …

Institute and Faculty of Actuaries

How the principles come into play

High-level principles

1. **Face up to uncertainty**
2. Deconstruct the problem
3. Don’t be fooled (un/intentional biases)
4. Models can be helpful, but also dangerous
5. **Think about resilience**
6. **Bring people with you**

Need healthy discussion to achieve this

What happens if this goes ahead and our number turns out to be right!

Thinking about the best strategy to get buy-in to our view

Institute and Faculty of Actuaries

Institute and Faculty of Actuaries

Uncertainty in decision making
Reserving case study

Managing Uncertainty with Professionalism Working Party

05 February 2019

Hypothetical case study – for discussion today
Situation in 3Q2016

- Imagine you are **one of the Chief Actuary or the Finance Director** advising a commercial lines insurer on the appropriate level of reserves to hold on **a liability book** which is highly profitable and has grown rapidly.

- **In the 3Q 2016 reserving**, the actuary applies standard reserving techniques to estimate IBNR as usual on a long-tail liability book. You are aware that the claims team are about to embark on a review of case estimates to remove any unnecessary prudence / drive more accurate reserving. As this claims initiative has not yet begun, the Actuary gets on with the 3Q reserving and reports the best estimate reserves to the Board.

- What would you have done?

Institute and Faculty of Actuaries

Roll forward 2 years and it is now 3Q 2018 …

- The Actuary can see **some evidence of the reductions in lower incurred loss ratios / lower incurred development factors** particularly on underwriting years from 2013 to 2017.
- **The FD and the Actuary meet to discuss the Actuary's results**. The FD notes that these savings are in line with the CEO's expectations for this book given the renewed focus on more profitable business and the previously overly prudent level of case reserves held.
- The FD suggests a meeting with the Head of Claims to understand the level of case reserves removed; however the Actuary is told the 'accuracy' project is still ongoing so **final figures are not yet available** ...

Institute and Faculty of Actuaries

The Board Meeting!

- In the absence of any further information from Claims, the Actuary and the FD agree an adjustment to best estimate ultimate claims (based on the actuary's expert judgement)
- The CEO challenges the Actuary on the level of adjustment applied given the interim results of case reserves review, which have yielded a significant £m saving. With support from the FD, **the Actuary holds his/her ground!**
- Subsequently there is a meeting between the FD and the CEO (the Actuary is not present) where a decision is taken to reduce the margin in booked reserves above your estimate given the increased prudence in your estimate.
- Discuss your approach.

Institute and Faculty of Actuaries

In subsequent years, it becomes clear the company is significantly under-reserved … what went wrong?

High-level principles

1. **Face up to uncertainty** ✗
2. **Deconstruct the problem** ✗
3. Don't be fooled (un/intentional biases)
4. Models can be helpful, but also dangerous
5. Think about resilience
6. **Bring people with you** ✗

<u>No-one faced up to uncertainty</u> in the claims data, or in the actuary's estimate (Board, NEDs, Actuary)

The problem was analysed through only one lens (incurred data)

No attempt was made by the Actuary (or the FD) to educate the Board

Institute and Faculty of Actuaries

Institute and Faculty of Actuaries

Uncertainty in decision making DISCUSSION

Managing Uncertainty with Professionalism Working Party

05 February 2019

Looking into the void – what is unknown?

Institute and Faculty of Actuaries

Looking into the void – what is unknown?

Cyber catastrophe	Contingency planning	“1 in 200”
Climate change impact	Management actions	Business strategy

Institute and Faculty of Actuaries

Is it possible to develop strategies to navigate uncertainty?

Pioneer	**Pouncer**	**Hedging**
Develop an advantage that even during uncertainty allows you to beat your competition and establish market dominance. Investment costs may be high and you may fall victim to a pouncer. e.g. Nokia	Develop an advantage that allows you to follow the pioneers rapidly with a more desirable offering. You move only when the gains are clear, but while the situation is still uncertain. e.g. Apple (NB different from followers who wait till the market is stable.)	Develop one or two strategies that are not part of your current set of competencies. You do it so that once the uncertainty resolves itself, you are not in failed position. e.g. Android

Strategy Selection

Mastering Uncertainty: The 3 Strategies you need to know: Keith Bickel, PhD

Institute and Faculty of Actuaries

Next steps

- Promote use / impact (with illustrations to help)
- Finalise principles
- Write paper
- …?

Thoughts? How would you like to help?

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 presenter.

Institute and Faculty of Actuaries