

Risk Leadership

– Facing Emerging Risks

“Not everything we face can be changed. But nothing can be changed until it is faced.”

– JAMES BALDWIN

The findings of the Global Risks 2013 Report (“the report”), issued by the World Economic Forum Risk Response Network, provides some fascinating insights into emerging global risks and how perceptions influence human responses to emerging risks. This month’s column will explore the potential implications for the actuarial profession.

The Global Risks report was developed from the Annual Global Risks Perception Survey of over 1000 experts from industry, government, academia and civil society who were asked to review a landscape of 50 risks. Based on an analysis of the survey results, the report developed three risk cases:

1. Testing economic and environmental resilience.
2. Digital wildfires in a hyper-connected world.
3. Dangers of hubris (overconfidence) on human health.

1. TESTING ECONOMIC AND ENVIRONMENTAL RESILIENCE

The report observes that economic and environmental systems are simultaneously under stress worldwide, and this is testing resilience at the global and national levels. Survey respondents identified two key systemic risks in the near future as the failure of climate change adaptation and major systemic financial failure.

The economic fragility of the past five years has diverted the attention of governments across the globe from longer term issues such as climate change. New economic challenges continue to emerge, such as instability in the Eurozone, which keeps the focus on economic challenges. Unless countries manage risks on both the economic and environmental fronts there is a significant risk that the global climate situation may deteriorate further.

In short, little decisive action is being taken in relation to climate change. The report suggests that cognitive psychology may explain some of the global challenges to taking effective action. At the heart of cognitive behavioural psychology, we take in information through our senses (perceive) and we associate that, consciously or unconsciously, with our existing mental models and



frameworks. We use these models and frameworks to evaluate the situation and ultimately to decide on our actions.

In the face of ambiguity and complexity, our mental models and frameworks can be sorely tested. To address this, people often use rules of thumb to make judgements. While these rules of thumb can be useful, they may be associated to past circumstances or circumstances specific to a particular context. Their validity may diminish in a changing or complex environment. Hence various biases are introduced into our thinking. These include:

- People associate strongly to more recent experiences (principle of recency) or to their most significant experiences. Hence we can give excess weight to a recent event or a disruptive event. Experience in the United States shows that many more people buy flood insurance immediately after a major flood yet only hold it for another two to four years before letting it lapse if they have not suffered a claim.
- Through a process known as hyperbolic discounting, we tend to give disproportionately more weight to immediate costs and benefits than to delayed ones. Individuals, for instance, may often be reluctant to incur the upfront costs of measures such as investing in climate change adaptation measures when the benefits will not be felt for several years.
- We fail to take protective measures if the perceived likelihood of the risk in question is below our threshold level of concern – for example, discounting entirely the possibility of a natural catastrophe that has a low chance of occurring.

2. DIGITAL WILDFIRES IN A HYPER-CONNECTED WORLD

The spread of social media and the access to information are transforming the business and social environment. Social media is widely acknowledged as the catalyst for the “Arab Spring” uprisings and consequent change of governments.

At a corporate level, social media can have significant consequences. A complaint by a person against United Airlines turned into a YouTube video called “*United Breaks Guitars*”. The clip went viral with twelve million hits, and led to an immediate 10% decline in the United Airlines share price. With the BP Oil Spills, a fake Twitter account which parodied the CEO (“black sanded beaches are very trendy these days”) had 12 times as many followers as the official BP Twitter account.

Digital wildfires are most dangerous in high tension situations, when misleading information may cause significant damage. The other dangerous situation is when information circulates within a bubble of like-minded people who may be resistant to attempts to correct it.

While there are various initiatives to manage and measure quality (such as applications being designed to assess the credibility of information), companies like Forbes and Deloitte have identified social media as one of the biggest risks they face.

3. DANGERS OF HUBRIS ON HUMAN HEALTH

Another significant cognitive bias is hubris – overconfidence that things will remain the same. In healthcare, a significant current hubris risk is the spread of antibiotic resistant bacteria.

Antibiotics wipe out weak bugs but survivors multiply and become ever more resilient. A recent study identified that of 99,000 patients that died in US hospitals from care-associated infections, the vast majority of the deaths were due to antibiotic resistant bacteria.

Danilo Lo Fo Wong, a senior adviser on antimicrobial resistance to the World Health Organisation commented “To put it bluntly, we are running out of ideas. That’s the problem we face. For many years we have been one step ahead of evolution, but in the past 25 years, we have failed to develop new antibiotics.”

The consequences of this on mortality, morbidity and healthcare are very significant, yet little has been done. Research money pours into other areas with greater pay-offs and longer term revenue streams than antibiotics which inevitably become ineffective as bacteria become resistant.

Implications for Actuaries

Cognitive biases and emerging global risks have significant implications for actuaries in the nature of our work.

- How might the rules of thumb we have used throughout our professional careers be implicated in a changing world? What rules of thumb do you currently use, and in what ways are they challenged by evolving conditions?
- How might these possible cognitive biases influence our assumption setting and the design of our models? What are examples of where we may give undue bias to a recent event or occurrence?
- What emerging risks might we ignore from our modelling or valuation methodologies because we see them as too low to warrant attention? Does this stack up in an environment of ongoing change?
- What are the implications and considerations for the work of the actuary in the use of social media to spread information, credible or otherwise? How does this impact on the profession, on our personal brands and have we considered social media related risks in our methods and practices?
- Where might we exhibit hubris? Where might we be overly influenced by our own beliefs? What other professional or community groups have different perspectives or views that we ignore? What information are we ignoring or discounting by not engaging with these people?

Despite the rational and methodological rigour behind actuarial science, actuaries are still vulnerable to the cognitive biases that all humans face. Observing the biases is often the most powerful method to disarm them. Are we as a profession happy to own up to our biases? This truly is a question of adaptation. **A**