

The transparent actuary

Simon Carne shines a light on an area shrouded in mystery.

Two recent incidents moved me to write this article. Both occasions were seminars where I conveyed my views on presenting actuarial information. At the first event, actuaries looked at me as if I had landed from Mars. At the second event, at which I was addressing a group of trustees, the reaction could not have been more different.

Communication frustration

As someone who has recently started to earn a living by comparing pension scheme valuations, it was vitally important – but not a surprise – that the trustees engaged with my ideas. But I want actuaries to get the message as well.

We have known for ages that actuaries don't communicate well with lay people. It's extremely frustrating for actuaries because, if asked, most actuaries are only too willing to explain themselves in ever-increasing detail.

But there is precisely the problem. Most lay people don't want an explanation. They tell you they do. That's because they think they do. But lay people want to know the implications, not the explanations: I have tested this repeatedly over many years.

This accords with my own reality. When a car mechanic tells me I need a new thingama-

what's-it, I usually ask why. But I don't want a mechanical explanation: I won't understand it. What I want to know is whether the car won't start (or, worse, it won't stop...). Or maybe it's just that the sun roof won't function – in which case, I don't care (with fair skin and a bald head, I never drive with the sun roof open). In other words, I want to know the implications for me as a driver and not a mechanical explanation.

And it's the same for most, if not all, users of actuarial services.

Economic reality

One of the most powerful examples of actuarial explanations that conveyed the wrong message was the introduction of stochastic projections of pension scheme surpluses (remember 'surpluses?') in the late 1990s. Actuaries would show projected out-turns from, typically, the 5th to the 95th percentile. And lay people would feel safe if they planned on something around the middle.

The underlying economic reality at the time was a stockmarket racing away under the influence of a widespread belief in a new paradigm: the internet economy. Those who believed in it wholeheartedly should have been focusing on the upper percentiles and those who knew it to be a fiction should have been focusing on the outcomes that were implicitly based on a (substantial?) correction in share prices. In other words, people should have focused on the percentiles at, and below, the bottom of the range.

From what I can tell, few people asked – and so, few were told – which of these scenarios was consistent with a stockmarket correction of 10%, 25%, 50%, etc. Most trustees – and certainly the overwhelming majority of finance directors – could have related to information expressed in that form. And they could have interpreted the projections based on their own view of the internet economy. But they weren't

given the opportunity.

Presentations were typically divorced from the underlying economic story and instead shown as probabilities. That was thought to be good, because pension scheme trustees had learned to understand probabilities. A 5% chance of death in the next three years means that a randomly chosen five people out of 100 will not survive the period.

So a 5% chance of the 1999 surplus turning into a huge deficit meant that a randomly selected five pension schemes out of 100 would be in deep financial trouble – with the other 95 schemes doing rather better. Trustees could comprehend that – and they did! So when the stockmarket turned and pretty much 100 schemes out of 100 were in deep trouble, the actuaries must have got their sums wrong. Right?

Well, wrong, of course. But how many trustees realised that the probabilities related to economic scenarios, not pension schemes? Actuaries knew that an adverse economic scenario could put 100 schemes out of 100 in trouble. But did trustees and employers get that message?

Making financial sense

Actuarial science is, of course, largely about attaching probabilities to future events. But if 'making financial sense of the future' means anything – and what a fantastic strapline it is – doesn't that include translating the probabilities to the underlying real-world scenarios? What would happen if there was a stockmarket downturn or a reduction in interest rates? What would happen if there was an increase in longevity, expressed as years added to life expectancy, not the name of a life table?

You don't have to take my word for this. The Morris Review also lamented the tendency to 'avoid or resist clear presentation of the unavoidable risks and uncertainties that accompany most long-term projections'. □



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