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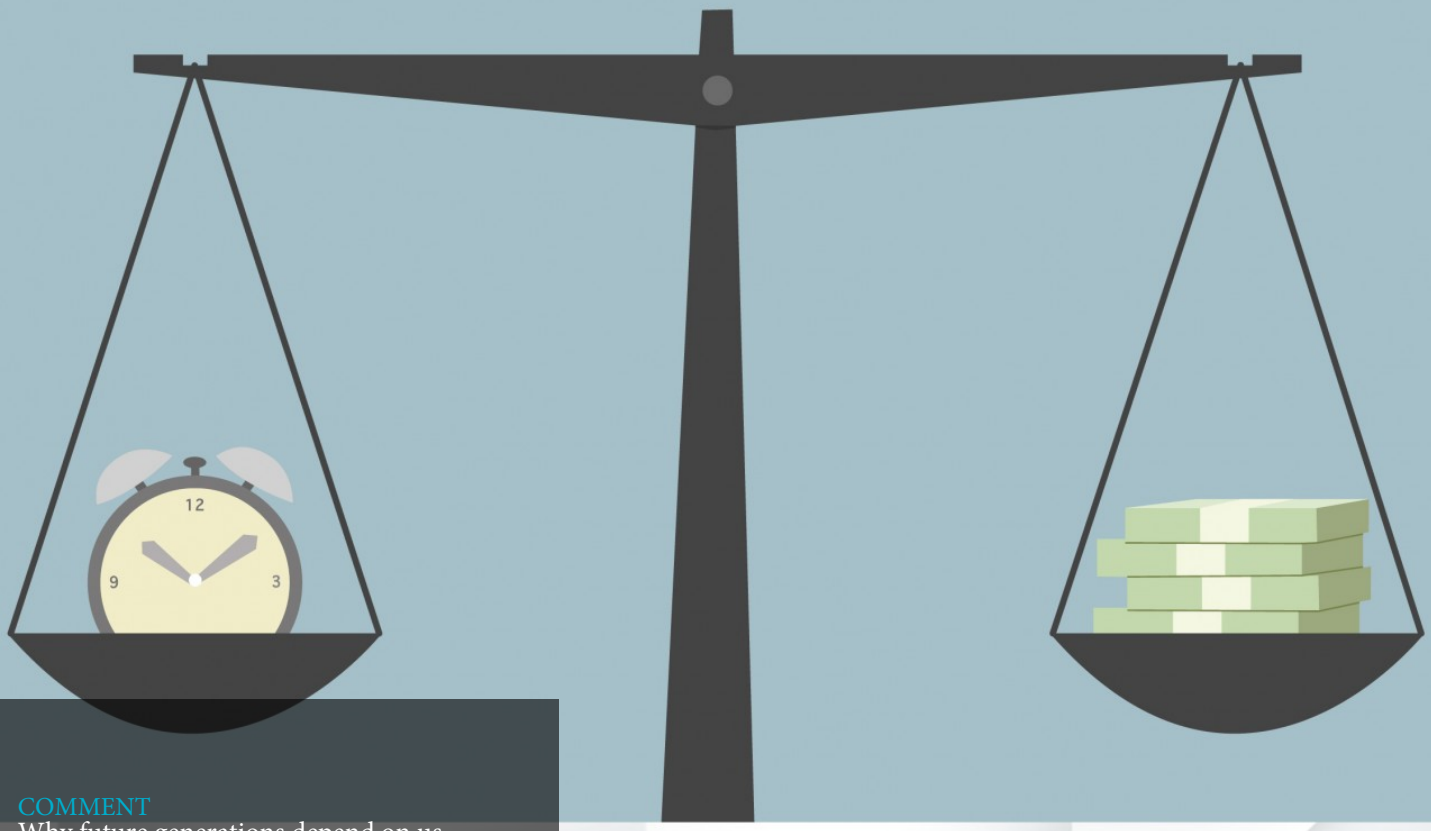
Actuaries DIGITAL



In this issue

IMPORTANT INFORMATION FOR CONTRIBUTORS
Actuaries welcomes both solicited and unsolicited submissions. The Editorial Committee reserves the right to accept, reject or request changes to all submissions as well as edit articles for length, basic syntax, grammar, spelling and punctuation via ActuariesMag@actuaries.asn.au

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Between insights and advice

By Rob Deutsch *(rob.deutsch@mercer.com)*

In this month's guest editorial, Rob Deutsch discusses the difference between actuaries providing insight and offering advice.

As an actuary, it is important to find the right balance between providing insight and providing advice. Getting the mix right leads to the best decisions being made and the wrong mix can lead to misaligned priorities, frustration, and even legal issues. This is increasingly important in a rapidly changing world where the definition and role of an actuary is evolving and expanding, and new challenges are allowing actuaries to apply their skill set and knowledge in new ways.

The distinction between insight and advice, in this context, is essentially the difference between providing information which can be used to inform decisions, and recommending what actions should be taken as a consequence of the information. In other words, some stakeholders require actuaries to provide information that they can factor into their decision-making process whereas others require a recommended course of action. Identifying where a stakeholder sits on this spectrum is an integral, albeit not necessarily explicit, part of utilizing actuaries' skills and expertise to provide the most value.

"we cannot overlook the fact that, actuaries can find themselves in a unique position to provide advice"

There's an old joke, which likens an insurance firm to a car, that highlights this distinction. The joke goes that the board of the insurance firm has their hands on the steering wheel, the salesperson has their foot on the accelerator, the underwriter has their foot on the break, and the actuary is looking out the back window yelling directions.

While it's intended to be a bit of lighthearted fun, it highlights that advice is a critical part of traditional actuarial roles. An actuary is highly skilled in using current information to predict the future and give advice on, for example, pricing and capital requirements.

However, the value of actuarial insight should not be understated. As David Bell, the Institute's CEO, has said: "business leaders are inundated by information and they need skilled people who can transform data beyond the numbers into actionable business knowledge." In some circumstances, an actuary's value may be in providing this valuable knowledge, and it will be left to the recipient to make a decision. An example would be due diligence, where the aim is to deliver a holistic appraisal of a business that can be used as an input to a business decision.

But we cannot overlook the fact that, actuaries can find themselves in a unique position to provide advice, as David Bell went on to say: “actuaries more than any other profession have the training and skills to find solutions to some of Australia’s largest business challenges.”

As actuaries’ roles broaden and branch into data analytics, public policy, individual finance wellness, and enterprise risk management (to name a few) there will be a continual need to revisit the question of insight versus advice. The Institute’s annual review shows that the number of member’s working in data analytics increased from 1% in 2013 to 2.5% in 2014. These might seem like small numbers, but they are indicative of a continual broadening of the role that actuaries are playing in the professional landscape.

Keeping the distinction of insight and advice in mind when approaching new situations will allow us to deliver the most valuable work to stakeholders, and allow us to enter new fields with confidence.

Five minutes with NAB's Gordon Allison

By Peter Sinkis *(peter.sinkis@gmail.com)*

Peter Sinkis puts six questions to the Head of Treasury Development & Transformation at NAB, Gordon Allison, ahead of his 'Banking on Change' Seminar presentation on the emerging regulatory environment governing liquidity.

Gordon Allison has nearly 15 years experience in a broad range of banking roles.

1. What's your background in Banking?

Within Treasury, I have had experience in interest rate risk management, FTP, liquidity management, cash desk and capital. I have also spent 5 years outside of Treasury, in a range of roles across retail banking, business banking, the product house, finance, and operations.

2. What does your current role as Head of Treasury Development & Transformation focus on within NAB?

My main focus currently is on managing regulatory change for Treasury and the enterprise. This requires making decisions in an uncertain environment, preparing the business for change, and engaging constructively on industry concerns.

3. Having worked through the GFC, what do you see as the drivers of the Australian banks relative success in navigating the crisis?

There have been some excellent diagnostics performed on this issue. No doubt there were multiple factors that determined outcomes. In my view some of the more significant factors were:

– the underlying strength of the economy and, in particular, strong demand from China

– the floating currency

– a strong regulatory environment with a proactive and conservative regulator

– the four pillars policy

– well managed banks

4. What do you see as the top three upcoming regulatory challenges in the banking sphere?

Ranked by potential impact on capital, the top three regulatory proposals are:

– revised standardised credit risk weights

– capital floors and;

– the Fundamental Review of the Trading Book.

Other change, such as Total Loss-Absorbing Capacity and NSFR will have significant structural implications for the balance sheet.

5. There's been a lot of talk about the advent of new technology in banking products (peer to peer lending, Apple pay, etc). What are some key opportunities and challenges in this space?

New technology is generating significant new opportunities in banking. This will change payments technology, assessment of credit and allocation of risk.

There are significant opportunities for the development of new deposit and lending products, and opportunities for new entrants for capital raising, payments, insurance, investment and new market platforms.

Recent regulatory change might increase the relative attractiveness of the 'shadow' banking sector and augment disintermediation.

6. What will your upcoming presentation at the *Banking on Change* Seminar focus on?

I will cover the emerging regulatory environment governing liquidity, particularly the Net Stable Funding Ratio. This is a significant shift for Australian Banks, which have historically run significant structural maturity transformation. The interaction with adjacent regulatory change will also be covered: capital floors, revised standardised credit risk, stress testing, leverage ratio, operational risk, macroprudential tools, securitisation, countercyclical capital buffers, Total Loss-Absorbing Capacity , Interest Rate Risk in the Banking Book, Credit Valuation Adjustment, Standardised Approach to Counterparty Credit Risk, Fundamental Review of the Trading Book.

Registration is now open for the Banking on Change Seminar featuring speaker representatives from the RBA, APRA, Westpac and Commonwealth Bank, on 16 September 2015 at the Actuaries Institute. View the program

Banking on Change Seminar - 16 September

By John McLenaghan *(john.mclenaghan@actuaries.asn.au)*

As banks start to boost their capital reserves, finance commentators are asking 'Is the golden age of banking drawing to a close?' At the Institute's upcoming 'Banking on Change' seminar, leading regulators and banking and treasury specialists will discuss this issue and more.

Attend the 'Banking on Change' seminar on 16 September and hear leading regulators Wayne Byres (APRA) and Guy Debelle (RBA) explain some of the key drivers that are altering the domestic banking landscape and consider the implications of the current global low-interest rate environment.

View the video here:
https://youtu.be/FTQb763XLUM

Major bank Treasurer Paolo Tonucci (CBA) and Treasury specialist Gordon Allison (NAB) will discuss the changing rules of the game and how they intend to respond to the regulatory wave.

Leading industry lights Kelly Bayer Rosmarin (CBA) and Angat Sandhu (Oliver Wyman) will discuss how banking is transforming itself through technology and innovation.

Banking on Change Seminar – why you should attend

In keeping with the Actuaries Institute Council's strategy to create pathways into emerging practice fields, this seminar is an important event for actuaries working in banking and for those that want to understand what professional opportunities exist in that sector. It provides Institute members the chance to meet and network with leading bankers and regulators to gain insights into issues that are driving change.

The Banking Practice Committee is also in the process of developing a Part III course in banking that ultimately will provide an expanded skill set for those actuaries that wish to enter mainstream banking.

Guy Debelle's discussion of the implications of the current low-interest rate environment is of particular interest to actuaries given the complexities of setting appropriate discount rates.

View the video here:
https://youtu.be/jnC5v4Au3jI

View the program for the *Banking on Change* Seminar and Register to attend

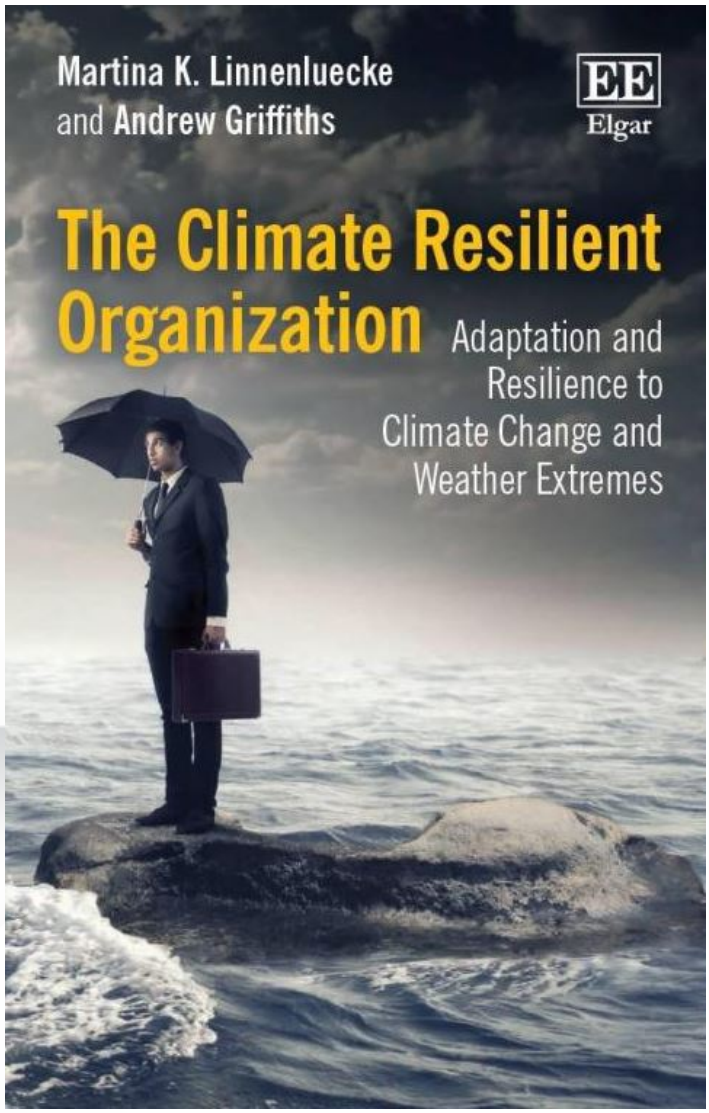
Creating Climate Resilient Organisations

By Dr Martina Linnenluecke *()*

Dr Martina Linnenluecke from UQ Business School considers what actions business can take to evaluate their adaption needs and strengthen their resilience to climate change.

Observed changes in temperature, as well as the frequency and intensity, of extreme weather events indicate that climate change is already occurring.[1] However, discussions of how the impacts of climate change will affect business, especially those in vulnerable sectors such as insurance, funds management or primary production, are still in their infancy. In my new book, *The Climate Resilient Organization*, I consider what actions business can take to evaluate their adaptation needs and strengthen their resilience.

Why should businesses be concerned?



We now have a large and increasing body of scientific evidence that clearly shows that climate change is already here, and posing very significant threats to economic development and our society.[2] Statistics from the insurance and reinsurance industry show increases in damages from weather

extremes.[3],[4] The impacts of climate change are very likely to become more in the future, particularly if there are no significant cuts in the emissions of greenhouse gases. [5]

How will climate change affect businesses?

Gradual increases in temperature are expected to lead to a significant warming over time. Even more concerning are the increases in climate volatility and changes in extreme weather events that climate change will bring.[6] Increases in climate extremes such as storms, flooding and droughts are likely to be more damaging than rising temperatures alone[7]

Even in industries where companies sustain no direct damage (such as fund management, for example), they are likely to be significant follow-on effects resulting from increasing investment risks in climate-change and carbon-exposed assets.[8],[9]

Evaluating adaptation needs

Two courses of action are available, which include (1) the **mitigation** of greenhouse gas (GHG) emissions to try to prevent further climate change, and (2) **adaptation** measures to survive and thrive under different levels of climate change. Adaptation is thereby a process of ongoing adjustments to extend the "coping range" of an organisation – defined as the amount of climate impacts that a business can tolerate without adverse effects. While these options look like they are at opposite ends of the spectrum, in reality we need to do both. Even with the most stringent efforts to reduce GHG emissions, the impact of climate change cannot be completely avoided over the next few decades.[10]

To be able to adapt successfully, the challenge for business is to understand both their coping range and the range of adaptation options available, including the protection, relocation and diversification of corporate assets. This includes the need to:

- evaluate and account for current and future climate impacts,
- identify priority areas for adaptation, and
- evaluate the costs and benefits associated different adaptation options.[11]

Companies can thereby draw upon relatively simple techniques such as calculating the Net Present Value of their investments in adaptation (factoring in losses avoided), or employ more sophisticated techniques such as Real Options Analysis (a technique originally used for the analysis of financial options) which factors in the value of flexibility and opportunities.[12]

Who should lead the way – government or the private sector?

The public sector, especially local governments, are important drivers behind climate change adaptation as they can guide land use planning or disaster management. The private sector, on the other hand, can react based on climate and market signals. Going forward, the challenge will be to coordinate public and private adaptation approaches, and to also assess the level of adaptation needed – both to avoid a lack of preparedness as well as maladaptation. Examples for maladaptation include adaptation efforts that have unintended consequences and increase vulnerabilities, for example due to large-scale commitment of capital and institutions to trajectories that are difficult to change and create inflexibility.[13]

So how should companies go about planning their response?

UQ Business School has been working with companies since 2005 to develop strategies on climate change and management.

This year, we have launched our new Executive Education course titled "Finance and the Global Environment" which systematically explores the potential impacts of global environmental changes and the risks these changes present to business. Climate change, sustainability and the environment are no longer factors which exclusively concern government agencies, not for profits and environmental lobbyists. With science demonstrating the increased loss of biodiversity, rising sea levels and frequent weather extremes, businesses are more actively embracing the need for environmental resilience and organisational adaptation strategies.

We work with executives to develop a case for action on climate change and discuss the path forward – including examining the consequences of environmental change for their business, and working through a valuation framework to reduce the impacts of environmental change on their assets, resources and most importantly, the bottom line.

[1] IPCC 5th Assessment Report, available at http://www.ipcc.ch/report/ar5/

[2] IPCC 5th Assessment Report, available at http://www.ipcc.ch/report/ar5/

[3] http://www.munichre.com/en/media-relations/publications/press-releases/2014/2014-01-07-press-release/index.html

[4] Munich Re. 2012. *Topics Geo: Analyses, Assessments, Positions*. Munich: Munich Re.

[5] IPCC 5th Assessment Report, available at http://www.ipcc.ch/report/ar5/

[6] IPCC Managing the Risks of Extreme Events and Disasters to Advance Climate Change Adaptation (SREX), available at http://ipcc-wg2.gov/SREX/.

[7] IPCC Managing the Risks of Extreme Events and Disasters to Advance Climate Change Adaptation (SREX), available at http://ipcc-wg2.gov/SREX/.

[8] See http://www.smithschool.ox.ac.uk/research-programmes/stranded-assets/

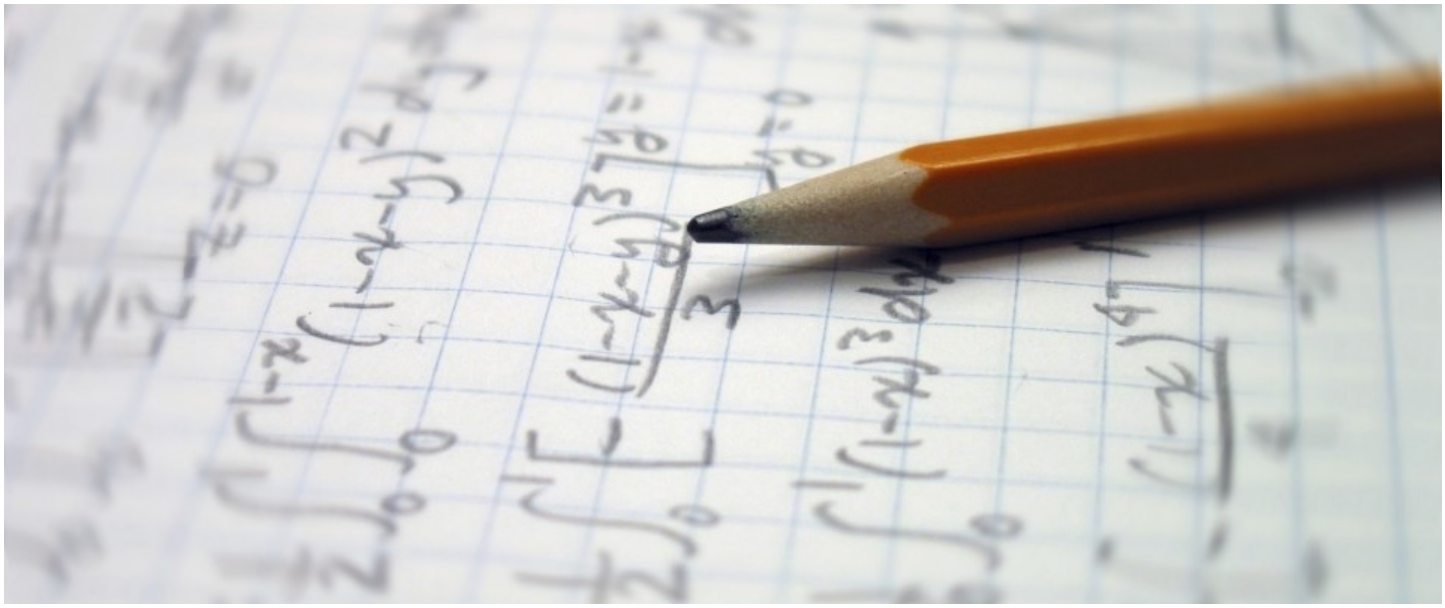
[9] Linnenluecke, Martina K., Birt, Jacqueline, Lyon, John, and Sidhu, Baljit K. (2015). Planetary Boundaries: Implications for Asset Impairment. *Forthcoming at Accounting and Finance.*

[10] IPCC 5th Assessment Report, available at http://www.ipcc.ch/report/ar5/

[11] Linnenluecke, Martina K., Birt, Jacqueline and Griffiths, Andrew (2015). The role of accounting in supporting adaptation to climate change. *Accounting and Finance*, 55(3), pp. 607-625.

[12] Linnenluecke, Martina K. and Smith, Tom (2015). Climate (in)action: a real options approach to investigate the impact of climate change policy on new technology uptake. In: European Group of Organization Studies (EGOS), Athens, Greece, 2-4 July 2015.

[13] Barnett, Jon and O'Neill, Saffron (2010). Maladaptation. *Global Environmental Change*, 20(2), 211-213.



In the Margin: August 2015 - Two by Two

By Genevieve Hayes *(inthemargin@actuaries.asn.au)*

Two by Two

Good things come in pairs and opposites attract. Since the beginning of time, the natural order has been for many things in life to come in pairs: male and female; night and day; positive and negative; hot and cold. And it's not just nature that's full of pairs. After all, where would the music and film industries be if it wasn't for famous pairings, ranging from Fred Astaire and Ginger Rogers to Mick Jagger and Keith Richards? Given the prevalence of pairs, in this binary world of ours, it only seems fair that we should recognise some of the most famous of them in the form of a puzzle.

Black and White

Thirty-five famous duos have been hidden in the wordsearch below:

R	G	T	E	N	I	B	C	H	X	V	A	V	I	K	U	H	X	Y	M
G	E	N	T	L	E	M	E	N	J	U	D	Y	O	R	C	O	N	B	A
D	A	D	I	N	I	R	T	S	W	I	L	T	C	O	B	O	H	X	S
J	M	R	N	N	O	C	A	B	E	A	W	L	G	C	V	M	Y	D	F
K	H	B	F	U	T	T	Q	N	P	K	T	A	O	K	T	F	E	L	A
G	Q	C	S	U	H	H	T	A	C	Y	S	S	U	P	H	Y	T	L	L
E	F	R	P	G	N	T	G	V	C	E	T	U	O	C	N	O	M	I	S
Y	T	P	I	H	O	K	W	I	M	E	R	L	N	N	B	I	A	J	U
I	X	N	I	B	O	R	E	L	L	I	I	U	A	A	M	Y	U	A	E
A	N	D	B	W	N	B	O	L	Z	B	P	M	G	D	R	L	T	C	M
X	R	A	L	P	A	H	O	U	L	R	E	O	R	R	I	P	A	K	D
W	Z	G	M	U	C	R	I	S	N	A	S	R	E	E	V	E	Z	O	J
W	E	L	R	T	L	H	E	T	O	B	Z	J	T	M	P	H	S	Y	O
M	G	L	H	N	A	Z	R	A	T	M	E	L	E	U	O	P	B	O	Y
T	D	Y	Q	N	R	B	V	R	B	S	I	O	L	S	W	R	E	Y	S
K	D	K	S	K	K	O	U	S	L	A	N	E	G	E	M	O	T	P	B
E	H	E	A	V	E	N	T	H	G	I	R	G	D	A	H	K	I	A	L
V	L	J	J	I	Y	N	S	S	D	U	E	Y	D	R	A	H	H	C	Q
Y	T	S	U	W	D	I	I	R	A	C	L	A	Z	O	C	W	W	Z	X
D	M	J	L	X	F	E	B	L	A	C	K	D	I	V	K	Z	G	V	K

For your chance to win a $50 book voucher, find all of the duos and email your solution to: inthemargin@actuaries.asn.au.

Eleven plus two = Twelve plus one (Actuaries 199 Solution)

The answers to the nine anagram clues given in Actuaries 199 are: **1.** Socrates/Coasters; **2.** Enlarge/General; **3.** Engrave/Avenger; **4.** Insures/Sunrise; **5.** Raunchier/Hurricane; **6.** Wrestle/Swelter; **7.** Priest/Sprite; **8.** Teacher/Hectare; **9.** Rosetta/Toaster. These pairs of words can be arranged in the two grids as follows:

S	O	C	R	A	T	E	S		
			E	N	L	A	R	G	E
	A	V	E	N	G	E	R		
			S	U	N	R	I	S	E
H	U	R	R	I	C	A	N	E	
S	W	E	L	T	E	R			
	S	P	R	I	T	E			
			T	E	A	C	H	E	R
		R	O	S	E	T	T	A	

				I	N	S	U	R	E	S
			E	N	G	R	A	V	E	
	C	O	A	S	T	E	R	S		
		P	R	I	E	S	T			
		G	E	N	E	R	A	L		
		R	A	U	N	C	H	I	E	R
H	E	C	T	A	R	E				
				T	O	A	S	T	E	R
		W	R	E	S	T	L	E		

Reading down the two coloured columns gives the final pair of anagrams:
Annuities/Insinuate.

11 correct answers were submitted. The winner of this month's prize, selected randomly from among the correct entries, was **Adrian Yiu**, who will receive a $50 book voucher.

Welcome to New Members - August 2015

By Actuaries Institute *(Actuariesmag@actuaries.asn.au)*

Welcome to the Institute's newest members!

Australia

Nitisha AGARWAL (NSW)
Kim ALBERT (NSW)
Yokethisan AYAPANAIDO (WA)
Rory BLANNING (QLD)
Davor BOROJEVIC (VIC)
Lewis Martin BOURKE (NSW)
Quang Van BUI (VIC)
Luke CAMERON-CLARKE (NSW)
Siu Nam CHAN (NSW)
Liqi CHEN (NSW)
Kenny CHOO (VIC)
Kenny Winyoung CHUNG (NSW)
Rebecca Angela DUDEK (WA)
Sam Stephen ELLIOTT (QLD)
Yeruult GANBAATAR (VIC)
Audrey Shih Ying GOH (NSW)
Michaels HARTOWARDOYO (NSW)
Nhat Anh HOANG (WA)
Min HOU (ACT)
Simo IVETIC (VIC)
Qing JIANG (ACT)
Mengzhou JING (QLD)
Ijaz Mohamed Ali KAKKOD (WA)
Milly Poon-Tung KAN (NSW)
Reneshtra KARUNAKAREN (VIC)
Xiongwen KE (NSW)
Bradley KIM (ACT)
Nam-Yoon KIM (NSW)
Gabriela Sofia KIVI (VIC)
Ka Kwan Albert LAM (NSW)
Mark LAVENDER (NSW)
Joseph LE (WA)
Rachel Alison LEE (NSW)
Jiajia LI (ACT)
Ying LIU (ACT)
Nicholas Vincent MORTIMER (NSW)
Won Shik OH (NSW)
Azelia PAN (NSW)
Edward PEYTON (VIC)
Jack REARDON (VIC)
Roselyn SALMANZADEH (VIC)
Arthur Thomas SARVOS (NSW)
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Yanlin SHI (ACT)
Yunting SHI (ACT)
Richard Sui Ann SIN (VIC)
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Ho Fai VONG (NSW)
Keli WANG (ACT)
Hanmei WEI (ACT)
Chi Hei WONG (NSW)
Marek Hin Fung WONG (NSW)
Fei XIAO (NSW)
Jennifer Wen Chun XU (NSW)
Rayoung YOO (NSW)
Xiuyuan YU (ACT)
Rodger Zhiye YUAN (NSW)
Alan Mun Fei ZHANG (NSW)
Fengqi ZHANG (ACT)
Jiayi ZHANG (ACT)
Yangmin ZHOU (ACT)

Overseas

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Geyang MAO (New Zealand)
Nicola MCKINNEL (New Zealand)
Yean Seang NG (Malaysia)
Kuang PENG (China)
Jianfang ZHANG (China)
Enyuan ZHOU (China)

Future of Financial Advice Models – how insurers can help advisers

By Angat Sandhu *()*

The Trowbridge reforms and the subsequent agreement amongst the insurers, financial advice bodies and the Government mark a watershed moment for the Australian life insurance industry.

The significant reduction in up-front commissions, introduction of claw backs and various measures aimed at improving adviser professional standards are a step in the right direction to address the conflicts of interest inherent in the industry today.

As insurers begin to grapple with the implications of reforms and initiate processes to meet the minimum requirements, they have the perfect opportunity to critically examine the existing business model and improve outcomes for customers and advisers. This article is deliberately focused on how insurers can help advisers, acknowledging that there is a significant opportunity for insurers to reorient their business models to being more customer-centric.

It is widely acknowledged that financial advisers will bear the brunt of the reforms, with some estimates suggesting a decline in revenues of the advice industry by greater than 30%. With their business model being challenged, particularly for the smaller / lower scale financial advisers, insurers have the opportunity to support them in ways that go beyond simply providing direct financial support, which itself will become more difficult under the new regime. We have captured below some opportunities for insurers to consider.

1. Understand the adviser hassles in current process

Insurers need to stop relying on hunches or their own interpretation of the issues for advisers and start to understand the end-to-end sales and service process for advisers and the advisers' own perspectives on the hassles. The first step in the above is to conduct a detailed hassle mapping exercise to break-down the sales process in as much detail as possible. This should be done through interviews and discussions with the advisers, dealer groups, Business Development Managers (BDMs) and other individuals involved in the sales process. This exercise can help identify a rich set of processes and functions that are valuable to advisers as well as those that are not as valuable and help identify opportunities for the insurers to assist advisers. Examples of support may range from assisting in lead generation, streamlining the sales process, seamless connection through to the underwriters as well as better communication through the underwriting and decision process.

2. Granular cost analysis that identifies opportunities to reduce 'cost-to-serve'

The hassle mapping exercise should be supplemented with a granular understanding of the cost drivers across the sales process. Here, it is critical to not just rely on where the advisers think they spend their time but to supplement that with time-and-motion studies as well as discussions with BDMs and other individuals from the insurer involved in the sales process to get a comprehensive understanding of the costs. Various cuts of the costs should be analysed:

- **Key activities across the sales process:** Lead generation, initial fact-find, product selection process, Statement of Advice creation, implementation/hand-off to insurer, on-going servicing.
- **Category of costs:** In aggregate as well as for each step of the sales process, analyse sources of costs across major categories: Adviser time, Support-staff time, Administration, Training & CPD, Rent, other.

The above analysis should provide a rich data-set of costs and facilitate discussions on strategic levers the insurer has available to reduce the costs. These levers would include but not be limited to the following:

- **Automation:** To what extent can the processes be automated? And what role does digital have to play?
- **Standardisation:** Which processes can be standardised and what is the expected benefit?

- **Centralisation:** Which processes can be centralised and what is the expected benefit?
- **Outsourcing:** Which processes are better done by specialist vendors both from a cost and quality perspective?
- **Offshoring:** Are there any opportunities to outsource specific processes?

3. Consider industry-led funding models

Whilst it will be difficult for any individual insurer to provide direct funding support to advisers, there is an opportunity for the industry to set-up a pool that provides short-term financial support for intermediaries that are expected to struggle under the new regime. To avoid potential conflicts of interest, the insurance industry could outsource the management of the pool of funds to an independent body and ensure there is appropriate governance over the release of funds. Furthermore, there may also be opportunities to partner with Fintech type providers that use advanced analytics to adjust the cost of loans based on the adviser's risk profile. Developing such an industry-led solution would not only help sustain the smaller, independent financial advisers over the short-term but also ensure that the industry remains competitive and continues to attract new talent over the longer-term.

4. Ongoing focus on education and professional development

In addition to meeting the minimum requirements under industry led initiatives, insurers should work with the advisers to shift the historical mind-set of treating these requirements as one-off compliance activities to embedding them into the culture of the organisation. This is not an easy task and requires top-down communication from the insurers on the importance of these activities, listening to the advisers' challenges and providing support to the advisers in short-term and ongoing capability up-lift.

The four items mentioned above only capture a sub-set of ways in which insurers can help financial advisers navigate the upcoming changes. The industry is more progressed along some initiatives over others but there is recognition that a lot more needs to be done.

2015 Finity/Deutsche Bank Pendulum Report

By Andy Cohen *(andrew.cohen@finity.com.au)*

Drawing on the recent publication of Pendulum, an annual review of the general insurance industry co-authored by Finity and Deutsche Bank, Andy Cohen explores recent industry performance and the outlook for the years ahead.

Like good actuaries, let's start with looking backward before we use these observations to inform our thoughts about the future. How did 2014/15 pan out? In short, not nearly as well as the excellent years of 2012/13 and 2013/14.

Insurance margins below long-term average

To put some numbers to the recent performance, we estimate the insurance industry will report insurance margins for 2014/15 (broadly defined as premiums less claims less expenses plus investment returns on assets backing technical reserves) in the low double digits – perhaps around 12%.

This is well below the average margins reported over the 14 year period since the HIH collapse (around 17%) and even further below insurance margins reported in 2012/13 and 2013/14 which were not far off 20%.

Andy Cohen is speaking at the upcoming GI Glimpse event on 8 September in Sydney. To hear more on how individual classes of business are travelling, including Motor, Home, Liability and CTP, and the outlook for industry profit and growth over the next three years, view the exciting program and register to attend.

Sluggish growth and bad weather

So what were the key drivers of the recent fall in margins? In short, sluggish premium growth and a spate of weather events.

Taking premium growth first, APRA statistics to March 2015 show gross premium growth of around 3%. Even though economic growth and inflation are at relatively low levels, 3% nominal premium growth still suggests little or no premium growth in real terms. In turn, this suggests rate reductions in many classes which, all else equal, will have put pressure on profit margins.

The APRA statistics show that Motor, Employers Liability and Fire/ISR – between them just under 40% of industry GWP – are suffering the most, with real premium growth clearly negative.

The other driver of the lower margins in 2014/15 is a series of weather events which began in November 2014 with the Brisbane hailstorm (the largest of the events at over $1 billion) and included Tropical Cyclone Marcia, the East Coast Low storms, a Sydney hailstorm and the SE Queensland/Northern NSW storms.

ICA estimates for the gross cost of these events are over $3 billion. So has reinsurance come to the rescue and protected the net position? Unfortunately not – the relatively modest size of these events means that reinsurance has had limited impact on insurers' net position. With yield curve pressures also impacting incurred claims over 2014/15, we estimate the loss ratio will be a little under 10 points worse than the preceding two years.

Breaks on growth

Is 2014/15 a one off? We don't think so – we feel the industry is likely to be in a low growth environment for a few years to come and negative real premium rate growth will be the norm for a while in many classes. This will put downward pressure on insurance margins.

In Personal Lines, there are a number of factors putting the brakes on growth. First and foremost is the strong profitability and above target returns on capital that are currently available. This creates a very strong competitive environment in which insurers can win market share off other players by reducing price (while still meeting return on capital targets).

Combine the competition dynamic with an increasing propensity for consumers to shop around at renewal (our analysis shows consumers' propensity to shop for Motor insurance is up by 50% nationally, and a massive 80% in NSW), and the scene is set for

significant business to change hands on the basis of cheaper pricing. Good for consumers, but not for insurers' profits.

Reducing car ownership and apartment living

However, there are potentially other factors at play which may put even more pressure on premium growth in Personal Lines over the next years. These include a reducing level of car ownership and a trend towards living in units rather than houses, both of which drive a lower demand for insurance. Also worthy of a mention is the prospect of technological advances increasing vehicle safety and the rise of telematics – these will de-risk Motor and lead to a reduction in the premium needed to cover the claims cost.

And then there is the "elephant" in the room" – driverless cars. This is many years way, indeed perhaps it will never happen. However, there is the long run potential for driverless cars to take a lot of the personal risk out of driving (albeit transferring it as a liability risk to car manufacturers/technology providers). Some market commentators have suggested driverless cars have the potential to decimate the Motor premium pool – indeed, Celent, have coined the memorable word "Carmageddon" to describe this.

Surplus capacity

In the Commercial Lines space, we also see limited potential for growth. With surplus capacity available, competition remains strong and the soft cycle we have seen in recent years seems set to continue. We see particular challenges to profitability in Commercial Property and D&O, but other commercial lines are also facing headwinds.

On the investment side, the outlook remains weak and the low yield environment now feels like a familiar piece of furniture that is hard to get rid of – so no significant additional upsides from this source are expected.

Lower reinsurance and expense costs

However, there are a couple of upsides that might prop up insurers' margins –potentially lower reinsurance costs and savings from expense management programs. With excess global capacity in the reinsurance market, and current reinsurance pricing still higher than it was five years ago, further price reductions seem possible. On the expense side, a number of insurers are yet to see the full benefits of ongoing expense containment/management programs and these will be of some assistance going forward.

However, we do not see expense and reinsurance upsides as enough to soften the blow of limited top line growth and the continuing low yield environment. With these pressures set to be with us for some time to come, we feel we are at the beginning of a cyclical downturn that will see a period of lower margins. Expressed in terms of returns on equity (ROEs), we anticipate these will settle around 12%, quite a few points below the average 15% ROE achieved over the last decade.

Disability Income - The Price is Not Right, Nor is the Product

By Brad Louis *(blouis@munichre.com)*

Brad Louis, Graham Kelly, Wallace Lee and Alex Threlfall of Munich Re have issued a call to action for the life industry, outlining the urgent implications of their review for product design and pricing of disability income business in Australia. Munich Re's Head of Pricing, Brad Louis, explains.

Munich Re is the largest reinsurer of retail disability income insurance in Australia and its recent review of experience, presented at an Actuaries Institute Insights Session, raises serious questions about the sustainability of existing products.

The industry has reported cumulative losses on retail disability income insurance ("DII") since 2008 when APRA started reporting results separately on this product line. Insurers and reinsurers declared losses of A$569m[1] on retail DII in 2014 alone. These losses continue the industry's long and difficult relationship with retail DII business – many will remember the pain associated with previous major loss cycles.

In 2014, Munich Re completed its most comprehensive analysis of retail DII claims cost ever, covering almost 20,000 claims over a 10-year period. This level of claims coverage is almost 70% of the claims used in constructing the FSC-KPMG 2007-2011 industry claims tables. Over the course of Munich Re's investigation, our view of current claims cost became increasingly pessimistic.

Combining the results of Munich Re's claims cost analysis with market premium rates suggests that premium rates are in the order of 35% below levels that would reasonably cover the cost of claims and deliver a reasonable profit margin[2]. On this basis, life offices are not only adding losses with each new retail DII sale, business being sold will inevitably need large price increases to be profitable.

How did we get here?

There has been talk for a number of years throughout the industry of the need for change in retail DII product design and pricing. However, little has been done to remedy problems via product tightening or pricing changes, and indeed many product features were added and conditions relaxed in the period to 2012. There appears little doubt that competitive pressure to maintain research house product ratings which are in turn used to support "best interests" advice has contributed to product creep. Munich Re believes other drivers have been the lack of broad industry experience studies, and a very old standard industry table. Across the globe, Munich Re has repeatedly seen problems arise when reliance is placed on out of date tables.

Like many in the industry, Munich Re used the IAD89-93 table to assess experience, with many adjustments to cater for weaknesses in that base table. This IAD table is not only 25 years old, it lacks granularity. Products being sold, and society in general, are very different to those in 1990. We commend the FSC push to reinvigorate DII experience studies, and the recent release of a new standard table. Companies now need to decommission the IAD table.

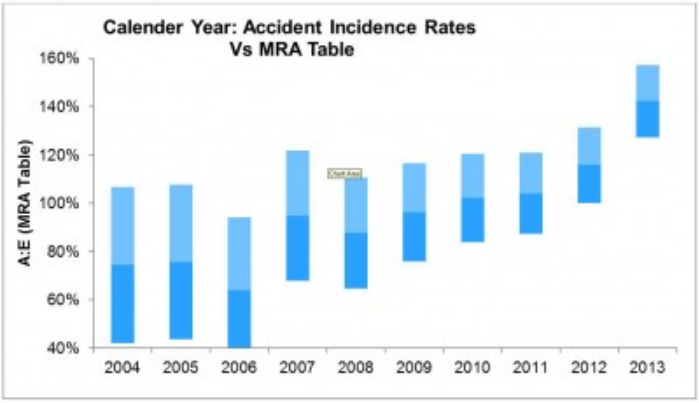
Insights from Munich Re's experience analysis

In 2013, Munich Re decided it could no longer use the IAD table, and set out to analyse experience and create our own "MRA" table. Undertaking this extensive analysis using biometric experience data from 2004-2013 was especially informative, revealing previously hidden risk factors and trends that drive DII experience.

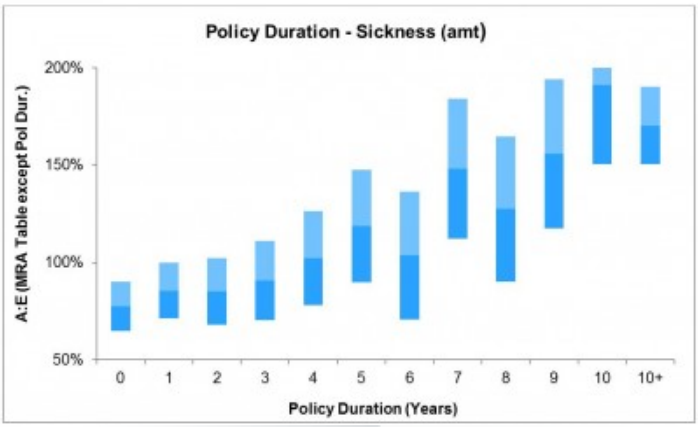
Three key insights from our analysis were:

1. The cost of DII claims has been increasing over the last decade due to an increase in the incidence of accident-related claims. From 2009 to 2013, there was a 47% increase in the incidence rate of accident claims. An increase in claim rate is no surprise following the proliferation of benefits added to products in the noughties, some that included an incentive for accident claims through the ability to claim from day one. Worryingly, there is no apparent end in sight to the growth in accident claim rates, despite the fact that product changes were implemented five or more years ago. We believe one driver of

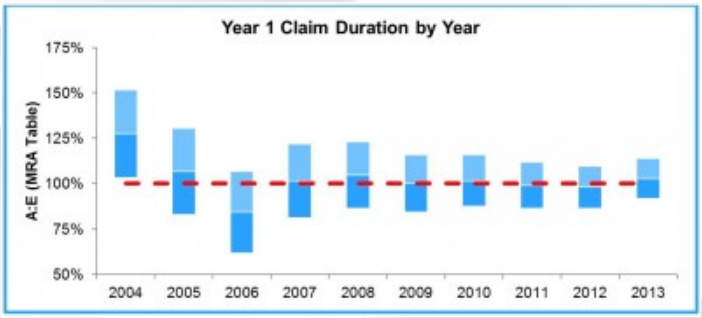
the ongoing incidence increases is due to customers (and planners) better understanding of the power of the benefit features. There has been no reduction in sickness based claims to offset the increase in accident claims.

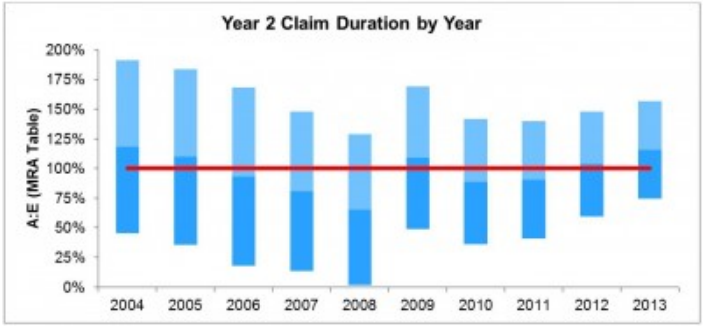


2. The rate of claims due to sickness increases with policy duration. Many in the industry have suspected selective lapses, and Munich Re's analysis confirms this. The increase is significantly higher than what Munich Re believes the industry is pricing for. Sickness claim rates for policies in force for 10 years are double those of policies in their first year. The recently-released FSC-KPMG table now incorporates a policy duration impact, and when life companies begin to adopt this new table, they may be faced with critical decisions concerning the impact on reserving and pricing.



3. Termination rates have not changed. This is a surprise, because many industry participants believed that termination rates were improving, especially in light of recent heavy investment in claims improvement programs across the industry. It may be true that termination rates have improved over a short term, but not when taking a longer-term view. The tables below, showing termination rates for year one and year two of a claim, highlights how a long-term view is instructive. Year 2 termination improvements in recent years is returning levels to longer term averages. Munich Re supports the investment in claims programs, but suggest that this is no silver bullet for DII claims experience. Treating the symptoms will never be as effective as treating the cause.





Sustainability of the current product

Munich Re's view is that the current price does not match the product design. So, is the product underpriced or is the product overly generous? We believe that products include unnecessary and costly benefits, and urgently need re-design. We believe that within the industry there is overwhelming support for product change: A Munich Re survey across all areas of the industry revealed that more people than not believe nine specific product features were not aligned to the principles of insurance and they would like to see six of those removed immediately. Talk to any claims team, and you will hear very quickly how benefit features in standard products make their job impossible. Let's pick out a few examples:

- Policyholders can work 10 hours per week and still receive their full benefit. This creates strong incentive for policyholders to work for just below 10 hours per week, undermining the equity and sustainability of DII. Experience suggests many claimants are indeed working between 9 and 10 hours per week.
- Policyholders can insure themselves for as much as 70-hour working week, burn out and return to a normal 40 hours per week and receive a DII payment for the 30 hours they are no longer working. [Dear readers, please don't get any ideas].
- The trauma benefit can see policyholders get paid 6 months' salary replacement after needing only two weeks off work even though they were covered by sick leave and therefore suffered no loss. This example is common, yet being perfectly within product rules it is not contentious and therefore senior management can be unaware of the full implications of product design

A sustainable product

For each of these examples, Munich Re believes the product design is not in line with basic principles of insurance and incentivises anti-selective behaviour. In response, Munich Re has developed what it believes is a sustainable and cost-effective DII product, removing costly features and bringing cover in line with the principles of insurance. Munich Re estimates that this product will reduce industry claims costs by approximately 35%, while maintaining the integrity of paying an appropriate claim payment to those with genuine need.

The new product also addresses technical and behavioural weaknesses within the current product design. The product is better aligned to the needs of the customer, ensures equity among policyholders, and is affordable so that policyholders are more likely to have cover when they need it. More details are available in the article Income Protection – A time for review.

Industry response

When Munich Re discusses product or price change with life offices in Australia, we see real buy-in to the messages of how product simplification will enhance sustainability, but see less desire to take the lead on change. Most of the important barriers highlighted by life offices come under the catch-cry of "no-one will sell it". Some of this can be traced to the fact that rating houses currently take the view that if a product pays more benefits it is better, regardless of the overall cost, equity and sustainability to policyholders. In other words, a sustainable product aligned to basic insurance principles would be poorly-rated by the rating houses, making it more difficult for an adviser to sell in a best interests duty environment. Munich Re has been discussing options with the rating houses.

Munich Re has also heard correlative arguments that due to the best interests duty planners would not sell the sustainable product even it was for sale because it has fewer features. We believe this is incorrect. Munich Re's broad portfolio shows advisers already sell significant volumes of lower specified (and cheaper) products when there is an alternative. Munich Re envisages a price differential of at least 20% for the new product, surely enough for a planner to recommend given that basic needs of policyholders are met.

Munich Re acknowledges that there are barriers to change, however we are optimistic about the skill and ingenuity of the people working in our industry. We are convinced that a sufficiently determined company can successfully take the lead on change.

Next steps

Based on our analysis, insurers may face a scenario where their current DII products become increasingly unaffordable to the people who rely on them for the financial protection provided. Munich Re believes steps must be taken to develop and introduce more sustainable terms in DII products. Terms offered should be clear and meet the insurance needs of those who purchase the products. As actuaries, we should ensure products are issued fairly and equitably. Each insurer will need to identify and address the causes that have led to these concerns.

As a first step, each insurer has opportunity to analyse their experience against the recently-released FSC-KPMG table. This should be a key input into a full review of the terms, conditions and pricing of DII products. A return to sound design must become a priority to ensure the long-term future of DII in the market. There is an opportunity for actuarial leadership through this process.

Munich Re is committed to working with industry participants to address the design and pricing of DII products. We welcome input into this important debate.

[1] Source: APRA quarterly life insurance performance statistics.

[2] Based on high level assumptions regarding life office manufacturing and distribution costs.

Actuarial Salary Survey Call

By Jenny Lyon *(jenny@sklactuarial.com.au)*

SKL is currently collecting salary information to complete its annual salary survey for 2015.

Take the survey

The analysis of the 2014 survey showed little statistical evidence of a difference between the salaries of those working in life insurance and those in general insurance. Based on the high level of recruitment activity in the life insurance market relative to general insurance in 2015 we are interested to see whether this is also reflected in changes in remuneration.

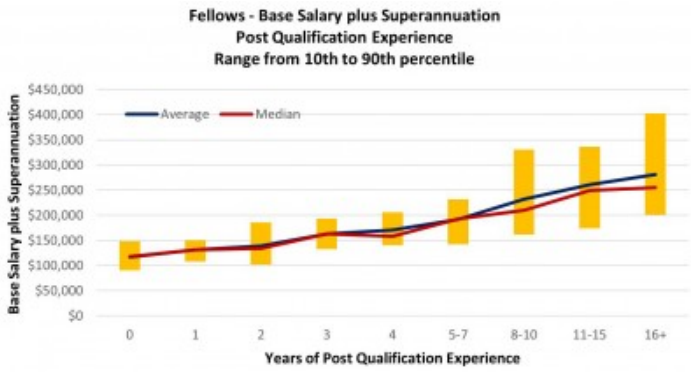
The data collected includes base salary, superannuation contributions and expected bonus. Information is also collected by level and year of qualification – Fellow, Associate, Student, practice area, location and level of seniority.

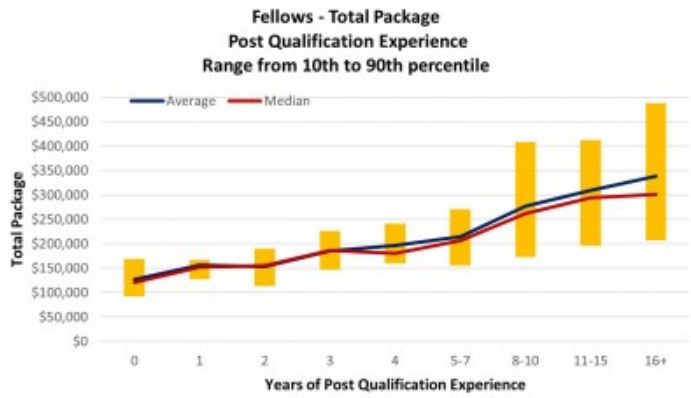
The 2015 survey is open to anyone with an actuarial background and all participants receive a copy of the report which will be available in late September/early October.

"The more data we receive, the more representative the results will be. In 2014, SKL received more than 500 submissions. This year we are seeking more than 800 submissions."

In 2014, SKL provided information on both "Base Salary plus Superannuation" and also "Total Package" assuming target bonus was achieved. As an example of the information provided in the report, the following charts illustrate guaranteed remuneration i.e. base salary plus superannuation at various periods of post qualification experience for Fellows of the Actuaries Institute (or equivalent). Information will be shown separately for Associates and Students.

In order to reduce the impact of outliers but to give a reasonable feel for the range of salaries at different levels of experience we showed the range from the 10th to the 90th percentile and also graphed the average and median for the full data range.





The survey is open until 31 August and we encourage you to participate. To contribute please click here. *All data is kept highly confidential and used only for the purposes of the survey.*

For a copy of last years' report or if you have any questions about the use of data or the survey itself please contact us on info@sklactuarial.com.au.

ANZIIF TurksLegal Claims Scholarship Launch

By Actuaries Institute *(Actuariesmag@actuaries.asn.au)*

The Australian and New Zealand Institute of Insurance and Finance (ANZIIF) and TurksLegal have announced the opening of submissions for the 2015 ANZIIF TurksLegal Claims Scholarship.

Recognising excellence in general insurance, entrants are asked to submit a 2,500 word essay answering one of five questions about the general insurance industry, including topics on:

- Affordability of insurance and effectiveness of claims handling when natural disasters occur.
- Conflicts between insurers and insureds.
- Challenges to insurers from sharing economy services, such as Uber and AirBnB.
- Personal responsibility of insureds and contributory negligence.
- Maximising customer satisfaction through human touch points in the insurance process.

The winning entry will have the choice to be awarded an overseas conference package valued up to $8,000, including registration to the 2016 Claims Conference & Insurance Services Expo in the USA, flights, accommodation and $500 spending money, or $5,000 cash, and registration to the 2016 ANZIIF Claims Convention, with return flights and accommodation.

The ANZIIF TurksLegal Claims Scholarship runner-up will be awarded registration to the 2016 ANZIIF Claims Convention, with flights and accommodation.

“We are thrilled to offer this significant career development opportunity to a member of the Australian insurance community. This Scholarship will not only enhance the winner’s understanding of the industry in a global context but will help them to develop their leadership skills and allow them to represent Australia among their international counterparts,” said Prue Willsford, Chief Executive Officer, ANZIIF.

Scholarship submissions will be judged by an industry expert panel including representatives from major insurers and legal advisors.

Submissions for the ANZIIF TurksLegal Claims Scholarship close at 5.00pm Australian Eastern Standard Time, Tuesday 6 October 2015. For more information, and the entry form visit ANZIIF Scholarships.

To be eligible applicants must:

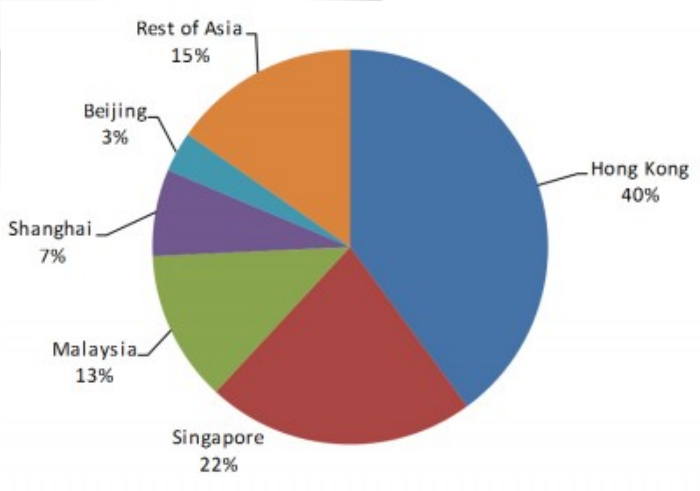
- Be an Australian resident and based in Australia.
- Directly work in a capacity connected with general insurance or workers compensation and be based in Australia.
- Entry is not open to lawyers, accountants or medico-legal consultants employed in capacities other than as direct employees of a general insurance company including reinsurance companies or insurance claims management companies.

The winner will be announced at the ANZIIF General Insurance Breakfast in Sydney on Thursday 26 November 2015.

Crouching Tigers, Hidden Dragons and Spouting Merlions

By Estelle Pearson *()*

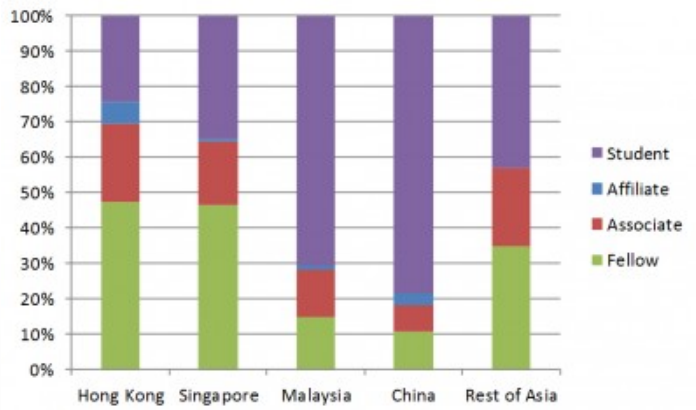
July saw Institute CEO, David Bell, and I take the CPD tour back on the road to Asia. Around 600 of our members live and work in the Asian region and the annual tour provides an opportunity for the President and CEO to meet with members and to provide some high quality face-to-face CPD. This year, over nine days, we visited Hong Kong, Shanghai, Singapore and Kuala Lumpur where 80% of our members based in the Asian region work.



Feedback on Dr Simon Longstaff's presentation "The Tiger in the Room" about ethical decision making, strategic risk and using subversive leadership to challenge "how we do things" was enthusiastic in every location despite some of the cultural differences between the countries we visited. What I had not realised was that most other actuarial associations (including the local Asian associations) have a minimum number of professionalism CPD hours to complete each year and so there is a strong demand for CPD of this type.

Since the CPD event was held in the evening over dinner (based on feedback from previous tours) during the day as well as meeting with groups of our members, David and I met with representatives of the local actuarial associations as well as the insurance regulators in Hong Kong, Singapore and Malaysia. A few things became quite clear to me from those meetings. Firstly, the pace of change in the Asian region is rapid through a combination of growing insurance penetration, liberalisation of markets and pricing and new insurance regulation – especially around risk based capital. For example in Shanghai we learned about the fledgling health insurance market, in Hong Kong about the regulator plans for RBC and in Malaysia the implementation of Financial Condition Reports for general insurance companies from next year. These changes are increasing the demand for actuaries – in China we were told that there are currently 500 actuaries but the expected demand over the next few years is for 5,000. While the local universities are playing a role in producing more actuarial graduates there will clearly be a strong demand for actuaries who have trained overseas. This confirms the view that I expressed at the start of the year that more and more we will see the career paths of our members taking them to Asia. For our younger members, the development of the Asian insurance markets should be exciting and I think that the Institute can do more to showcase the changes in these markets and the opportunities that these might present for our Australian-based members.

Another thing that became clear was how active the UK and US actuarial associations have been in the region working with local universities and providing on the ground support to their members and promoting their own organisations with employers. One of the five goals in the Actuaries Institute Strategic Plan for the next three years is to reach further in Asia including building stronger relationships with members and other stakeholders . Our visit to Asia impressed on me the importance of us delivering well on this goal in a timely manner. It also highlighted the need for us to focus on the support we provide to our student members in the region not just our qualified members. In China and Malaysia, for example, our members are predominately students and we need to look carefully at how we can support them through our education process.



With four or five meetings a day as well as travelling from city to city there was not much time for sightseeing. However we did manage to fit in a half hour in Shanghai in the rain thanks to Robert Chen who helped organise our meetings there and promoted the CPD event. Also in Singapore we fitted in a stroll along Marina Bay in the midday sun to visit the spouting merlion. I'd like to thank our members and local ambassadors Robert, Matthew Maguire in Singapore and Loo Hai Teh in Kuala Lumpur for arranging meetings for us and generally assisting in making sure that we gained maximum value from our trip. I should also thank David Bell for both challenging me to make the trip with only carry-on luggage (a whole new experience for me and one that I very much appreciated as we marched past the queues at the baggage carousel at airport after airport) and putting up with my sightseeing attempts (I hope that David's suit recovers from the drenching it received in Shanghai).

The final stage of the CPD tour to New Zealand started on 11 August and I look forward to seeing both members and non-members at the CPD sessions and dinners in Auckland and Wellington. Having learned from the mistake of last year's President Daniel Smith, I'll definitely be packing a warm coat for this leg of the tour!

August also sees Sydney host the international ASTIN, AFIR/ERM and IACA Colloquia of the International Actuarial Association running over four days with a number of local and international speakers discussing cutting-edge actuarial research and areas of interest to the international profession in the fields of Insurance and Risk. Response to the Colloquia has been slower than we would have liked so I would encourage members to think about attending this event if only for a day since this is the first time since 1997 that the Colloquia have been held in Australia.

Finally in my last column I mentioned that we would be establishing a discussion forum to facilitate a debate among the profession on the role of the Appointed Actuary. The forum is now up and running and can be found here. There are a number of discussion questions including the purpose and scope of the AA role, the idea of a Board approved framework for actuarial advice rather than regulating the AA advice, the issues of dual hatting and conflict of interest management, the content of Financial Condition Reports and the value of external peer review both in general and life insurance. Don't sit around a wait for others to lead the discussion and debate – this is your chance to have your say!

Talking bout' her generation

By Stephanie Quine *(stephanie.quine@actuaries.asn.au)*

Stephanie Thomson showcased the unique power of actuarial skills to reveal a picture of intergenerational inequity, at a United Nations Forum last month.

In 2015, her final year of a double degree in Applied Finance and Actuarial Studies at Macquarie University, Stephanie Thomson made it her mission to navigate a maze of data and measure the collective experiences of different generations.

As part of her Research Fellowship with Global Voices, Stephanie collaborated with UK charity, The Intergenerational Foundation, to develop an 'Intergenerational Holistic Equity (IHE) Index' for Australia, based on 19 indicators.

"The purpose of this was to try and amalgamate all of this data into a simple, easy-to-read index; one graph, that would give us a barometer of inequality between generations," said Stephanie.

Getting the numbers right

Ensuring the data aligned and worked together was a challenge. It had to be annual data and go back to the year 2000, to feed into the Index accurately.

The Australian Bureau of Statistics collects data in different ways to other institutions, of course, which meant "hours and hours and weeks and weeks of data manipulation".

View the video here:
https://youtu.be/iujr7bkOpok

Researching alone with no university tutor to mark her data analysis added pressure to the project.

"It's very easy to make a minor error so that was kind of riding over me the whole time.

I was thinking 'I can't stuff this up because it's only me…this is going to be published, this is going to follow me for the rest of my life'," she said.

Stephanie was one of four young Australians who prepared research reports on different aspects of the United Nations Economic and Social Council High-Level Political Forum (ECOSOC) agenda for 2015.

"We had timelines to do our research through Global Voices and I'd finally finished the data [manipulation] and hadn't written a single word. Everyone else had done their draft and I thought 'I'm not going to get this done'," she said.

Once the results were in, however, the writing came naturally for Stephanie, who finished her 20-page report, confident in the results.

"It's just that bulk of data at the beginning that was the challenge," she said.

Stephanie met former Prime Ministers Julia Gillard and Kevin Rudd when they addressed the UN assembly and UNICEF respectively at the Forum.

There were some data sets that Stephanie had to abandon – including crime data and extra wellbeing indicators – because distinguishing between population demographic force and actual trends proved too difficult.

"I'm a single student, I wasn't confident doing super tricky software-crazy data analysis, so at the end of the day I went back to basics and used indicators I could be confident in," she said.

Where to from here?

The key finding from the IHE Index is a 13% decline in intergenerational fairness in the last 15 years – just shy of the UK Index's 33% decline – but still, a figure which should be a wake-up call for Australian policy makers, in Stephanie's opinion.

"I was surprised by how bad the economic factors are getting," she said.

The Global Voices UN ECOSOC Australian Youth Delegation outside UN Headquarters in New York, July 2015.

The Index shows a 34% worsening in economic outcomes with "the most sporadic and disquieting indicator" factor being government debt per employed person.

"The government's regular spending increases to age care assistance are unsustainable in the current context of demographic change," the report states.

Stephanie is calling for an institutional framework or appointed ombudsmen to represent the rights of future generations as well as increased investment in cohort data analysis and longitudinal studies in this area.

"Tough policy decisions are needed to ensure that Australia remains prosperous and its tax and transfer system sustainable. Budget repair, climate change, superannuation reform, and modifications to age care assistance must be prioritised by the current government," the report states.

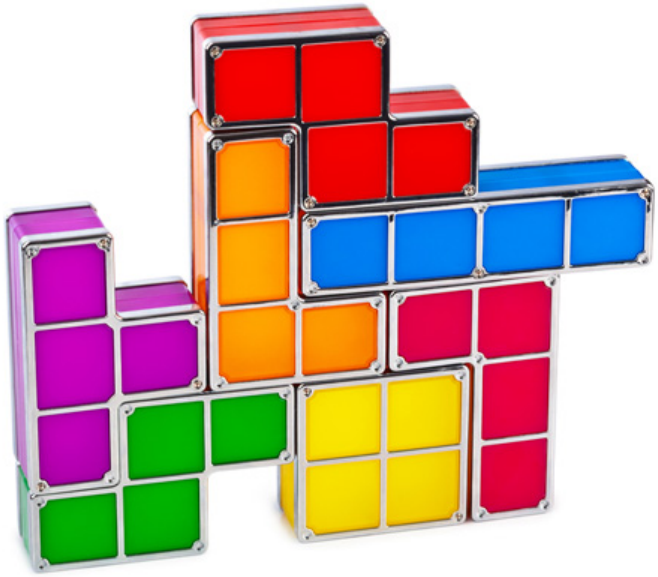
The UK's Intergenerational Foundation plans to adapt Stephanie's Index to align with their set of indicators before republishing it in the UK.

With her degree finishing at the end of the year and a graduate position lined up at PricewaterhouseCoopers (PwC), Stephanie now plans to enjoy some rest time while promoting her research.

Our internet browsers are brimming with government data and environmental reports, as well as the dubious happiness study and housing 'crisis' headline; a maze of clues to the overall experiences of different generations in Australia's short history.

With rigorous mathematical skills and technical training, actuaries like Stephanie continue to make sense of a wealth of available population data to help policy-makers understand the risks, challenges and opportunities for different generations.

Read Stephanie Thomsons opinion piece: Why future generations depend on us rethinking the old age pension and the full research report Intergenerational Holistic Equity Index: Mapping Intergenerational Inequality In Australia



A Deeper look into Tetris

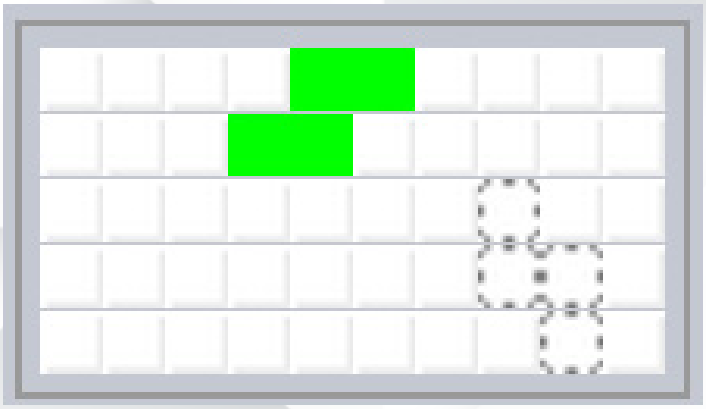
By Cuong Duong *()*

Optimal stacking in the favourite, albeit frustrating, puzzle game of Tetris relies on much more than finger speed, writes student actuary Cuong Duong.

First-year math lectures were never my thing – after begrudgingly noting down one abstract concept after another, I craved any sort of application that would prevent me from dozing off. In particular, my mind often wandered to the optimization strategies used in everyone's favourite, albeit frustrating, puzzle game – *Tetris*.

Tetris seems simple enough; the objective of the game is to stack pieces (made from four square blocks) atop one another to clear rows, with a four row clear called a "Tetris". In newer versions of the game, a popular single-player mode known as *Sprint* requires players to clear 40 rows as quickly as possible. To a regular observer, faster clear times for this mode seem to depend solely on finger speed, but the fastest players actually pay more attention to the efficiency of their key presses.

The "theorem" used by these players' states that every piece can be placed in a certain position (and a certain orientation) on the grid with at most two left/right movements. Surely, if the grid is 10 units wide, and the minimum width of a piece is two, this shouldn't be possible! Let's consider this case: we want to move the green piece to the outline.



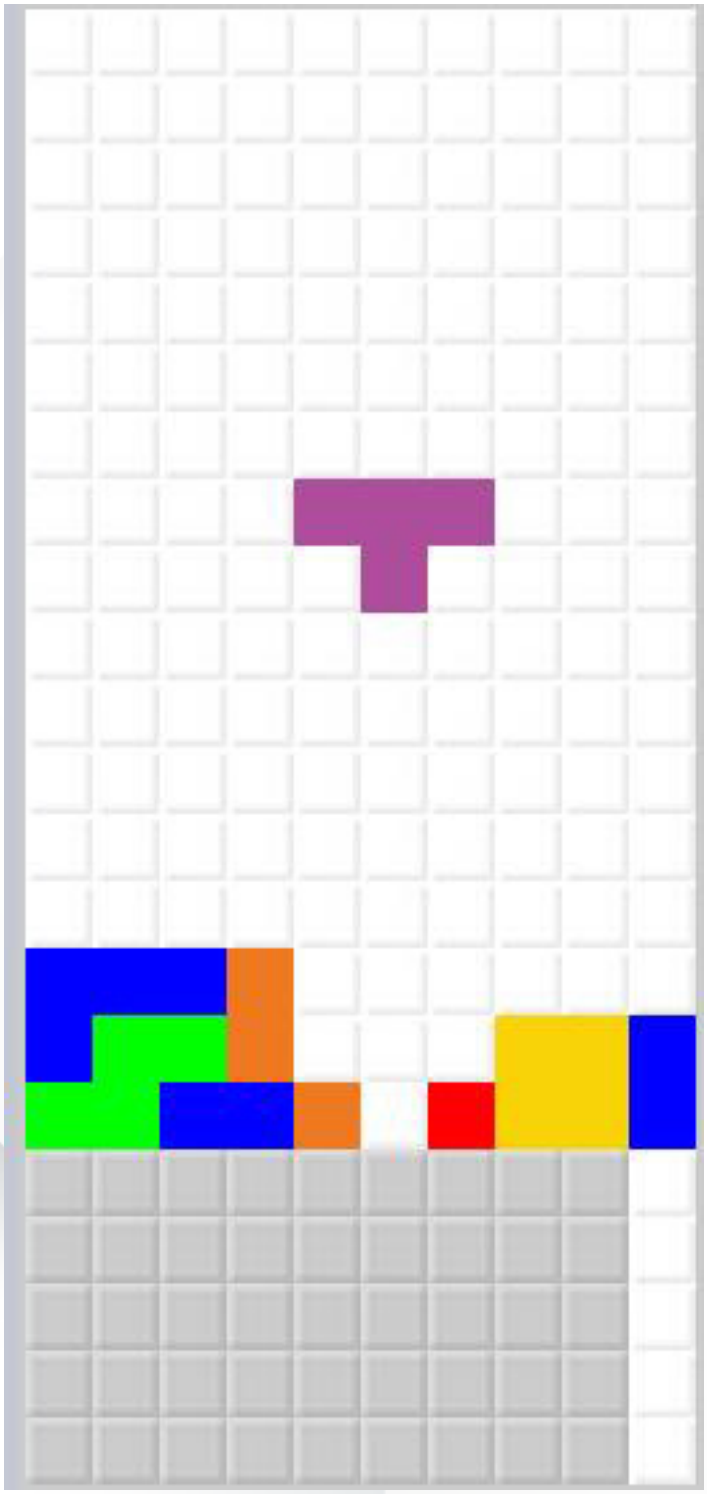
The intuitive process would be to rotate the piece, tap right three times, then drop, because this would allow the piece to travel the minimum distance. But how quickly the piece reaches its destination will depend heavily on how quickly the right arrow is pressed.

When pieces are able to slide rapidly across the grid by holding either left or right, a quicker way to perform this movement is in fact:

1. Rotate the piece 2. Hold down right 3. Tap left once, then drop

By letting the piece slide to the wall, it takes less time than two right key presses, and even though the piece is travelling a longer distance, it still reaches its destination in a shorter time. The "theorem" is also shown to be true – we have achieved the position using two movements (right and left are only pressed once each).

Now let's extend this idea of efficiency to two-player multiplayer VS modes. Here, any rows cleared on one person's field will be added on as "garbage" to their opponent's field (picture shown); and the aim of the game is to force one's opponent to the top of their field.



Received 4 rows of "garbage" (grey blocks) from opponent.

A logical and the most common approach to winning is to send as many rows as possible, as quickly as possible, in order to overwhelm the opponent.

Although this generally works, consider a case where we, and our opponent, have stacked four rows ready to clear. In adopting the aforementioned mindset, both parties would send their rows at the same time, meaning the attacks "cancel" out and neither field is affected.

However, the ideal move for us is to continue stacking and wait for our opponent to send their four rows first.

Why? A close look at the "garbage" in the diagram reveals an open column which allows the garbage to be cleared easily. Therefore, after clearing our own rows, we will be able to clear the garbage with a single line piece and effectively send that garbage back to the opponent.

If we compare the number of pieces it took our opponent to set up their "Tetris" vs. the one line piece used on our garbage to perform the same feat, the latter is much more efficient – less pieces are being used to send the same number of rows.

Additionally, as we will be sending our own rows at the same time, the large "spike" in rows being added to the opponent's field would push their field extremely close to the top. With one efficient move, we've almost won the game.

Don't believe these strategies work? Log on to Tetris Friends or Tetris Battle and try them out! After enough experience playing the game and uncovering its mechanics, you may find yourself developing your own optimization strategies.

Emerging Risks of a Mobile World

By Edward Vukovic ()

There are about eight billion connected mobile devices in today's world where more people travel between borders than ever before. Technology is the great enabler, but what threats does it also present? ANZIIF's Edward Vukovic reports.

The world is portable. On the face of it those words don't really make sense, but through the ubiquity of connectivity and an increasingly mobile population, there's more weight to that statement.

Travel site TripAdvisor's research into travel patterns has unearthed a growing trend — that there are more people traveling now than ever before, and that Australians and New Zealanders, are the most travelled people on the planet. The study found that on average, Australian (US$12,393) and New Zealand (US$8,457) travellers spend the most collectively and are steadily increasing that spend — up 18 per cent and 10 per cent respectively in 2014.

Coupled with the rapid rise in mobile connectivity — up from 13 per cent in 2010 to 42 per cent in 2013 —the impact on the business risk environment over the next few years will be significant.

Stephen Cross, Aon's Chief Innovation Officer, believes that there are a number of trends insurers and risk managers need to be mindful of.

People are more mobile

Look at any airport and you will see that the number of people travelling globally today is far greater than the number travelling even a decade ago. Cheaper and more choice for travellers will see this trend continue which, according to Stephen, heightens the risk of pandemic spread, as was demonstrated by recent epidemics, such as Ebola, H1N1 and foot and mouth disease.

Devices and people are interconnected

A few years ago there were only a half a billion connected mobile devices. Today there are about eight billion and by 2020 this number is set to approach 20 billion. Stephen says that we "need to think in terms of this level of global connectivity, and how the internet is increasingly becoming the central nervous system of the world."

This connectivity leads us to what is fast becoming an emerging potential for harm. A quick look at the news will highlight that increasingly, activities in the workplace such as harassment, misconduct or discrimination are being filmed or photographed and going viral on social media. As society becomes more litigious, defamation cases become more commonplace and the impact to a company's reputation and their bottom line can be severe.

The world is a smaller place

The rise in free trade agreements, mergers and acquisitions and offshoring of services has made a once large world a lot smaller. Stephen believes the increased global activity and connectedness of businesses will remain a key consideration for executives and risk professionals the world over, particularly concerning supply chain management.

“The recent outbreak in Australian of Hepatitis A from imported berries has reinforced the need to have sufficient risk management controls in place to ensure that differences in global standards around manufacturing and production, or health and safety, do not breach local regulations or cause public harm,” he says.

Technology as an enabler and threat

Connectivity necessitates leaps in technological advancement and with Australia at the forefront of adopting new technology, organisations must be vigilant when considering how their business activities and risk mitigation strategies are affected by connectivity and the internet.

“Sensors, which are increasingly being used in smart homes as well the workplace, are helping to mitigate risk through the early detection of leaks and heat loss, and by monitoring movements in property (or even employees). This is also the technology that is crucial to the success and safety of the driverless car. Depending on their efficacy, the use of sensors may have a significant impact on future risk transference decisions,” says Stephen.

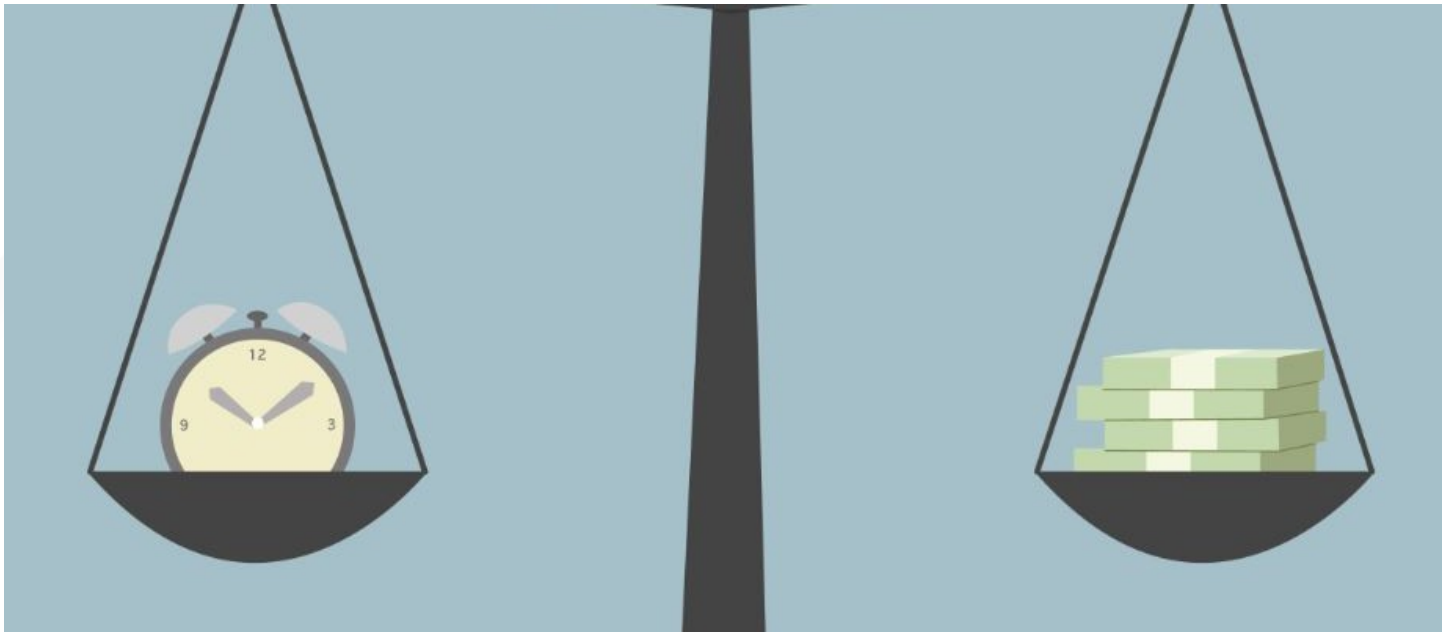
He adds that satellites will further assist in the prediction of weather risk and the mitigation of crop failure while smart phones and the development of apps that are capable of demonetising objects by incorporating them in the one device (as has been the case with maps, cameras, torches – and more), will continue to challenge many traditional business models.

People changing business

We’ve already looked at the proliferation of internet connected devices but we need to look at how that technology is being used to challenge traditional business models. The Internet of Things places incredible innovation and power in the hands of the community and as Stephen points out, enables the development of community-based sharing solutions. Anybody has the opportunity to derive income from assets that might otherwise be sitting idle.

“With Uber disrupting the taxi industry, and Air B’n’B changing the scope of the hotel industry, every business needs to apply critical thinking to its operating model and be prepared to challenge traditional concepts about the security and efficacy of its service delivery strategy,” says Stephen.

This article originally appeared on ANZIIF’s website here



Why future generations depend on us rethinking the old age pension

By Stephanie Thomson ()

Seniors must be prepared to tighten their belts if Australia's tax and transfer system is to remain sustainable over the next 50 years, writes Stephanie Thomson.

A new intergenerational inequality index exposes that Australia's intergenerational bargain is under threat – that working age Australians are losing the capacity to support the growing numbers of retiring seniors, as well as themselves.

The index warns that if trends of the last decade continue, working age Australian's in 2050 could be 70% worse off than their counterparts today.

Stephanie Thomson attended the 2015 UN Economic and Social Council High-Level Political Forum on Sustainable Development as part of a Global Voices Australian Youth Delegation.

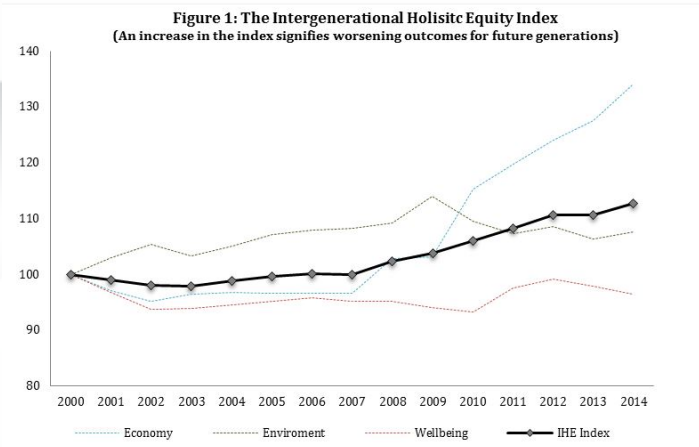
This spells bad news for both seniors and younger Australians. If our approach to the old age pension isn't reconsidered and moderated now, we could see the welfare system crumble in the next half century.

The Intergenerational Holistic Equity Index measures improvements in the experiences of working age Australians since 2000 based on five economic, four environmental and ten overall wellbeing factors.

Indicators range from government debt, aged care assistance, technology use, and greenhouse gas emissions to capture a holistic picture of life for future generations.

The Equity Index is the result of collaboration between Global Voices Research Fellow, myself (Stephanie Thomson), and the Intergenerational Foundation, a UK charity illuminating global changes in intergenerational inequality.

The Equity Index, shown in Figure 1, paints a relatively desolate picture for future Australians. Younger, working-age Australians in 2014 were 13% worse off than their comparative cohort in 2000. A rise in the index indicates worsening conditions for future generations. If this trend continues, working Australians in 2050 will be 70% worse off.



Since 2007, the key driver of the regression in intergenerational equity has been worsening economic factors. Rising government debt, housing unaffordability and the growing costs of supporting older Australians have seen economic outcomes

for younger, working age Australians worsen by an average of 2.4% every year in the new millennium.

If politicians are unable to deliver bipartisan economic remedies, younger Australians in 2050 are predicted to be almost 200% worse off in economic terms. Rethinking the old age pension is a key piece of this puzzle.

Man-made environmental change will only add fuel to the fire of worsening economic outcomes. The Equity Index measures an 8% rise in environmental depletion over the past 15 years. If improvements are not seen, the Equity Index predicts that Australians in 2050 will be 33% worse off due to the degeneration of the environment.

"Together, these factors will curb the younger cohorts' capacity to accumulate personal wealth and to self-fund their retirement."

But there is some good news, albeit small. Individual and societal wellbeing has improved over the last 15 years, rising 3%. This was driven by growing access to technology and participation in tertiary education. Although, reduced government spending on R&D, increasing youth unemployment and escalating pressure on the health care system has limited greater improvement in this area.

Yet, what does this mean for the old age pension?

If outcomes for working age Australians worsen 70% by 2050 as predicted, the sustainability of Australia tax and transfer system is severely threatened. Taxable, working age Australians will be relatively fewer in number, and less capable of supporting the growing number of retirees under the current policy.

The Treasury's predicted slowdown of the Australian economy over the next 50 years will only worsen the sting. Working age Australians will have relatively less lining in their pockets, and will be forced to contribute a higher proportion of their income to pay for today's government deficit and to subsidise the swelling costs of aged care support.

The Delegation with Global Voices coordinators at UN Headquarters

The Global Voices UN ECOSOC Australian Youth Delegation outside UN Headquarters in New York, July 2015.

The Youth Delegation with Patrick Walsh, a senior adviser for the UN Sustainable Solutions Development Network

Government debt and rising healthcare costs will also stifle the wealth accumulation capacity of younger Australians. The Grattan Institute expects that younger households could be burdened with an additional $10,000 of tax for every year that debt grew between 2010 and 2014. In the Institute of Actuaries of Australia green paper, 'Who will fund our health', it is predicted that younger households could be paying up to 2.1 times their own health expenditure to subside older Australian's health care in 2050.

"Now is the time for Australia to rethink its approach to the pension, or we will see future working-age Australians financially thwarted by our inaction."

Adding these volatile ingredients together delivers a recipe that threatens long-term welfare sustainability. Together, these factors will curb the younger cohorts' capacity to accumulate personal wealth and to self-fund their retirement. Ongoing, each successive working age generation will be increasingly disenfranchised to fill the funding gap. This exacerbating imbalance in the intergenerational bargain is likely to spark a cycle of intergenerational wealth decay.

Aged care assistance payments will always remain one of the largest and most important welfare payments, particularly for senior Australians of lower socio-economic status. However, as a society we must shift our perception of the pension away from one of entitlement. Stricter pension means testing, asset testing and eligibility requirements are needed to go hand in hand with innovation in the superannuation space to offer retirees protection in the event that they live longer than their savings allow.

Now is the time for Australia to rethink its approach to the pension, or we will see future working-age Australians financially thwarted by our inaction.

This article is based on the findings of a research partnership between Global Voices Research Fellow and UN ECOSOC Delegate Stephanie Thomson, and the Intergenerational Foundation, a UK charity and think-tank established to promote fairness across generations.

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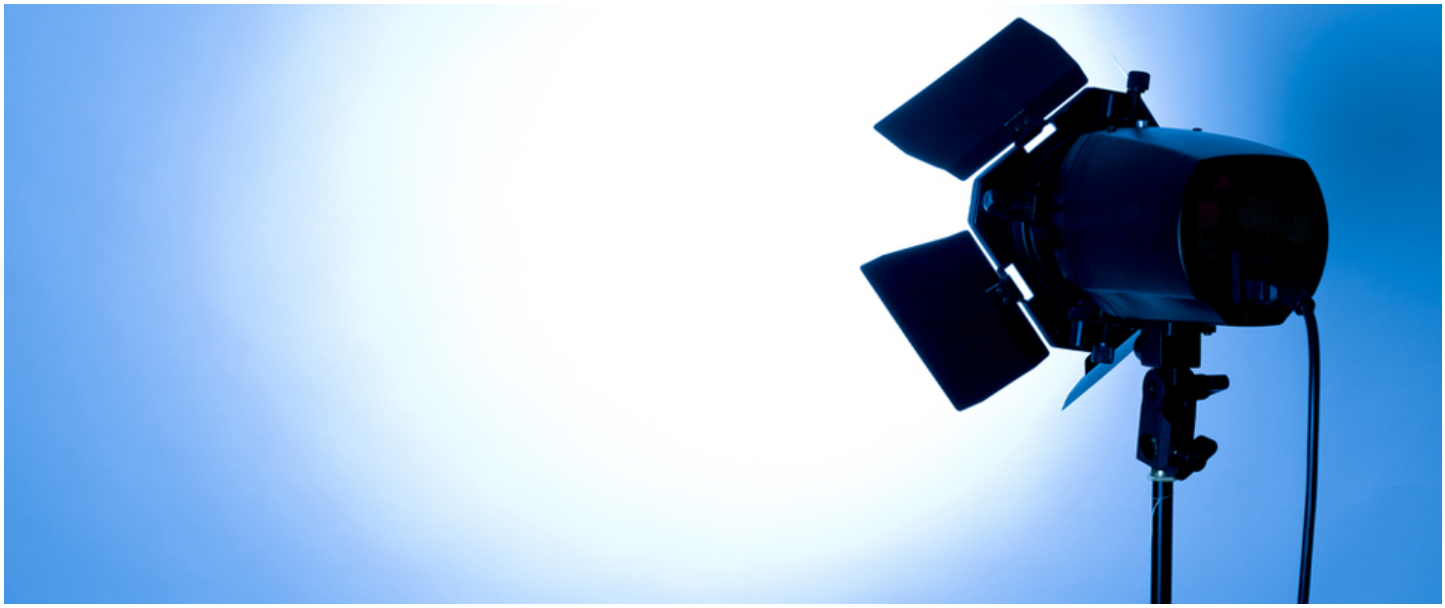

Under the spotlight: Ignatius Li

By Ignatius Li *(IgLi@deloitte.com.au)*

OVERVIEW

Name…Ignatius Li

Title…Director

Organisation…Deloitte Actuaries & Consultants

Summarise yourself in one sentence…an actuary interested in making a difference in the area of health financing

PERSONAL

My interesting/quirky hobbies…I have a big collection of tacky key rings from almost every place I've ever visited

My favourite energetic pursuit…competitive squash

The sport I most like to watch…slalom kayaking

The last book I read (and when)…*The Catcher in the Rye* by J.D. Salinger (July 2015)

My favourite artist/album/film…David Bowie / probably a compilation of Bowie hits / 2001: A Space Odyssey

The person I'd most like to cook for…my partner Stephen

I'm most passionate about…seeing people reach their potential

What gets my goat…the poor state of our political discourse and the abusive power of vested interests

I'd like to be brave enough to…be a snake charmer

In my life I'm planning to change…my diet

Not many people know this but I…once rode the train from Beijing to Lhasa, Tibet non-stop. It took about 48 hours

Four words that sum me up…hardworking, fair, compassionate, curious

CAREER

What I wanted to be when I grew up…growing up, I changed my mind constantly. I considered becoming an architect, doctor, medical researcher, teacher, civil engineer, biomedical engineer and of course actuary

Why and how I became an actuary…you can apply maths to engineer financial solutions for social problems

Where I studied to become an actuary and qualifications obtained…I did a maths and finance degree at UNSW and commenced and completed my actuarial qualifications after I graduated

My work history…started as a graduate at Towers Perrin in Sydney doing asset consulting, then Southern Cross Healthcare in New Zealand doing pricing, then joined Deloitte focusing on health and life insurance

What I find most interesting about my current role…being able to shape long-term health financing policy

My role's greatest challenges…communicating effectively to a variety of stakeholders. From public servants to other health actuaries

Who has been the biggest influence on my career (and why)…Stuart Rodger for constantly pushing me out of my comfort zone

My proudest career achievement to date is…giving a presentation to the Singapore Health Minister on proposed changes to their national health insurance scheme

10 years from now, I will be…exercising my brain on some new actuarial problem that we cannot foresee yet

When I retire, my legacy will be…it's still many years away but I hope that I would have inspired the next generation of nimble creative capable actuaries

HYPOTHETICALS / OPINIONS / WISDOM

Why I'm proud to be an actuary…the actuarial profession has a reputation for being unbiased and interested in genuine outcomes

The most valuable skill an actuary can possess is…being able to communicate complex issues effectively

If I were President of the Institute, one thing I would improve is…how we work more collaboratively with "adjacent" professions, such as economists

At least once in their life, every actuary should…work in a non-actuarial role

My best advice for younger actuaries…enjoy your 20s, travel, explore the world, qualifying is not a race!

If I could travel back in time I would…tell my younger self not to worry so much

If I win the lottery, I would…take time off work to live overseas and learn a new language

A relaxing gondola ride in Venice

Halong Bay, Vietnam

Base Camp, Tibet

Economic modelling of climate risk

By Kate Mackenzie *()*

Kate Mackenzie of The Climate Institute discusses recent actions by Insurers on climate change, the recent report by the Economist Intelligence Unit on carbon risk, the difficulties in modelling on the economic costs of climate change, and the potential for systemic risk from climate change to disrupt our financial systems.

On July 24, UK insurance group Aviva declared that it would pursue a tougher line on coal-intensive companies it invests in, potentially selling out of such holdings. It joins other insurers taking action on carbon risk, including the French group AXA, which in May said it would sell €0.5b coal investments this year, measure the carbon-footprint of its portfolio, and triple its clean-energy investments to €3b by 2020.

Aviva executives pointed out that coal companies are at great risk of "existential threat" because, barring an extraordinary surge in carbon capture and storage, their businesses have little place in a world that tries to avoid dangerous climate change. The occasion for comments on climate change and investment was the launch of a paper on "Climate Value at Risk"[i] by the Economist Intelligence Unit (EIU), commissioned by Aviva. The EIU paper represents the latest addition to a small but rapidly-growing body of work that seeks to identify and measure the implications of climate change for the financial sector.

Integrated asset model

The paper uses the traditional approach to modelling broad economic impacts of climate change: the Integrated Assessment Model (IAM), and specifically, William Nordhaus's DICE model[ii]. Similar IAM-based approaches were employed in the reviews led by Lord Stern[iii] and Ross Garnaut[iv]. Those reports focused on the change to GDP from both the effects of climate change itself and policy action to reduce the impact of climate change. The EIU paper instead seeks to model the impact of climate change on total "manageable" assets, to determine the value at risk from climate change by 2100.

Climate Value at Risk

For asset managers today, the EIU estimates the value at risk from climate change (VaR) as $4.2tn by 2100 — equivalent to the entire GDP of Japan. Under extreme scenarios of 5C and 6C temperature rises from climate change, the losses are $7.2tn and $13.8tnb respectively. However the paper acknowledges that this figure is likely to understate the risk. The EIU uses a discount rate of initially 5.5% p.a. falling to 4% p.a. by the end of the century, due to slowing growth. This represents the average private sector discount rate for asset managers. However, for government purposes, the EIU paper uses much lower discount rates of 3.8%p.a. initially, falling to 2% p.a. That leads to a VaR of $13.9tn under an average scenario, rising to $43tn under a 6C scenario — equivalent to 30% of the value of all current assets.

Modelling difficulties

Anyone with a passing interest in climate science will probably know that if we reach 6C of warming, damage to financial assets might well be the least of our problems (or our children's and grandchildren's problems). As the report notes, there is a lot of uncertainty in the likely impact of global warming if temperature rises exceed 3C. It's not unreasonable to wonder whether, at 6C, human civilisation as we know it would continue at anything like its current form. How, then, can anyone predict with any confidence what this might mean for the economy or for financial assets?

This is a problem identified by several economists such as Harvard's Martin Weitzman, who identifies five broad problems with Integrated Assessment Models and the benefit-cost analysis (BCA) approach upon which they rely[v]:

"An unprecedented and uncontrolled experiment is being performed by subjecting planet Earth to the shock of a geologically instantaneous injection of massive amounts of greenhouse gasses. Yet, the standard BCA seems almost impervious to the extraordinarily uncertain probabilities and consequences of catastrophic climate change." – Martin Weitzman

The EIU paper acknowledges throughout that it is essentially modelling the unmodellable. IAMs, it says, "can be and are fairly criticised" for a range of shortcomings, and "are also generally considered to be conservative in their estimates of damage". The authors say that while they've taken great care to acknowledge and incorporate scientific uncertainty, "we acknowledge that the

modelling faces limits and that the results should be interpreted as a guide to the likely magnitude of impacts".

So why do it this way at all? The alternatives, to put it bluntly, are limited: the EIU paper's authors note that there are no other modelling tools yet developed that "quantify the economic cost of climate change within a consistent framework, as is required for this project".

Some economists have argued that there's a better way than cost-benefit analysis. MIT economics and finance professor Robert Pindyck in 2013 noted[vi]:

"Probably the best we can do at this point is come up with plausible estimates for probabilities and possible impacts of catastrophic outcomes…[and] think of a GHG abatement policy as a form of insurance: society would be paying for a guarantee that a low-probability catastrophe will not occur (or is less likely)."

Pindyck was clearly thinking of policymakers; whereas the EIU paper was commissioned by Aviva, and appears to have asset owners and managers in mind for its audience, rather than just policymakers.

Systemic risk

It's quite reasonable, then, that some of the most striking parts of the paper have little to do with the modelling exercises. Perhaps the most interesting are the author's claim that it is virtually impossible for large asset managers/owners to manage their way out of climate risk:

"The impacts of climate change, at least for modest degrees of warming, can be expected to concentrate in sectors of the economy sensitive to weather conditions, for instance agriculture, energy, forestry and water. However, these sectors are connected with the rest of the economy through supply and demand linkages, and shifts in the prices of goods and services because of climate change will affect overall spending patterns and household incomes.

Allied to the fact that at higher degrees of warming the impacts of climate change are expected to become increasingly economy-wide, this means that climate change poses a systemic risk, coming through weaker growth and lower asset returns affecting the entire portfolio. As a result, asset managers may struggle to avoid climate risks by moving out of vulnerable asset classes and regions. This is because, at least under lower-probability and higher-impact outcomes, our findings suggest that climate change will primarily have a macroeconomic impact that affects the entire portfolio of assets. The interconnected nature of the problem is likely to reduce returns, even on those investments not actually harmed by physical damage. Given this result, asset managers will face significant challenges diversifying out of assets affected by climate change."

If it is indeed the case that climate change represents a systemic risk — and in an area rich with uncertainty, it makes intuitive sense — what are individual financial institutions to do, whether they are investment managers, insurance firms, banks or any other agent with long-term obligations? The Climate Institute's recent paper[vii] on financial systems risk recommended financial regulators consider how climate change might affect financial stability. The EIU paper suggests that won't be achievable without broader climate policy to reduce these systemic risks.

[i] http://www.economistinsights.com/financial-services/analysis/cost-inaction

[ii] http://www.econ.yale.edu/~nordhaus/homepage/

[iii] http://webarchive.nationalarchives.gov.uk/20100407011151/http://www.hm-treasury.gov.uk/sternreview_index.htm

[iv] http://www.garnautreview.org.au/

[v] http://scholar.harvard.edu/files/weitzman/files/fattaileduncertaintyeconomics.pdf

[vi] http://www.nber.org/papers/w19244

[vii] http://www.climateinstitute.org.au/articles/publications/australias-financial-system-and-climate-risk.html

A quiet warrior and thoughtful leader

By David Bell *(david.bell@actuaries.asn.au)*

CEO of the Actuaries Institute, David Bell reflects on the leadership traits and personal style of Admiral Raymond Spruance in the Second World War, to draw out some insights for leaders today.

In the pantheon of senior Allied World War 2 military and naval leaders, one person has always stood out to me as being in a class of his own. Admiral Raymond A. Spruance, a four star admiral in the United States Navy, was in charge of key elements of the US fleet, at some of the most important battles in the Pacific War with Japan between 1941 to 1945.

The Battle of Midway

It was the Battle of Midway in 1942, some 2,000 km west of the might US navy base in Hawaii, Pearl Harbor, where Spruance helped turn the tide of the war in the Pacific with his superb admiralship.

It was an inflection point in the war, as historians like to say. What is hard to imagine now, is the consequences of failure, which could have been catastrophic for the Allies; at the very least extending the war by some time with Japan. In fact, rather than luring the US forces into a trap to defend their Pacific outpost, it was the US Navy that turned the tables on the Japanese.

Admiral Raymond Spruance

The Imperial Japanese Navy was forced to turn tail and lick its wounds. Four of its key and irreplaceable assets (aircraft carriers) were sunk, along with other fighting vessels and combat aircraft. Never again would the Japanese Navy have the upper hand against the Americans – the tide had turned.

"Spruance kept his head when the initial US attack by his torpedo bombers failed catastrophically… he understood the big picture, and remained faithful to his plan."

Reflecting on the battle of Midway, four things stand out for me in terms of Spruance's conduct. Firstly, and perhaps most remarkably, Spruance, an admiral from a completely different professional discipline (cruiser warfare), stood in at the last moment to lead the US aircraft carrier fleet (he replaced the aggressive Admiral Halsey who had a chronic skin condition).

He was completely unruffled by the tremendous burden that had been placed on him – charged as he was with leading the last of the key US naval assets in the Pacific, against a superior Japanese navy.

Secondly, Spruance devised a clever plan to outwit his Japanese counterparts – he ambushed and surprised his flat-footed enemy – who were attempting to do the same to him. Thirdly, Spruance kept his head when the initial US attack by his torpedo bombers failed catastrophically (they were all but wiped out). Lesser men might have called it quits, but he persisted with his second and subsequent waves of dive bombers and prevailed. Spruance understood the big picture, and remained faithful to his plan.

Finally, Spruance resisted the temptation to pursue the retreating Japanese fleet (for which some roundly criticised him) reasoning that he had achieved his mission, and not wishing to expose the small group of aircraft carriers – America's key asset in the Pacific – that he had been entrusted with.

"leadership traits are quite often timeless, and apply across different industries, organisations and professions."

Spruance wasn't just a one-card trick. He led the mighty US Fifth Fleet throughout the Pacific War, inflicting massive defeats upon the Japanese at the Battle of the Philippine where the US Navy broke the back of the enemy sinking 3 aircraft carriers and destroying 600 combat aircraft. He was also present at the closing stages of the war during the grim and desperate fight for Iwo Jim and Okinawa.

His personal style

For someone who achieved so much, and was widely regarded as a very successful leader in a martial organisation (WW2 US Navy) full of thrusting and ambitious men, Spruance was remarkable exception to the norm in many ways.

USS Yorktown at Pearl Harbour

He was a man of simple tastes who kept very much to himself, his family and his closest circle of friends. He was honest and self-effacing in his own appraisal of his remarkable achievements.

He sole boast was that he considered himself a "good judge of men" but added (modestly) that this was the key to his success. He also claimed to be lazy and never did things that others could do for him. Even more curious was his self-assessment about his intellect where he is supposed to have said: "Some people believe that when I am quiet that I am thinking some deep and important thoughts, when the fact is that I am thinking nothing at all. My mind is a blank."

"Being a leader is easy in the good times; being a leader in the tough times takes character and resolution."

At the same time, however, he was a meticulous planner, and left little to chance. He also possessed self belief in bucketloads, not in an arrogant way, but in a manner that inspired loyalty and belief in those who followed him.

An easy summary to make of Spruance was that he was an 'admiral's admiral'. This was in strong contrast to his peer senior admiral, who lead the same US fleet in rotation with Spruance, Admiral "Bull" Halsey, who was regarded as a 'sailor's admiral'.

Does Spruance's style translate today?

Are there lessons that can be learnt from Spruance's leadership style, and which are applicable today? I think the answer is yes – leadership traits are quite often timeless, and apply across different industries, organisations and professions.

First and foremost, Spruance was able to keep his head and make clear and correct decisions in a pressurised environment almost impossible for us to imagine. Being a leader is easy in the good times; being a leader in the tough times takes character and resolution. Spruance was effectively betting (albeit a calculated punt) the short-term future of America's war effort on the Pacific on an ambitious plan to lure the numerically superior Japanese fleet to its destruction.

"It's also important to remember that the best leaders don't often fit the mould of what we think a typical leader should be like."

Spruance's humble and self effacing personality was not relevant in the context of the skills and temperament he brought to the task at hand. It's interesting to speculate whether the man he replaced at Midway, the aggressive and assertive Halsey, and a highly effective leader himself, would have had the subtlety of purpose to make the same decisions that Spruance did. Spruance appealed to those he led because he kept on making the right decisions.

Spruance also had the 'X factor' that leaders often have – he could see things that others couldn't. In this case he had the insight and most importantly the courage to back his ideas and change the status of the US fleet at Midway from being the hunted to being the hunter.

Like many other great leaders, Spruance had a strong reputation for backing his subordinates with the obvious benefits of building confidence and better performance. He reinforced his quiet brilliance with in-depth planning and attention to detail.

Two interesting postscripts (well perhaps one)

By the end of WW2 four US admirals were promoted to 'five-star' status – Fleet Admiral – an honour typically awarded during times of major conflict. Spruance just missed out on this signal honour, something he was less concerned about than the many people who admired him. In latter years there have been attempts to have him promoted but all of these have failed.

I have attempted to recognise Spruance by naming my pet Jack Russell 'Raymond' after the great admiral – he carries the name

with a complete lack of pride and awareness of his human namesake – something Spruance himself might have appreciated.

Court Rules on Qantas Payroll Tax Appeal

By Paul Shallue *()*

The NSW Supreme Court recently ruled on an appeal by Qantas over a partial exemption of defined benefit superannuation contributions from NSW payroll tax. Paul Shallue reports on the court findings and what they could mean for employers.

A recent judgment of the NSW Supreme Court has held that defined benefit contributions in excess of the 'adjusted normal cost', as well as top-up defined benefit contributions (made to meet a deficit), can be apportioned between pre- and post-1 July 1996 service, with the portion attributable to pre-1 July 1996 service of NSW employees exempt from NSW payroll tax.

The case related to an appeal by Qantas against a decision of the NSW Chief Commissioner of State Revenue (Commissioner). Qantas had sought a refund of a portion of the payroll tax that related to superannuation contributions made by it to the Qantas Superannuation Plan referable to the provision of defined benefits to Qantas' employees that were claimed to have been made in respect of service of the employees prior to 1 July 1996.

Qantas' claim related to both normal cost and top-up contributions paid from 2006-2010. The Commissioner had initially accepted Qantas' claim in respect of top-up contributions and denied the claim in respect of normal cost contributions. However in the case the Commissioner argued that no refund should be allowed as the Plan was not in deficit at 1 July 1996.

Qantas' appeal was partially successful, with the judge finding that:

1. The decision of the judge in the 2006 case of CSR Ltd v Chief Commissioner of State Revenue ("CSR 2006") – that the exemption in the Payroll Tax Act 1971 (NSW) may be available notwithstanding that a defined benefits scheme was not in deficit as at 1 July 1996 – was correct.
2. The methodology for apportioning contributions that was adopted in CSR 2006 can NOT be applied to the payments of normal cost contributions by Qantas.
3. The contributions paid by Qantas in the relevant years, to the extent they exceeded adjusted normal cost contributions, CAN be apportioned in the manner claimed.

The decision may indicate scope for other employers in similar circumstances to obtain a partial refund of past payroll tax and/or to reduce payroll tax on future defined benefit contributions. However it is unclear to what extent variations in circumstances from those applicable in this case would impact on the transportability of the outcome.

The Superannuation Practice Committee's (SPC) October 2009 Discussion Note: An Update on Payroll Tax provides further background and is referred to in the case.

Have you seen the recent judgment of the NSW Supreme Court in relation to defined benefit superannuation contributions that exempts a portion from NSW payroll tax? It is unclear to what extent variations in circumstances from those applicable in this case would impact on the transportability of the outcome to other employers in similar circumstances. If you have any experience or views on this matter, we would love to hear from you. ***Leave a comment below.***

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