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2014 Council Election

COMING SOON...

The nomination period will run from
**9.00am Monday 1 September 2014 to
5.00pm Monday 22 September 2014.**

This year, voting will open at
9.00am Monday 6 October 2014
and close **5.00pm Monday 3 November 2014.**

*Watch your inbox for further details about the election
and how to nominate.*

Have an election question?
Email governance@actuaries.asn.au

Anne Peters, Returning Officer

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Actuaries

IMPORTANT INFORMATION FOR CONTRIBUTORS

Actuaries Magazine 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

All contributions must conform to our submission guidelines which are available from the Communications and Marketing Team.

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Coming Up

Aug

Melbourne Fellowship and Graduation Dinner

Tuesday 19 August 2014, Melbourne

GRAM – Energy

Thursday 21 August 2014, Melbourne

Insights – Mortgages – International Perspectives and Trends

Friday 22 August 2014, Melbourne

Business Luncheon with CEO David Bell

Monday 25 August 2014, Sydney

YAP – Actuarial Career in the Financial Services Sector

Wednesday 27 August 2014, Brisbane

Business Luncheon with CEO David Bell

Monday 29 September 2014, Sydney

Business Luncheon with CEO David Bell

Monday 20 October 2014, Sydney

Business Luncheon with CEO David Bell

Thursday 13 November 2014, Sydney

General Insurance Seminar

Monday 17 - Tuesday 18 November 2014, Sydney

Enterprise Risk Management Seminar

Wednesday 19 November 2014, Sydney

Actuaries Summit

Sunday 17 - Tuesday 19 May 2015, Melbourne

ASTIN, AFIR/ERM and IACA Colloquia

Sunday 23 - Thursday 27 August 2015, Sydney

Sept – Nov

2015

PHOTO COMPETITION – SEE WHAT WE SEE – WINNER

Congratulations to the winner of our 2014 Photo Competition – **Cissy Zhang**. Her winning entry features on this edition's cover.

Cissy decided to play with reflections to capture an image through the eyes hidden behind a mirror. She muses: "Every day we look into mirrors and see our reflections. The world is full of eyes, and if we pay attention, we too can see those little things that are hidden. Looking into a pair of sunglasses is like looking into a whole different world with strange colours and distorted images. There are so many different eyes looking at the world, each with a unique perspective. As much as we look, we may never be able to understand them all."

Cissy graduated from UNSW and has worked at EY for two and a half years in the Life Insurance and Wealth Management Team. When she is not working on spreadsheets, she is either looking after her two bunny rabbits or working on her fashion blog (read all about it at www.actuaries.asn.au/Library/AAArticles/2014/Actuaries191JULY2014p44t46.pdf). She bought her camera a few months ago and has mainly used it for fashion photography, but she always has an eye open to capture anything that is interesting and can make one think.

Special mention also goes out to our highly commended second placer, **Justin Tam**. It was a closely contested result with one vote separating Justin and Cissy. A selection of other submitted entries is displayed on inside-back cover. Thanks to all who submitted an entry, till next year... happy snapping!





Technocrats and Democrats

Recently, Ernst & Young (EY) called for the Australian tax reform process to be taken out of the hands of politicians, and given to an independent authority, similar to the way the Reserve Bank has responsibility for monetary policy.

There is much to recommend about EY's call for radical fiscal policy reform. Perhaps I have grown cynical, but the swinging back and forth of power in our effectively two party politics, leads inevitably to the swinging back and forth of fiscal policy. Even when government tries to break the cycle, such as in the recent Henry review, it takes many years for the good robust ideas to actually be implemented. Even where the economics is sound, the inevitable blunting of reform through pandering to each party's power base leads to absurdities like the Minerals Resource Rent Tax. Consider the constant tinkering with the taxation of superannuation, which erodes confidence in the system, and adds unnecessary regulatory burdens to what should essentially be a robust, efficient, and dependable system.

There are substantial problems with Australian fiscal policy that politicians have failed to address on a long-term sustainable basis – the most obvious being the constant bickering between the states and the federal government about who should bear the burden for what. It is hardly an efficient system, and as EY point out at the end of 2013 there was a backlog of 92 announced reforms that were yet to be legislated.

So perhaps it really is time to wrest away the power from the politicians, and put it in the hands of the technocrats who can fearlessly make the reforms that are so badly needed. The idea is not without precedent – Italy has regularly resorted to technocracies in times of economic or political crisis.

But the devil is in the detail. Simplistically, monetary policy can be framed in terms of growth vs inflation, with a lever or two to run the whole machine. However, fiscal policy has way too many levers, switches, bells and whistles. Take for example the notion that the tax system should be both equitable and efficient. Means tests are one way of ensuring equity, but they add to the administrative cost and are rarely efficient. How do you reach a consensus on what this means in practice for personal tax rates, company tax rates, consumption taxes, marginal tax rates and so on? Without such a clear mandate, it is hard to see how a technocracy could deliver long lasting change compared to the messiness of democracy.

There was a time when actuaries had a similar technocratic role – determining transfer values for defined benefit schemes, or determining the bonus rate on with-profits endowments. Such work is rare these days, with consumers taking both risk and reward into their own hands via defined contribution schemes and unit linked trusts – a democratisation of savings. Even in general insurance risk pooling and cross subsidy is becoming a thing of the past, with companies moving ever towards individual risk pricing, and letting the politicians deal with the fall out of unaffordability.

Has our role as unbiased technocrats gone? Are we no longer to be arbitrators on equity? Is it just simply too *old fashioned*? 

Sharanjit Paddam



As Sir Winston Churchill famously remarked in 1947, "Democracy is the worst form of government, except for all those other forms that have been tried from time to time."

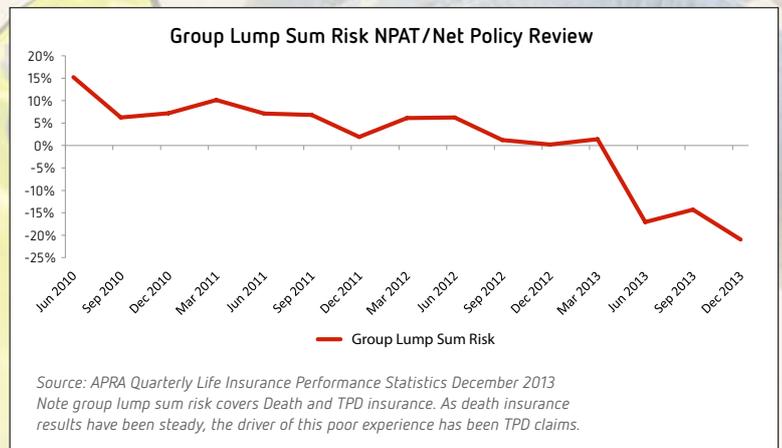




Chasing Your Tail on TPD Claims

Insights from Injury Schemes

The past profitability in the Australian group Total and Permanent Disability (TPD) insurance market has given way to significant losses for the most recent year. But such a challenge has been experienced before in the past in injury schemes. This prompts the question – are there lessons that can be leveraged from injury schemes to support the group TPD schemes to achieve sustainability for underwriters and improved health outcomes for claimants?



The outcome of this question was a paper and presentation discussing the insights from injury schemes presented at the Financial Services Forum on 6 May by Bozenna Hinton and Richard Yee.



Richard Yee and Bozenna Hinton

The presentation explored the potential for general insurance and life insurance to meet at the crossroads based upon observations and experience of over 30 years in the general insurance industry.

As a member of the research team, I was fortunate to be a party to the in-depth discussions between Bozenna and Richard which contextualised key differences and commonalities in issues across general insurance injury schemes and life insurance TPD schemes. It also gave me a chance to engage some of my hitherto dormant film directing predilections.

KEY DRIVERS OF RECENT TPD EXPERIENCE

The very poor recent TPD claims experience was mainly driven by factors that were many years in the making, including increased awareness by members of their cover, definition creep, anti-selection, higher levels of benefits, involvement of third parties in the claims process and increased social acceptance of mental health issues.

DEFINITION OF DISABLEMENT

TPD definitions are focused on the medical condition or employment potential, are subjective and are potentially hypothetical in terms of occupation (if the claimant has had a narrow range of occupational experience). Courts have also interpreted definitions in ways that were not anticipated by insurers when they originally priced the cover. As an example, the 'any' occupation definition has been replaced by one that refers to 'any occupation suited by education, training and experience'.

In contrast, for injury schemes there has been a move to more objective claims definitions over time. Whilst not perfect, impairment thresholds are specified for claimants in Compulsory Third Party (CTP) and Workers Compensation schemes to qualify for certain benefits. As an example, NSW WorkCover uses a 100 page booklet based on American Medical Association (AMA) Guides as an objective basis for assessment of permanent impairment that focuses on the change in a bodily part's functioning and is not centred on a medical condition.

INVOLVEMENT OF THIRD PARTIES IN THE CLAIMS PROCESS

Doctors, lawyers and unions can have a significant influence on the number of claims lodged and also the success of each claim in achieving a payment for the injured person.

DOCTORS

TPD insurers do not refer to independent doctor panels and generally accept the medical advice provided by the claimant's medical practitioner, although they may also get a second or third opinion. Additionally, claimants could visit a number of doctors until they find one who is sympathetic to their cause.

This contrasts sharply with injury schemes, where independent doctor panels are used (particularly in disputed cases) to provide an impartial assessment of the potential claimant's injury. While 'doctor shopping' has been seen in injury schemes, the risk is mitigated through this independent assessment.

LAWYERS

Over the last three years, there has been an increase in the number of TPD claims where the claimant has first consulted a lawyer before submitting a claim. The involvement of lawyers is making it more likely that genuine and marginal claims will get paid, as well as testing the current definitions and setting new precedents.

Injury schemes and other long tail classes (e.g. public liability and medical malpractice) have also seen legal involvement contribute to cost blowouts over the last three decades. An example is United Medical Protection (UMP), which was a large medical malpractice insurer¹. Increasing numbers of medical malpractice claims and large court awards combined to render UMP technically insolvent with a subsequent government bail-out in 2002.

Several injury schemes have since implemented reforms to reduce the involvement of lawyers. A side effect is that law firms need to seek alternative sources of revenue and one such source is TPD claims.

It is possible that legislative changes could further increase legal involvement in the TPD claims process. The Productivity Commission released its draft report on Access to Justice Arrangements in April 2014 with draft recommendation 7.2 that "State and Territory governments should remove all bans on advertising for legal services".

RESERVING ADEQUACY AND IMPACT ON PRICING

A soft pricing market over a number of years has led to TPD insurance premium reductions, with this trend only recently being reversed. Methods of analysis for reserving are restricted by the limited data available and collected, and this can impact on the adequacy of future pricing.

Injury schemes and other long tail classes have had a history of under-reserving, such as the late 1990s public liability insurance market or the more recent pre-2012

Just as with TPD insurance, injury schemes reserving can be problematic especially when there are step changes in the data series.

NSW WorkCover claims experience. Injury scheme reserving and pricing also reflects its variable claims sizes (there is no pre-defined sum insured compared to TPD which has a fixed sum insured). With this added degree of complexity, injury schemes tend to collect more data than TPD insurance schemes and use more sophisticated analysis such as generalised linear models.

However, just as with TPD insurance, injury schemes reserving can be problematic especially when there are step changes in the data series. In such times, it is not possible to place reliance on the past being a good guide to the future.

RECOMMENDATIONS

Of the many actions that have worked or not worked for injury schemes, the following represent some of the opportunities for TPD insurers to leverage learnings from injury schemes:

- Providing a tighter definition of disablement, defined by an objective measure in terms of what the claimant is able to do. Look to what we can learn from the permanent impairment definitions from injury schemes, such as the use of AMA Guides and Functional Independence Measure (FIM) scores.
- Introducing a time limit to claim of two years after stopping work from the symptoms of the underlying injury or disease.
- Exploring paying partial or instalment benefits. Benefit design could be re-evaluated, with a move to replace lump sum benefits with income style benefits, and a focus on rehabilitation and return to work.
- Providing both claimants and insurers with access to independent doctor panels, who are experienced in assessing the degree of impairment according to objective principles.
- Collecting data on the claimant's treating medical practitioner and advising lawyer so any concentrations of particular doctors/lawyers can be understood and explored if appropriate.
- Improving data quality and reserving by monitoring key drivers such as rates of return to work, health outcomes of claimants, relationships between automatic acceptance levels (AALs) and claim rates, causes of claim (e.g. mental health versus musculoskeletal claims) and data monitoring for any sign of fraudulent clusters of claims.

This article represents only a snapshot of the paper *Chasing Your Tail on TPD Claims – Insights from Injury Schemes*. For the full insights and recommendations for TPD insurance, feel free to read the paper (available on the Institute website²) or contact Bozenna, Richard or myself.



SINCERE THANKS

Thank you to all those who helped with comments, peer review and the skits. 

- 1 'Australian government forced to bail out medical malpractice insurer', 6 April 2002, <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1172115/>
- 2 <http://actuaries.asn.au/Library/Events/FSF/2014/HintonYeeTPDClaimsPaper.pdf>

TPD VS INJURY SCHEMES

Total and Permanent Disability insurance provides a fixed lump sum payment under a situation such as the following: the insured has not been at work for at least three months and is unlikely ever to be able to engage in their own occupation, or in any occupation that they are reasonably suited by education, training or experience. Permanent incapacity cover is required under the SIS Act for MySuper products, and is optional for other group schemes.

An injury scheme provides compensation payments if a policyholder is injured in a way that satisfies the scheme's specific claims definition, e.g. Workers Compensation insurance and Compulsory Third Party (CTP) insurance which provide varying benefits across each state of Australia. The benefit provided is generally not fixed and instead relates to the size of the claimant's economic and bodily injury loss. Injury scheme cover is compulsory and required by law.





Research into Claim Dependencies

— an Industry and Academic Collaboration

THE PROJECT

On 30 June 2013, the Australian Research Council (ARC) awarded funding to a project titled *Modelling claim dependencies for the general insurance industry with economic capital in view: an innovative approach with stochastic processes*. The project is overseen primarily by the three authors as principal researchers.

This rather turgid title was deliberately selected to contain all the project's relevant keywords, and so push all the buttons required to secure funding in an environment that is extremely competitive (see below). In the present article, the project will be referred to as simply the **claim dependency project**.

PURPOSE

There are two major areas in which claim dependencies affect economic capital and the statutory requirements surrounding it. Broadly, these relate to:

- risk margins in claims reserving; and
- capital margins.

Prudential Standard GPS 320 associated with the Insurance Act 1973 requires that insurance liabilities be 'determined on a basis that is intended to value the insurance liabilities of the insurer at (at least) a 75 per cent level of sufficiency'. The difference between this estimate of liabilities and the central estimate (i.e. mean forecast) is referred to as the **risk margin**.

The Standard permits the risk margin to recognise **diversification** between different segments of business, i.e. the lack of total dependency between those segments. The greater the degree of diversification, the less a risk margin, calculated according to the above 75% **value at risk (VaR)**. Thus, quantification of diversification requires formulation and measurement of the dependency between segments.

In the case of capital margins estimated by means of an internal model, Prudential Practice Guide GPG 113 states that the minimum capital requirement is a 99.5% VaR, but this time in respect of total net assets and taking account of all associated risks. There is thus a parallel computation of risk margins and capital margins in that both apply VaR methodology, and therefore both require dependencies between their components to be formulated and measured.

Indeed, GPG 113 essentially requires that these dependencies be incorporated in an internal model.

The purpose of the claim dependency project is to consider ways and means of enhancing the modelling of dependencies in the stochastic claims models available to insurers in the contexts just described.

ARC AND FUNDING

The ARC manages the National Competitive Grants Program, which provides Federal funding for research projects that are assessed as meritorious.

Apart from health research schemes, there are two

main types of project that may attract funding, known as Discovery Projects and Linkage Projects respectively. The claim dependency project falls within the latter category.

The selection process for Linkage Projects is extremely competitive. The 2012/13 round included **785** applications. In the Banking, Finance, and Investment category, only **two** applications, including our own, were successful.

The Linkage Projects scheme provides funding to support projects that are collaborative between higher education researchers and other parts of the so-called national innovation system, which includes corporations. Each project involves collaboration between academia and one or more Partner Organisations (POs).

In the case under discussion, the three principal researchers from UNSW collaborate with the following POs:

- Allianz;
- Insurance Australia Group; and
- Suncorp.

The claim dependency project is a three-year project, covering essentially the calendar years 2014 to 2016.

Funding is provided by the ARC and POs. Although funding requested from the ARC cannot exceed that offered by the POs, much of the latter may be provided in kind rather than in cash. The total cash funding of the project over its three-year term comprises:

ARC	\$232,449
POs	\$88,412
Total	\$320,861

PROJECT RESOURCES AND MANAGEMENT

The project is managed by a Steering Committee consisting of six members:

- three academics (the authors and principal researchers); and
- a representative of each of the three POs.

The head count of the project itself, in addition to assistance provided by the POs, is currently seven, consisting of:

- the three principal researchers;
- three students, of which two are enrolled for doctorates and one for an Honours degree; and
- one research assistant.

Although the three students are studying topics that would be acceptable for their degrees in their own right, the topics have been specifically selected to contribute to the claim dependency project. Brief descriptions of their projects are as follows.

FIRST PHD PROJECT (XINDA YANG)

Aim to construct a micro-level dynamic model that describes the stochastic characteristics of the arrivals and the development patterns of claims from multiple lines of business (LoBs) with dependencies between them.

SECOND PHD PROJECT (PHUONG ANH VU)

Aim to model aggregate data from multiple LoBs, representing dependencies between them by means of specific multivariate distributions. The models will also be dynamic in the sense of incorporating parameters that evolve over time.

HONOURS PROJECT (CLEMENT YEUNG)

Aim to construct a superimposed inflation model that incorporates observable predictors beyond those traditionally incorporated in claim reserving models.

PRELIMINARY WORKSHOP

The project commenced in December 2013, and a workshop was conducted on 18 March 2014, attended by the academic research team and a number of representatives of the POs. The purpose of the workshop was to establish a baseline situation for the project, including:

- current industry approach to the claim dependencies, with special reference to:
 - their incorporation in loss reserving and capital modelling;
 - the modelling and estimation of them; and
- identification of those aspects of claim dependency currently dealt with well by the industry, and those where further development might be helpful.

EARLY AVENUES FOR RESEARCH

Beyond the projects pursued by the students under the supervision of the research team, the workshop identified five areas in which immediate research effort was deemed appropriate. Brief detail is given in the following five numbered passages.

1. ACCUMULATION OF CORRELATION MATRICES

A number of insurers consider claim dependencies according to a tiered structure. Claims are naturally categorised according to LoB, but then each LoB sub-categorised according to a number of sources of risk, e.g. data quality, judicial inflation, etc.

This results in the need to consider correlation matrices of the form illustrated in Figure 1, which exhibits major and minor divisions of the tiered structure.

Figure 1: Correlation structure

		LoB 1			LoB 2			...
		Risk 1	Risk 2	...	Risk 1	Risk 2	...	
LoB 1	Risk 1							
	Risk 2							
	:							
LoB 2	Risk 1							
	Risk 2							
	:							
:								
:								

These matrices are clearly large, and their construction is not necessarily straightforward. Sometimes an insurer might proceed by defining the diagonal blocks (i.e. correlation matrices for single LoBs), and also the diagonal blocks of an alternative matrix in which the roles of LoB and risk source are interchanged (i.e. correlation matrices for single risk sources).

The challenge is then to complete the rest of the matrix (i.e. elements corresponding to different LoBs as well as different risk sources) in such a way that the completed matrix is positive definite.

2. SELECTION OF CORRELATION MATRICES

Insurers often use a process of mapping qualitative scores of dependency to correlation matrices, where the latter contain semi-arbitrary numerical values. This raises the question concerning the positive definiteness of the matrices. It might be possible to consider more structured forms of mapping.

3. MERGER OF PEARSON CORRELATION AND TAIL DEPENDENCY

Pearson correlation is often used as a measure of dependency. This may be a suitable measure for observations not too distant from the centre of distributions, but can fail as a measure of dependency of the tails.

The question arises as to how one could account for dependency at medium-high percentiles when using Pearson correlation for mid-range percentiles and tail dependency for high percentiles.

4. DEPENDENCY BETWEEN PAST AND FUTURE ACCIDENT PERIODS

It was felt by industry that a better means of this form of dependency might be investigated.

5. STRUCTURE OF DEPENDENCY BETWEEN TRIANGLES

Most dependency modelling in the literature is restrictive in the forms of dependency contemplated. Dependency may be assumed, for example, between the same accident years within different LoBs, but independence assumed between different accident years; or between the same payment years within different LoBs, but independence between different payment years; and so on.

There is an evident need to consider more comprehensive dependency structures, but without the introduction of an excessive number of parameters.

Research has commenced in some of these subject areas and is planned for the others in the near future.

DATA

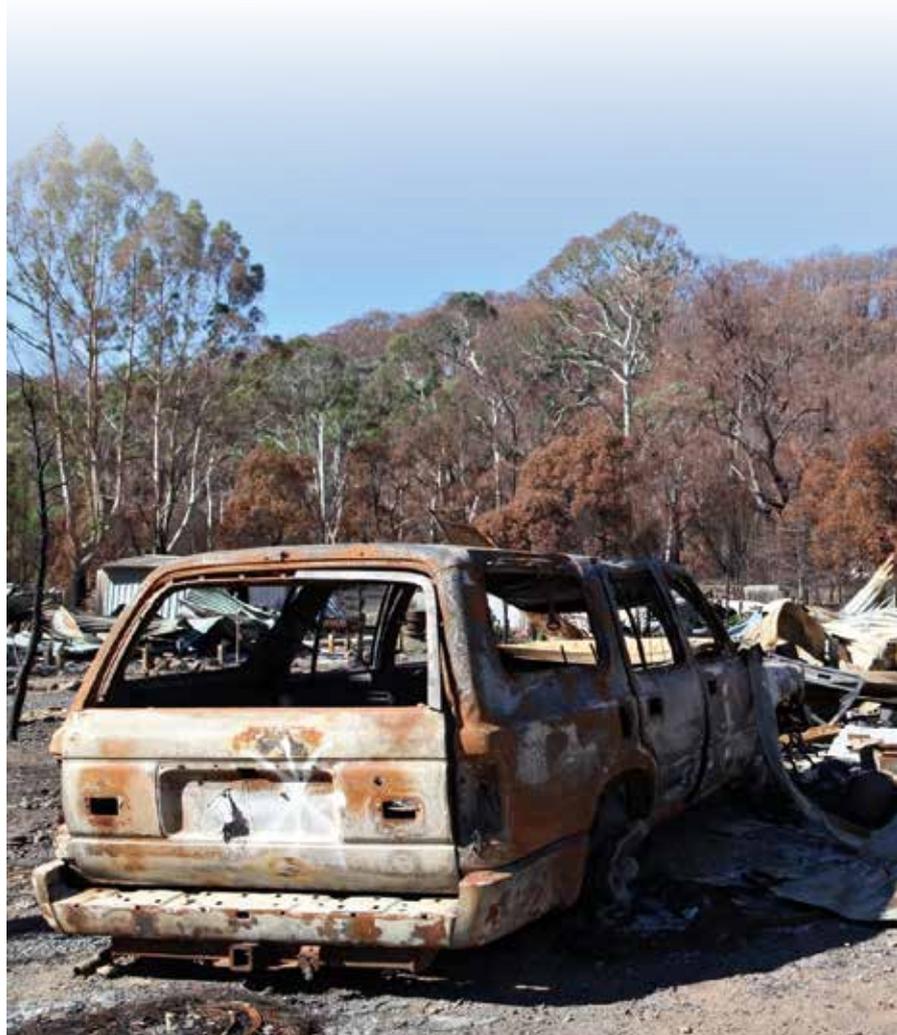
One of the great in-kind contributions by some of the POs is the provision of extensive data sets. These are to be provided in respect of two short tail and two long tail LoBs, namely:

- Motor;
- Home (Buildings and Contents separately);
- Compulsory Third Party; and
- Public Liability.

Unit record claim data sets will be provided (with insured de-identified), yielding far more information than the traditional claim triangles. Further, each record will contain not only payment and case estimate information, but also various covariates associated with the claim. This will enable the construction of micro-models.

FUTURE DEVELOPMENTS

At this early stage we have assembled a strong research team, to which we hope to add to with the passage of time. Even without addition, we shall have a team of seven devoting a total of perhaps seven or eight full-time equivalent person-years to an issue of significance to the insurance industry. We are hopeful of a substantial and practical contribution to knowledge. 





Fearless Leadership

Neuroscience Helps us Understand our Common Stress at Work – Making us Better Leaders

Amidst the Global Financial Crisis, fear prevails and plays havoc with our minds. Those of us in the workplace who can use our mind to recognise fear for what it is: False Evidence Appearing Real, are able to transform the emotional energy of fear into courage and create an organisation changing platform that sees us concentrating on moving forward despite the obstacles. Those who cannot accept and convert their fear into courage will instead resort to hunkering down, conserving cash, and disposing assets – and these assets are often some of the organisation’s best talent.

In leadership development, we use a four-part model to teach the art of ‘conscious choice’ – reminding leaders that they have the neuroscience-proven ability to choose their mental response to any stimulus no matter how stressful it seems at first. Viktor Frankl, a Jewish psychiatrist who survived a concentration camp, taught us this most effectively in his book *Man’s Search for Meaning* when he wrote so beautifully that “... man’s last freedom will always be to choose the state of his mind regardless to any situation.”

The first part of this model is about recognising work situations that provoke fear responses in our brain in which our minds trick us to believing we are under life-and-death threat. David Rock, author of *Our Brains at Work*, coined the term ‘SCARF’ to describe status, certainty, autonomy, relatedness and fairness issues in which our brains experience fear threats that simulate the fear threats of being chased by a sabre-toothed tiger. Our untrained brains are not always capable of distinguishing the typical work stressors with the real life-and-death threats, and as a result, our untrained minds and bodies can experience the adrenaline and cortisol surges of the death threat on a daily basis.

The second part of the model has us learning how we typically respond to such stimuli at work – our signature ‘stress response’. Each of us has a particular version of autopilot behaviour when we don’t use ‘choice’. Some of us get aggressive (‘fight’); some of us escape the scene to avoid conflict (‘flee’) and some of us just hunker down and try to make as little noise as possible (‘freeze’). Consciously catching ourselves in the act of responding to threat and observing our patterns in breath, heart rate, and body posture is critical in training our minds that there is a different way of responding.

The third part of the model teaches us the neuroscientific ‘veto power’. From the time any ‘life and death’ stimulus reaches our bodies, it takes 0.3 seconds for our conscious mind to register



it as a potential threat and then 0.2 seconds for it to choose to respond. This 0.2 seconds is where we can veto our automatic threat response, recognising that the stimulus is actually not a life-and-death threat, but rather a typical work stress that we can deal with through the rational part of our mind. Within this veto power, we can virtually press the pause button to break the stimulus-response cycle that we find ourselves normally falling into in typical stress situations and choose a more rational response. This is leadership.

The fourth part of the model shows that this choice mechanism gets easier the more ‘fit’ the mind is. The rise of the popularity of the term ‘mindfulness’ is a call for us to invest more time in the health of our minds as well as our bodies. Through such technologies as functional MRI, we can see how the brain can change itself with mental fitness training. For example, we are learning much from the ancient practices of meditation by observing Buddhist monks under functional MRI – who are showing us that brains can be trained to deal so much more effectively with stress and instead be wired for empathy, intuition and creativity.

At the end of the day, leadership is truly synonymous with conscious intent. The art of being aware of your brain’s machinations and how you can control these machinations with your mind is quintessential in the art of leadership. “It is the brain that puts out the call, but it is the mind that decides what to listen to,” as neuroscientist Jeffrey Schwartz argues. “We have no control over the messages the brain sends you — we only have veto power about what we act on.”

Perhaps we can draw comfort from one of the greatest leaders in times of difficulty, Winston Churchill, who reminds us from the past that “an optimist sees an opportunity in every calamity; a pessimist sees a calamity in every opportunity.” We believe that great leaders choose optimism. **A**



Mind Fitness for Leadership – MELBOURNE SESSION

“I shall be telling this with a sigh
Somewhere ages and ages hence
Two roads diverged in the woods and I...
I took the road less travelled by
And that has made all the difference”
– Robert Frost

In late May in Melbourne, a stellar turnout of around 40 eager actuaries held a tremendous conversation on mind fitness for leadership, facilitated and guided by Katharine McLennan of QBE.

Katharine led us through the challenges we face in going through significant change, and how fear can trigger our fight, flight or freeze responses. While the role of automatic responses has been an evolutionary gift that has saved us from many a sabre-toothed tiger, our inherited neurological responses can also hijack us in ordinary situations. This is what Katharine described as FEAR (False Evidence Appearing Real).

From there the group explored the things that can happen in our workplace roles that trigger emotional responses. The acronym SCARF is used to describe the common themes of what we may perceive to be at risk of losing during change:

Status – our credibility, where we are in the pecking order, is called into question. For example, “You are not required to attend this meeting as it is only for senior managers.”

Certainty – significant change almost always reduces the capacity for predicting the future with reasonable certainty. When sudden changes occur that you are not aware of, certainty is threatened. This is when the water cooler rumours start!

Autonomy – when our ability to make our own decisions is scaled back. For example if a new structure is put in place that reduces our delegated authorities.

Relatedness – major change often means existing relationships are disturbed and a reduced feeling of safety and trust is felt with the people guiding the changes. Fear of conflict is another example where there is fear of damage to a relationship.

Fairness – when redundancies, promotions or pay rises occur, concerns about being treated fairly compared to others are often triggered.

The conversation explored how these played out in people’s day to day roles and how going through the major restructures and integrations that many finance organisations are facing can trigger the whole SCARF in a single day. A link to a short video on the SCARF model is https://www.youtube.com/watch?v=BT_IF6Jr15U

There was also discussion of other losses that occur through change that can lead to a threatened response. These include loss of identity and loss of meaning or connection to purpose.

To respond elegantly in the face of such challenge requires a high degree of capacity to step back from the event and to choose carefully how we respond. This was referred to as mind fitness.

STRATEGIES TO BUILD MIND FITNESS

- Get out of the immediate situation, physically remove yourself.
- Be aware of your breathing and where in your body you are experiencing tension or anxiety.
- Identify which of the five SCARF themes has been triggered, or what other feelings have been triggered. Explore why that has caused a response.
- Consider alternative responses.

Much interest was also shown in the applications of mindfulness techniques to create space between an event occurring and our choices of response. Amongst those discussed were meditation, yoga and reflective practices.

As the session came to a conclusion, the stream of people bubbling away in conversation and coming up to greet and thank Katharine left no doubt that actuaries could easily become keen mind fitness fanatics!! *The slides from Katharine’s presentation can be found at <http://www.actuaries.asn.au/Library/Events/Insights/2013/LeadershipForum131210.pdf>*

LEADERSHIP AND CAREER DEVELOPMENT COMMITTEE

The Leadership and Career Development Committee aims to promote the non-technical skills that will enhance members’ leadership capability and contribution to business, the actuarial profession and the broader community. The Committee is responsible for:

- Raising awareness of the value of developing leadership and communication skills to members.
- Raising awareness of the leadership capabilities of members of the profession to stakeholders. This includes employers, government, professional bodies, members and new entrants to the profession – school leavers and university students.
- Encouraging interaction with other professionals for purposes of interdisciplinary education and relationships.
- Advising Council on recommended leadership initiatives. **A**





The Public are from Mars and we are from Venus

– The Failure of Financial Services Communications

The general consensus is that due to a combination of good management and good luck, Australia as a nation fared pretty well during and since the Global Financial Crisis.

However, when you look at a grass roots level, the Australian public is full of people who work hard and earn good money, yet have little to show for it at the end of the month. They desperately want to get on top of things, however for some reason do not seem to be reaching out to the right parts of the financial services industry in their droves.

This didn't gel with the perception of the economy as a whole, so we decided to get to know the general public better. In mid-2013, we began surveying members of the public on how they felt about the financial services world. We received responses from people who receive financial advice and those that never have, from people with a regular accountant and those who do the bare minimum to get their tax return done.

AND IT WASN'T GOOD NEWS.

Over two-thirds of our survey respondents believe that the finance industry speaks in some alien language they will never understand. And it gets worse. When we then asked them about the way they approach all things financial in their lives, over half of them admitted to being crippled by 'financial paralysis' resulting in procrastination or outright avoidance when it comes to the day-to-day things like paying bills or reading bank statements. And all of this is well before they ever manage to get their head around planning for the future.

This is only natural of course, as we tend to fear what we don't understand and avoid what we fear. So it only makes sense that a significant chunk of the public simply avoids thinking about their 'money stuff'.

The logical solution to this is to focus on financial literacy as the cure. And the government, along with our industry, has spent considerable time and resources in developing tools to better educate the public about their money. So why hasn't it been working?

IT'S NOT ABOUT US

Financial literacy has generally been approached as a task that requires the public to learn about us, to learn about our world, and somehow become fluent in our strange language and complex products.

We provide glossaries, calculators and lots of well-meaning tools; however almost universally they require the individual to step into our world.

This is a fundamental mistake.

To start with, our entire industry exists due to their world; their savings, their mortgages and their superannuation accounts. Without them we would be a service without a client; a product without a customer. Even those of us that provide services to the corporate world surely acknowledge that ultimately those corporates only exist due to the Australian public.

And while in the last decade or so there has been a lot of talk about the younger generation being the 'Me Generation', self-obsessed to the point of inventing the 'selfie' – a photo one takes of oneself – I would argue that the financial services industry has been 'all about me' for a lot longer than a decade or two.

And this needs to change. We need to turn this around and dig ourselves out of the complexity and confusion and speak to our clients, to the public, as human beings – truly communicate with them.

Understandably this is a major shift in our approach and I am not suggesting it will be easy. The first step may simply be to start with how we approach communication and engagement as individuals. If you are keen to begin this journey I would encourage you to take a look at Andrew Griffith's book 'The Me Myth'. Although written with the individual in mind, I feel the lessons within will prove incredibly useful to anyone in financial services keen to connect with the public.

It would be easy to assume that the way we communicate as an industry is the only factor contributing to the disconnect between the public and our industry. But of course, nothing is that simple!

A NEW BENCHMARK HAS BEEN SET

The public's expectation of how companies and products relate to them has been fundamentally changed by businesses like Apple and Amazon. As an industry, I would encourage us all to stop focusing on our competitors as the greatest risk to our businesses and start taking a good look at the way in which these companies (and the long list of similar successes since) engage and connect with the public.



We need to dig ourselves out of the complexity and confusion and speak to our clients, to the public, as human beings – truly communicate with them.

Think about how most people would describe their experiences in an Apple store or while shopping online with Amazon: 'simple', 'pain free', 'personalised', 'addictive', 'fun'.

I agree this starts to sound like some new found drug, however I would also argue that very few of us in financial services would be tagged with even one of these descriptors let alone all of them.

Just like our industry, the computer hardware industry have created acronyms to make communication between 'gurus' quick and easy (RAM, GB, HDD and GHz) however Apple are smart enough to keep that as far away from the public as possible. They don't overwhelm the buyer with complex detail; they inspire them with what they will be able to do with the product.

AND ON TOP OF ALL OF THAT, THEY ANTICIPATE.

They anticipate the major barriers to a purchase – for a new Mac purchase this might be transfer of data – and so offer a service that takes your old PC and transfers all the data and history across to your new Mac. They anticipate the questions you may have once you get home, with detailed videos and explanatory web pages that talk you through the steps to take to get to know your new product and enjoy it to the fullest. They even go so far as to send out suggestions of other products you are likely to find interesting based on what you have just purchased.

Compare this to our industry where we bizarrely seem to reserve the acronyms (or secret codes) for client documents – PDSs, SOAs, FSGs – or for pieces of information that could be important to them, like MERs. An industry where the client's first encounter with a product is often a dictionary thick application in a language they don't understand, designed with boxes too small to fill in, for a product they aren't even sure they want.

IS IT ANY WONDER THEY ARE DISCONNECTED FROM THE VALUE WE CAN PROVIDE?

Now I acknowledge that we are talking about financial services here and that the prospect of rethinking the way we deliver our products

and services, along with making them fun and addictive, seems impossible. However we all know how important getting on top of their money is to a person's future wellbeing, so I believe we have an obligation as an industry to take our best crack at it and to always keep improving.

In addition to what they are experiencing from other product and service providers, there is also a third factor driving a wedge between the public and our industry.

THE BELL CURVE HAS MELTED

Back in the 1950s, the distribution of 'normal' behaviours was beautifully grouped. 'Normal' truly was the 'norm', with only a few fringe individuals happily sitting outside of society.

This is what spawned the 'Mad Men' heyday of mass marketing where a single ad could appeal to almost everyone. Ads were efficient and effective.

Travel forward to the 1970s and while the distribution had spread, with more types of people sitting outside of the 'norm' of society (punk rockers, hippies and a few computer nerds), the lump of normal in the middle was still a large proportion of the market.

However, when we take a look at society today, we are faced with a bell curve that has 'melted' with the volume of people outside of the 'norm' greater than those that are in it. The 'weirdos' outnumber the 'normals'.

The concept of the melting bell curve was brought to my attention by Seth Godin. Seth is a world class marketer and TED speaker and, in his book 'We are all Weird', he delves deeply into how we can no longer target the 'middle' or the 'normal' and expect to get results. The days of successful mass marketing are gone, with the new age of connecting with a niche already upon us.

If you aren't quite convinced about this, then think about

when Star Wars first came out in the seventies. Some people, mainly kids and pimply teenagers, went to see it. However, it was without a doubt a 'sci-fi' movie and therefore certainly not considered mainstream.

Yet in May this year we celebrated Star Wars Day, 'May the Fourth', where it was used as a theme for nearly every morning television and radio show in the country.

As a community we have connected with our inner weirdos and proudly wave our freak flags high. And we will generally only connect with businesses or products that have essentially become part of our tribe, that sincerely seem to be one of us.

I am sure this all seems fairly overwhelming for us as an industry, so where do we start?

DEVELOP MORE COMMUNICATORS

We have an industry that has evolved into a refuge for technicians, and we need to recognise that no amount of

technical expertise is accessible and hence valuable to the public without great communication skills.

We therefore need to nurture, develop and reward communication skills. In particular we need to attract and reward those magical individuals that understand the client and see things through their eyes first.

This may need to start within the tertiary education system where there is an almost 100% focus on the technical. If the qualification process itself weeds out the great communicators due to a heavy focus on technical analysis then we have already lost before we have begun.

I believe there is also an opportunity to adjust our thinking at a corporate level. When you witness a financial services institution developing a new idea, the impression you get is that the sales and marketing team can come up with all the great ideas they like, but that ultimately sign-off will sit within the technical (read: finance or actuarial) department. Perhaps we need to turn this on its head...

Imagine a world where great new ideas are instead presented for final sign-off to a communications team whose sole responsibility is to review the likelihood of the new product or service achieving traction with your target market. A bare minimum requirement for submission being that the target market will quickly grasp what we are offering and how it adds value to them. This change in dynamic would over time naturally result in better communicators as the great technical ideas would only ever get past the gate keepers with well thought out communications developed alongside them.

EMPOWER OUR CUSTOMERS

For some, the thought of the word 'power' and 'customer' in the same breath is enough to send shivers up their spine. However for those of us up for the next challenge, I would propose this – we need to embrace the concept of self-service.

Providing self-service solutions for our customers is the first step to anticipating their needs and you can start with something as simple as great information – information that answers their most common questions; information that resolves a hurdle they need to get over; information that answers their most unusual questions. No matter what it is, if it provides them with relevant, valuable and engaging content then your particular brand of weirdos (your target market) will love you for it.

In the creative and interesting world of marketing this is referred to as 'content marketing' and is something not many businesses are doing well. Those that are, however, are seeing amazing results.

The modern world is inclined towards self-service, so those businesses that embrace this are seen to provide a more personalised offering than those requiring customers to take a more formal and delayed step – like making contact with a human being!

I realise this is counter intuitive, however if someone wants to research their index fund options available within their investment portfolio on a Sunday, including understanding the implications for both cost and tax and



We need to nurture, develop and reward communication skills and attract individuals who can see with the eyes of our clients.

other relevant queries they would have, then who are we to stop them? The business that helps them get further along with their queries via self-service on Sunday is very likely to be the business they then take the next step with on Monday.

The ultimate result is that the customer feels more empowered to take action. They are not being forced to fit into our support process but instead are able to choose their own pace. The best self-service options then enable them to leapfrog right into purchasing whenever that makes sense to them.

If you are keen to find out more about self-service and content marketing then I would suggest starting with Micah Solomon's 'High-tech, High-touch Customer Service' along with Joe Pulizzi's 'Epic Content Marketing'.

So, once we have stepped up our communication and marketing game and are providing our target market with great, anticipatory information, what next?

BUILD AN ENGAGEMENT INFRASTRUCTURE

Well, I believe we need to build an engagement infrastructure for our products and services. This is a path to take our clients from barely knowing us to liking and trusting us enough to buy.

If we look at how things currently sit within the financial services industry, clients often have a single policy or fund (which in most cases is a superannuation fund). Normally, we find the client hasn't chosen this product themselves and therefore has almost no engagement with the product or provider at all.

Somehow, with the passing of time, and perhaps even through the provision of some magical self-service information, or the client's own realisation of their need for financial advice, they take the leap to engaging a financial advisor for upfront fees of what is likely to be thousands of dollars.

If you forget about the industry this relates to, it would be like going from eating a great cookie, to buying an imported Italian oven, or from watching a movie you love, to instantly buying a surround sound entertainment system.

It would never happen, right? Yet in financial services this is what clients face and this is why I believe we are setting ourselves up to fail.

If we instead take a look at Apple from



this perspective then:

- They get you started with iTunes, a free download for anyone who wishes to use it. If you think back to when you first heard about iTunes then this seemed so easy to use and engaging that you naturally went looking for...;
- an iPod on which to put all your music;
- then an iPad or perhaps an iPhone; and
- because we have become raving fans by this stage, and now truly know, like and trust them and their products, we naturally buy the iMac, their desktop machine!

Their singular goal is the iMac, however they recognise that the journey is what gets us there and therefore take a longer term view of their client relationships. They have also managed to incrementally make money from taking the client through their product journey all the way to their core product.

This is called an Ascending Transaction Model, or ATM. I first came across this as a customer engagement technique at a session run by Daniel Priestley, and if you are keen to understand more I would suggest checking out his book *Becoming a Key Person of Influence*.

Now I can already hear you thinking that this is all very well and good for consumer products, but it could never be achieved in a professional services sense. But what if it

could? Imagine the level of traction we could have with the public if we could develop ATMs for our financial services business? In an industry where this approach is the exception rather than the norm imagine the success you could have by being an early adopter rather than waiting for the pack.

Hopefully by outlining some of the forces that have brought us to this point, I have highlighted that to begin improving the way in which we communicate with the Australian public we need to take a long hard look at ourselves. Anyone who succeeds in this space will not demand more of their customers, but instead will demand more of themselves.

They won't ask how we can better teach them Venutian, they will instead ask... how do we learn Martian? **A**

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This article was based on a presentation presented at the Financial Services Forum in May 2014. The full presentation is at <http://actuaries.asn.au/Library/Events/FSF/2014/Diamantidis5f.pdf>



Actuaries in Banking

The Actuaries Institute's Banking Practice Committee (BPC) was formed in late 2013. It was established to support the growth of the actuarial profession in the banking sector at a time of heightened focus on Australia's financial system.

The BPC is determined to give Institute members better visibility in the areas of banking that actuaries are already working in, with a view to promoting the Actuary brand, helping actuaries understand the opportunities available and facilitating new opportunities through education.

Committee members come from a wide range of roles across commercial and investment banking in Australia and Asia. Members also include consulting actuaries regularly engaged by banks.

The members include: Phillip Everett (Convenor), Michelle Cater, Steven Claxton, Joshua Corrigan, James Hickey, Paul Nuttall, Chao Qiao, Nick Scott, Lisa Simpson, Peter Sinkis, and David Su.

SURVEY AND INTERVIEW METHODOLOGY

In order to support the BPC objectives, a survey was conducted to better understand the current profile, thoughts and ambitions of members working in banking today. The target group was Institute members who identify their practice area as banking. The survey was followed up by several interviews with self-selected survey respondents from the survey pool. Overall, there were 47 respondents, representing 16% of the targeted potential member universe.

RESULTS AND FINDINGS

BACKGROUND

As banking is a relatively new sector for the profession, we were initially interested in how members arrived at their role in banking.

Actuaries are active in 'front-office' banking roles as well as the often stereotyped corporate and middle-office roles.

Figure 1 shows both the length of time our survey respondents have worked in the banking sector, and their typical practice areas prior to moving into banking. Overall, it shows that there is a broad mix of backgrounds from traditional – predominately life and general insurance – and non-traditional areas.

Further, there was an even allocation across the experience brackets, indicating in our view a good mix for the survey results and inferences. More importantly, it may also imply a healthy distribution of new entrants and seasoned professionals across the sector.

CURRENT ROLES

Actuaries have taken on a variety of roles within banking, as demonstrated in Figure 2.

The high combined percentage in Investment Banking and Markets (29%) shows actuaries are active in 'front-office' roles as well as the often stereotyped corporate and middle-office roles. At this level, there is a pleasing variety of roles across the highly diverse segments of Credit Risk and Treasury. The large percentage of members in Credit Risk roles was expected based on the anecdotal recognition of this area as the more natural 'cross-over' point from statistical modelling roles in general insurance noted above.

Of particular interest was the small number of respondents in product management and pricing roles. We are aware of a number of actuaries who have been highly successful in these roles. In their experience, banking products are fertile ground for actuarial methods developed in similar roles within the insurance and superannuation sectors.

Figure 1: Background

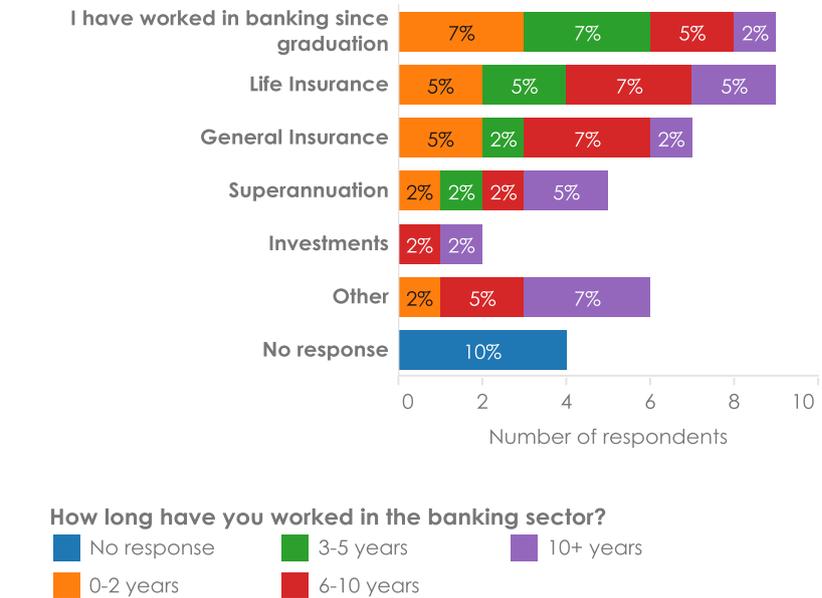
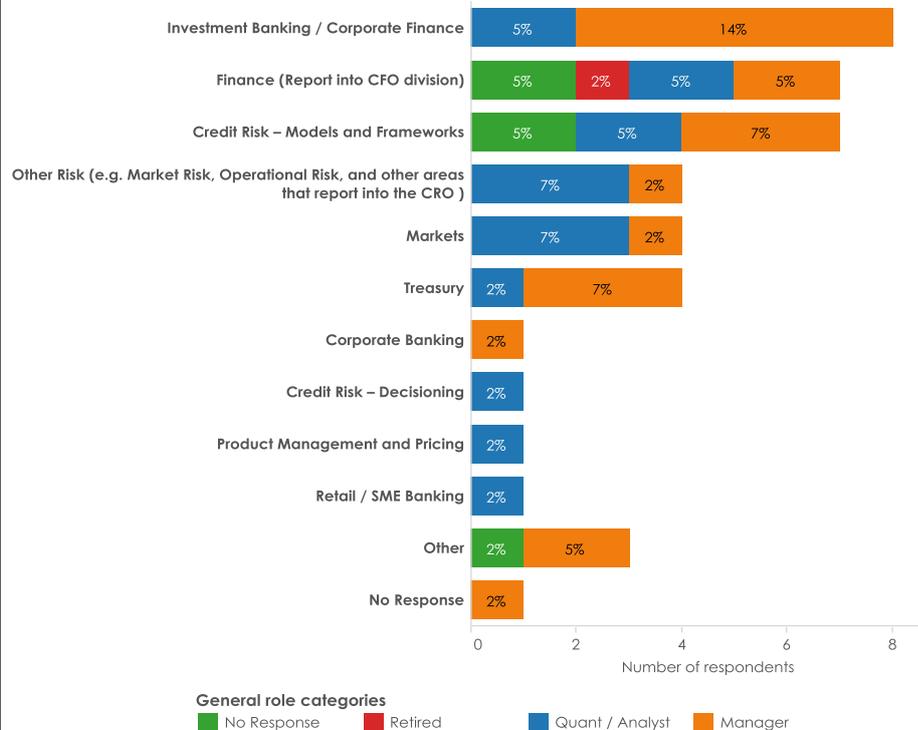


Figure 2: Current Roles



PERCEPTIONS

Actuaries are positively regarded within banks and there is no evidence of any perception issues that are limiting the opportunities of actuaries within banking. However, within the major subject area of Credit Risk, there is some indication that actuaries are perceived as ‘modellers’ as opposed to managers using skills ‘across the control-cycle’.

As shown in Figure 3, there is a

significant group that do not believe their actuarial background is relevant to their colleagues’ perception of their skill set. This is notwithstanding that actuaries themselves certainly feel particular aspects of their skill set is relevant on a day-to-day basis, as presented previously.

This reflects a number of members who have simply made their own way in banking where there is less recognition of the value

of the actuarial qualification.

Although strong quantitative skills are seen as a key feature of the actuarial profession it was noted by some respondents that actuaries were not necessarily ‘top-of-mind’ for quantitative roles.

SUITABLE AREAS

As a bridging question to future opportunities, we asked what areas of banking are best suited for

Figure 3: Perceptions

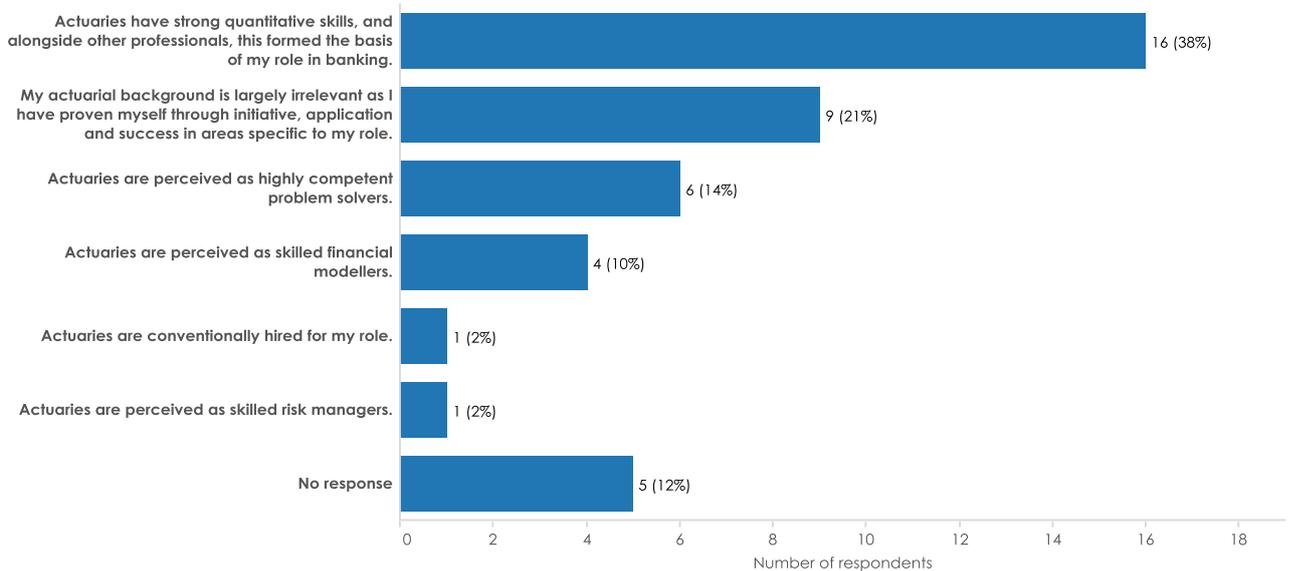
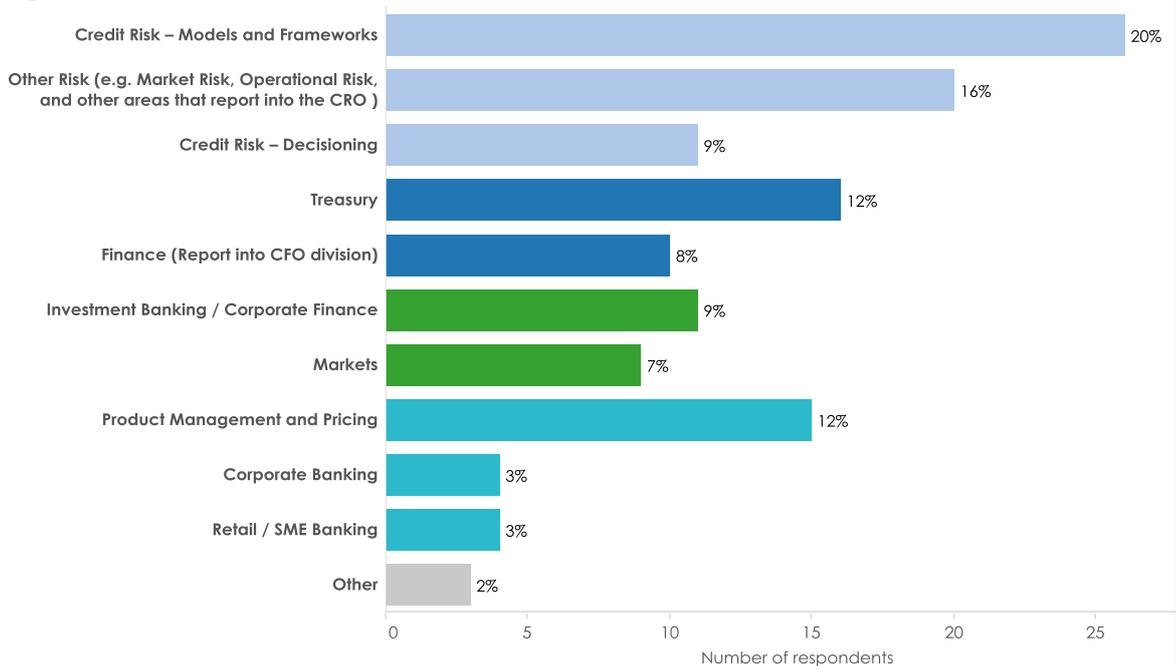


Figure 4: Suitable Areas



actuaries. This question allowed multiple responses, and unsurprisingly, this is in many ways an extension of current roles as shown in Figure 4 (previous page).

Treasury and Product Management and Pricing both scored above 10% and it indicates strong interest in these areas. One reason we suggest for Treasury's high score is the recent increased regulatory and market focus on funding and liquidity within Banking.

As mentioned earlier the well-established role of actuaries in product pricing in the insurance sector has offered a natural transition into banking. In post-survey interviews, we discussed the application of disciplined pricing techniques developed for insurance being used for products in the retail sector, and the uses of quality data available in this sector for certain products such as credit cards, loans and deposits.

FUTURE OPPORTUNITIES

A number of future opportunities were identified through the survey and the follow-up interviews:

- risk management (10%) and the Basel III Requirements (10%) are the most dominant issues and challenges;
- post-survey interviews revealed potential areas including sovereign risk models, stress testing and credit provisioning (IAS 9); and
- several members also highlighted the opportunity to apply quantitative pricing models to banking products.

CONCLUSION

The survey results support in many ways our hypothesis and perception that actuaries are working in a wide range of banking roles, with a slight bias towards credit risk modelling. In the absence of a banking specific qualification and the wide range of banking roles, no one profession or qualification suite dominates the banking sector – with the possible exception of accountants which, as expected, dominates finance roles.

One of the objectives of the BPC is to provide banking specific education for members. This would improve the relevance and suitability of an actuarial qualification for roles in banking. As there is also no single widely-recognised banking specific qualification there is a compelling case for the Institute to support this initiative.

The diversity of banking roles occupied

by actuaries is healthy and a sign of the wide applicability of the actuarial skill-set, experience and ambition of actuaries. Actuaries are active in client-facing investment banking roles as well as the wide array of risk and product management roles.

The continuous increase in levels of both modelling sophistication and regulatory oversight across banking activities can only be a positive sign for the profession.

Lastly, we would like to sincerely thank all our survey respondents and interviewees, as this article would not have been possible without your time and effort.

PAPER

This article was based off a paper presented at the Financial Services Forum in May 2014. The full paper can be found at the Actuaries Institute website: <http://actuaries.asn.au/Library/Events/FSF/2014/SinkisScottBankingPaper140505.pdf> 

AUTHORS' BACKGROUNDS

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The diversity of banking roles occupied by actuaries is healthy and a sign of the wide applicability of the actuarial skillset, experience and ambitions.





Never Smile at a Crocodile

– The Group Risk Story

PETER PAN, for those of us who remember or have watched the movie with our kids, opens with the line: “All of this has happened before and all of it will happen again.” You couldn’t script the Australian Group Risk story any better.

Around the middle of 2013, the Life Industry had a surprise visit at the window, one night, as we started to notice a worsening trend in our Total and Permanent Disability (TPD) portfolios. More than AUD\$1 billion of reserve strengthening across the industry later, and the effective shutting down of reinsurance capacity for larger superannuation schemes, the market is beginning to learn to fly again, with some hard lessons learned and more clarity on how to move forward.

WHO IS HOOK?

Every consultant will have a different view on the cause, but to understand the drivers that led to this situation, we should reflect on the market three to five years ago when intense competition, excess capacity and

new business sales incentives all contributed to very soft market conditions. Default cover was introduced and later increased as prices kept falling, underwriting controls were gradually relaxed and available data allowed actuaries to conclude that rates were sustainable. Very little attention was paid to the operational controls, opportunities for anti-selection, strength of claims definitions, potential trends or the levels of consumer awareness inherent in the system.

SO WHAT CAUSED THE BLOWOUT?

In my opinion, one of the key drivers of the market experience shift related to the levels of inertia or lack of awareness priced into the rates. There was an implicit assumption that not every member was aware of their cover given that Superannuation is compulsory, and for many members, the retirement savings component was the main focus. Over an eight year period, the levels of advertising spend, member communication and market noise around insurance benefits radically shifted. For example, ASIC reported

One of the key drivers of the market experience shift related to the levels of inertia or lack of awareness priced into the rates.

in 2005 that there were only 23 Industry Fund TV advertisements over a 16 month period¹. Today, you might see that many TV adverts in a few days. The GFC also encouraged Funds to focus on the good news story around insurance within Super, as opposed to poor performing investment returns.

Contributing to this awareness, plaintiff lawyers have become more prevalent, in part due to a change in workers compensation legislation, driving these lawyers to expand their business model to target life insurance. In 2013, nearly 40% of claims involved a lawyer² (including nearly all long tail claims). Arguably, these lawyers provide a service that the industry doesn't need but that can impact the outcome of a claim.

Equally, actuaries aren't directly to blame for getting the pricing wrong. Of some small measure of comfort, when global colleagues attempted to re-price the historical renewals based on the data available at the time, they drew similar conclusions around setting the price at the levels suggested by the local actuaries. Very few would have seen this trend coming from the data alone. In hindsight, more time should have been spent on considering the trends and scenarios where money could be lost, along with how risk management could feed into the ultimate terms offered.

Finally, as the market softened, rather than pass on price discounts to members, the default sum assured levels increased instead, further contributing to the real villain of awareness being higher than expected.

TINKERBELL HAS ALL THIS MAGIC BUT JUST ISN'T VALUED BY PETER

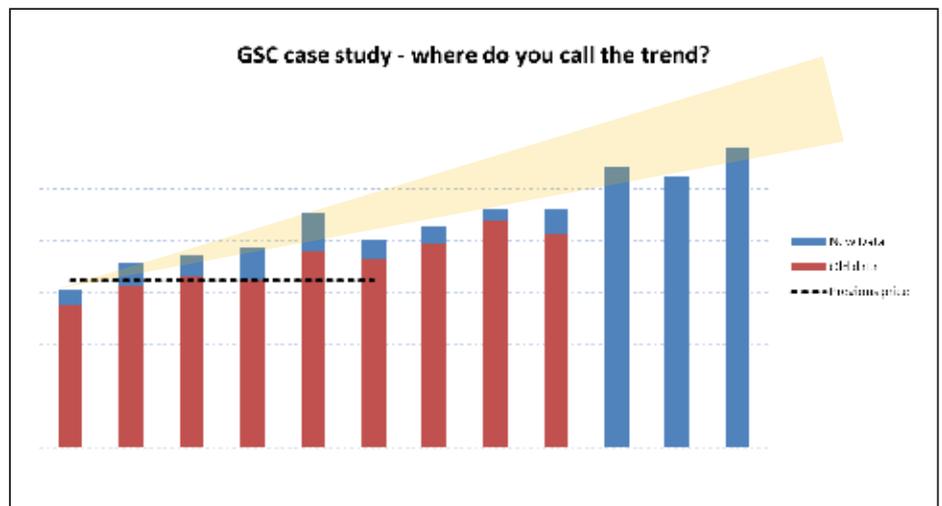
It's easy to overlook this, but for the actuaries that were involved, it's been an emotional rollercoaster. The inevitable cycle quickly took shape once the first reinsurance numbers came out – disbelief at first, then disagreement that the numbers were correct, then fear, acceptance, and finally, action. When you can't pinpoint the exact problem, it's very challenging to address only the key issues rather than change the whole model. Even focusing on the main driver, it's been an impossible call to make about whether there is more awareness to come that still needs to be factored into pricing (noting this affects TPD and GSC benefits).

The other byproduct of this journey relates to the potential for lack of confidence to creep into the actuaries' mindset. Along with the underwriters, risk managers and management, there may be a tendency to lurch so far to the conservative end of the spectrum that this could impose a significant short-term cost on members and reduce the industry's aim of closing the protection gap. In Peter Pan, Hook continually remained fearful that the crocodile was coming back for the rest of him.

The GFC encouraged Funds to focus on the good news story around insurance within Super, as opposed to poor performing investment returns.

THE CLOCK INSIDE THE CROCODILE IS TICKING

We don't have to change everything to move forward but rather focus on those areas that are critical to ensuring the long-term sustainability of this segment of the market.





1. *The lost boys walking together in unison*

In the past, high reinsurance commissions buffered insurer results and funds not having any stake in the experience outcomes led to the situations whereby insurance became a purely transactional purchase at the lowest possible cost.

Reinsurers, insurers, funds and other suppliers in the value chain should be strongly aligned in the member outcomes. This principle leads to structures whereby reinsurers and insurers lose money at approximately the same point, funds take some risk and third party providers are strongly aligned in the delivery of better quality data and timeliness of that provision. It also changes the way we might all work together – closer engagement by all parties to develop the proposition and more exclusivity arrangements to ensure complete transparency between the parties. This latter part, like Wendy walking the plank, will require a good dose of trust.

2. *Hook needs a hand*

Years of the softening cycle led to relaxation of the product design controls, many of which had unintended consequences. It's hard to argue the case for a product that offers more than \$1 million cover for disability with no underwriting; no aggregate cover limitations, so you can buy more than one policy; pays a big lump sum for disability, which is an all or nothing

decision; and ignores high risk occupations or sets of claims definitions that are open to lawyer or doctor abuse.

It might feel like it's all broken, but at the heart of amending the design, only a few key principles need to be considered:

- More front end control: This includes reducing automatic acceptance levels; addressing the disproportionate incentives given the fixed cover levels for part time workers or high risk occupations; and removing the ability to increase cover without some form of underwriting or pre-existing condition clause.
- Consider more efficient delivery mechanisms for TPD: Here we should explore shifting the lump sum mentality into more of an income based approach. This has multiple benefits including encouraging members to engage with the insurer around rehabilitation; limiting plaintiff lawyer involvement; and ensuring a better member experience away from an all or nothing decision.
- Changing claims definitions: A more robust definition for both TPD and Income Protection (IP) is needed. The aim here is to ensure that the right members benefit where disability cover is required and subjectivities are removed as far as possible. Encouraging retraining is a core goal in helping members back to work rather than staying on benefits.

One approach is to go back to the basics of writing insurance cover. In one investigation into the drivers of experience, around 20% of claimants were found to have had some form of pre-existing condition prior to taking up cover. Surely this was never the intention around the design of group risk covers.

3. *The problems with Neverland*

While product and mindset are largely in our control, there remain a few industry challenges which require significant momentum.

Better quality data should be a non-negotiable requirement for all actuaries. While it is expected to take time to work through the system, and supported strongly by APRA, Super funds should see data as an opportunity for competitive advantage.

The impact of plaintiff lawyers should be managed to ensure that member benefits aren't unnecessarily eroded. The Super funds are, perhaps, in the best position to provide this service to members, but shifting product

Better quality data should be a non-negotiable requirement for all actuaries.

design to an income stream or making the policy terms and claims process easier to understand for members will equally reduce the unnecessary cost of these lawyers in the system. A big push for a change to the Insurance Act around introducing a sunset clause for notification of claims will add some measure of pricing certainty for actuaries around the length of a claim's tail.

Lastly, the industry joining together to manage the opportunity for multiple covers across a number of funds (aggregation of covers) is an area needing change. There appears to be strong commitment to an industry-wide database being set up that allows monitoring of these multiple covers, so a continued push to deliver on this model is gathering momentum.

4. *Hook was once a boy, too*

One clear lesson from the past 12 months relates to the fact that these events have happened before, but corporate memory is always short. From a reinsurer's point of view, and being honest about where we've got it wrong, the soft cycle was not managed very well – increasing cession rates, falling price, weakening of entry controls and introducing new benefits should have all set off a ticking clock in hindsight. The Group Risk model will reset but ensuring that the cycle is managed five to 10 years from now remains one of the biggest challenges to avoid déjà vu.

Addressing this through initiatives, such as the requirement for a Chief Risk Officer to exist; setting up committees to monitor trends and early warning signs; sharing information between stakeholders (and

generations); and defining the walk away position in advance of a tender, are perhaps some of the ways that we can ensure we don't forget the timeless story.

5. *Only children can see a fairy*

We should, lastly, also consider areas that we can't obviously see coming. This ranges from legislative changes in other markets that might impact insurance (workers compensation and auto-consolidation being two known examples) all the way through to the broader impact of the economy (unemployment or interest rates) on disability experience. Not looking at past experience as a guide to the future (one of our biggest lessons around the inertia implied in historic data) has perhaps never been so true.

To conclude, it's an unprecedented time in our industry, perhaps even a once-in-a-career set of circumstances to learn and grow. The changes expected over the next few years will take a collective effort from all the stakeholders in the market and it is an exciting opportunity for all of us to work closer together to deliver a better proposition for Super fund members. There are no quick fixes, but we all need to maintain our perspective and not forget to enjoy working through this challenging time. With a sprinkle of fairy dust and a bit of faith, we'll have a better ending. **A**

1. ASIC Report – Monitoring advertising in Super 2004-2005
2. Swiss Re Life and Health claims research 2014

Ilan Leas is a Director at Swiss Re Life & Health Australia and New Zealand.

It's an unprecedented time in our industry, perhaps even a once-in-a-career set of circumstances to learn and grow. The changes expected over the next few years will take a collective effort from all the stakeholders in the market and it is an exciting opportunity for all of us.

Contributions to a happier story

Alignment and partnership

More front end control

Pivot to income protection

Amend claims definitions

Industry push for sunset clauses, data and monitoring

Don't look to past data alone

Manage the future cycle



Statistical Politics in the Eurovision Song Contest

In what may be a career-limiting move, I'm going to admit it: I am obsessed with the Eurovision Song Contest. Forget about the glittery-techno-windmachined-keychanging-pyrotechnic-flagwaving-Europop scene – if you're into granular predictive data, the Eurovision is heaven. Every year, the voting elicits all sorts of theories – ranging from political bloc collusion, to voting structure criticism, to the UK protesting that no one likes them. By virtue of 5,435 raw, independent modelling points from the 2014 contest supplied by the European Broadcasting Union, I hope to address some of these claims.

Here's how it works: each of the 26 qualifying countries submits a musical act to represent them, in the hope that the 37 other countries vote for them. The voting system consists of two components: a televote (whereby the public in each country vote for another country, and these are ranked), and a jury vote (whereby five members of the voting country's music industry rank the acts independently; these are combined into a final jury rank). Finally, each country's televote and jury vote ranks are combined and converted into a final rank, which is then converted to points. This year, Austria's very talented and very bearded drag queen, Conchita Wurst, received the most points from Europe, and was crowned the winner.

DO EUROPEAN BLOCS ACTUALLY VOTE FOR ONE ANOTHER?

In short, absolutely. I've decided to measure this using the Gini Coefficient (G), which takes the ranks allocated to all other countries by a given cohort, and measures the tendency for that cohort to rank their fellow bloc countries higher than other countries. Using this statistic to measure the extent of bloc favouritism, the following blocs were significant:

- Non-Baltic-ex-Soviets (NBES)
- The Warsaw Pact
- Scandinavia
- Countries with Germanic Official Languages
- Baltic States
- Balkan States

The table below indicates these blocs with their overall Ginis, and the individual country Gini contribution to this.

Bloc	Country	Gini	Bloc	Country	Gini	
Balkan (2012)	Overall	42%	NBES	Overall	79%	
	Albania	46%		Armenia	56%	
	Bosnia & Herzegovina	61%		Azerbaijan	97%	
	Bulgaria	40%		Belarus	90%	
	Croatia	41%		Georgia	83%	
	Greece	26%		Moldova	68%	
	FYR Macedonia	56%		Russia	100%	
	Montenegro	42%		Ukraine	67%	
	Romania	26%		Scandinavia	Overall	71%
	Serbia	32%			Denmark	79%
Slovenia	32%	Finland	69%			
Turkey	60%	Iceland	69%			
		Norway	71%			
Baltic (2002)	Overall	81%	Sweden	69%		
	Estonia	67%	Warsaw Pact	Overall	29%	
	Latvia	86%		Albania	-39%	
	Lithuania	90%		Armenia	0%	
		Azerbaijan		94%		
Germanic Speaking	Overall	63%	Belarus	90%		
	Austria	36%	Estonia	13%		
	Belgium	53%	Georgia	47%		
	Denmark	88%	Hungary	10%		
	Finland	57%	Latvia	29%		
	Germany	74%	Lithuania	11%		
	Iceland	69%	Moldova	82%		
	Ireland	60%	Poland	-22%		
	Netherlands	57%	Romania	-6%		
	Norway	74%	Russia	52%		
	Sweden	57%	Ukraine	63%		
	Switzerland	75%				
	United Kingdom	65%				

Bloc Ginis are between -100% and 100%: a higher Gini suggests a group's tendency to favour bloc states, a negative Gini implies a group's ability to penalise their fellow bloc states, and results close to 0% (roughly between -15% to 15%) suggest an insignificant bloc effect. Countries have individual Ginis, and this is can be aggregated to an overall bloc Gini.

While proponents of bloc voting often cite Eastern European competitors as beneficiaries of bloc voting, this isn't necessarily the case: with a very high bloc Gini (G=71%), Scandinavians can't seem

to get enough of each other. With the exception of Finland ranking Iceland 12th (out of 26), Scandinavians always made each other's top ten.

Even without the bias of the aforementioned Scandinavia effect, Germanic-speaking countries exhibited a high discriminatory voting pattern (G=63%). The Danish televoters' top eight consisted of all other Germanic-speaking finalists except for Germany (G=94%). Also demonstrating Germanic favouritism were combined votes from Switzerland (G=75%), Germany (G=74%), and the UK (G=65%).

Moving to Eastern Europe, the most notable trend was that Armenia and Azerbaijan, who are technically at war, both ranked each other last in their respective televotes and jury votes. For the purpose of bloc analysis, this individual interaction has been excluded. All NBES countries exhibited a high level of internal bloc voting (G=79%), driven by Russia (G=100%), who ranked all NBES states above everyone else. If the Baltic States were included, this would drop to 66%, because Baltic juries appeared statistically neutral to ex-Soviet states.

Despite voting this year, the last time all three Baltics qualified for the final was in 2002, where they appeared to help each other out (G=81%).

There was a visible split in the Warsaw Pact countries between ex-Soviets (who we've found have demonstrated internal favouritism) and the non-Soviets (this year represented by Albania, Poland, Hungary and Romania). Although Albania and Poland statistically penalised the Warsaw Pact (G=-39%, -22% respectively), the other two non-Soviet states, Hungary and Romania, appeared to vote neutrally.

Balkan countries didn't make a large appearance this year, but results from 2012 indicate a significant Balkan voting bloc (G=42%).

There were some unsuccessful groupings. The Eurozone was not homogeneous, and interestingly, Greece punished fellow Euro countries (G=-33%). The Schengen Region exhibited varied results by country; counterintuitively, Switzerland, whose new immigration laws may threaten its Schengen status, favoured the region most (G=81%).

IS THERE COERCION OR COLLUSION BETWEEN A GIVEN COUNTRY'S FIVE JURORS?

Notably, the Georgian jury result was disqualified this year, as allegedly each jury member's top eight was identical.

Besides this, Montenegro and Azerbaijan had significantly lower intra-jury spreads than all other countries. The five Montenegrin jurors had the same top ten countries, but ordered marginally differently – no country's placing diverged beyond two places from average. Or, perhaps I should have said top 11 – each of the five jury members just so happened to rank France as 11th, who eventually finished in 26th (last) place. Azerbaijan's jurors also ranked uniformly: the rank awarded by each Azerbaijani juror to any country didn't deviate from another juror by more than four places – comparatively, for 90% of the other juries, this number was between 15 and 24.

WHICH VOTING COHORTS WERE THE BEST AND WORST AT PREDICTING THE FINAL OUTCOME?

At the 90% level of confidence, a correlation coefficient of 0.27 between the rankings allocated by an individual cohort and the aggregated ranks from across Europe is significant. All countries' televotes were significantly positively correlated with the final outcome. Despite this, only 22 of the 36 juries (excluding the disqualified Georgia) had a significant positive relationship with the overall result. The word positive here is critical: the earlier point around

potential collusion may have driven a significant negative correlation for the Azerbaijani jury (-0.32), while the Montenegrin jury was marginally insignificant (-0.25). And yes – this means that inverting their result would provide predictive insight.

HOW ALIGNED ARE THE JURY VOTES AND TELEVOTES FOR A GIVEN COUNTRY?

As juries consist of five music industry professionals, juries could be more likely to reward musical integrity rather than pyrotechnically (or otherwise) captivating scenes. Poland's act this year divided juries and televoters; while the televoters generally rewarded the sight of scantily dressed Slavic milkmaids (based on all televotes, they were ranked fifth overall), the juries did not (based on all juries, 24th). Azerbaijan's act was conversely divisive: its slow, subtle melody failed to captivate televoters (collectively ranked 26th, last place), but the juries rewarded it (seventh).

Furthermore, while every countries' televotes placed the eventual Austrian winner, Conchita Wurst, in their top five (aside from Estonia, who ranked her eighth), and most juries following suit, some juries were less generous: the juries from Armenia, Azerbaijan, and Belarus (arguably less drag queen-friendly) placed Wurst in their bottom three.

To address the claim that juries' ranks can be skewed by political or economic factors more so than the actual performance, I ranked countries by their Purchasing Power Parity (PPP) per capita as a proxy. Sounds extreme? The table below shows countries whose jury votes had a stronger relationship with PPP rankings than the final result – even though their televote had no correlation with PPP rankings¹.

Country	Correlation between Jury Ranks and PPP Ranks	Correlation between Jury Ranks and Final Ranks
Switzerland	0.52	0.45
United Kingdom	0.36	0.24
Ukraine	-0.26	0.43
Russia	-0.3	0.19
FYR Macedonia	-0.48	0.26
Belarus	-0.52	0.21
Azerbaijan	-0.64	-0.32
Azerbaijan (without Armenia interaction)	-0.86	-0.24

So then, who is the perfect country to win this political glitterstorm? They'd need an eastern longitude to appeal to the ex-Soviets, but not be an ex-Soviet to appeal to the rest of Eastern Europe; they shouldn't use the Euro in order to escape Eurozone backstabbing, but speak a Germanic language to secure a ten-country-strong Bloc vote.

I'm talking to you, Australia². **A**

- 1 A positive jury correlation with PPP ranking suggests that the jury favoured countries with a higher PPP, and a negative correlation suggests favouritism of countries with lower PPPs.
- 2 This year, the European Broadcasting Union "reward[ed] Australian Eurovision loyalty" by allowing Jessica Mauboy to participate in an interval act, but not to compete (perhaps this restriction has something to do with Australia not actually being part of Europe).

Conchita Wurst – Winner of Eurovision 2014 >





R1C1 – Excel Musings

Array Formulae

Formulae lie at the heart of what makes Excel such a powerful calculation tool and although standard Excel formulae can solve most problems, situations still arise when we need extra intermediate calculations or ‘helper cells’. Excel has at least two powerful tools for situations like this, one of which is array formulae (the other is user defined functions). Array formulae are a huge topic and I’ll just be scratching the surface here.

WHAT IS AN ARRAY?

Before we can talk about array formulae, we should first understand what we mean by the term ‘array’. In the context of Excel, and this discussion, an array is simply a rectangular range of data. They are somewhat analogous to the idea of a *matrix* in mathematics. An array could simply just be a block of data three rows high by five columns wide. Arrays can also be several rows high by only one column wide, or vice versa, equivalent to what mathematicians would call a *vector* (which is really just a special type of matrix).

OK, SO WHAT IS AN ARRAY FORMULA?

An array formula is a special type of Excel formula that allows functions to operate on a range (or *array*) of data in a way that could not happen with a standard formula. You can designate to Excel that the formula in your formula bar should be an array formula via the key combination of Ctrl+Shift+Enter, instead of just pressing Enter. For this reason they are sometimes referred to as ‘CSE formulae’. Once entered, {braces} will appear on the outside of the formula in the formula bar, informing the user that an array formula has been used.

There are two broad types of array formulae – Multi cell array formulae and Single cell array formulae. In my view, the single cell array formulae are more interesting to discuss, and a more useful tool to have in our Excel toolbox, so I will be very

brief on the multi cell variety.

A multi cell array formula is used when the *result* of the formula is a range that takes up more than one cell. Some Excel functions are required to be entered this way, the most common of which is the *TRANSPOSE* function. Multi cell array formulae must be entered over a range of cells simultaneously, for example by selecting a range of cells equal in size to the desired output, typing the formula in the formula bar, and finally pressing *Ctrl+Shift+Enter*. It can also be useful to return entire lists of data this way using a single fast formula.

SINGLE-CELL ARRAY FORMULAE

Essentially, a single cell array formula allows a *function* that normally acts on a single cell or case, such as the IF or ABS functions, to act on an entire range of cells or cases. Let me give you two examples, both based on real situations from real models.

(You can download the examples at www.actuaries.asn.au/Library/AAArticles/2014/R1C1ArrayExamples.xlsx).

Let’s say we have a Balance Sheet in our financial model and every time period has a ‘check’ cell which calculates Net Assets less Total Equity. This check should be zero, for every one of the, say, 200 time periods (i.e. columns) in the model.

We want to build in a single check cell that can report on all 200 individual period checks and alert us if any are non-zero. We don’t want to just sum all 200 period checks together and see if that sum is zero, because there could be 2 or more non-zero checks that cancel each other out. But if we could sum the *absolute value* of each period check, that would be sufficient. It turns out we can do this very elegantly using an array formula. If our individual checks are in cells M12:HD12, then this formula (using *Ctrl+Shift+Enter* to apply it) does the job $=SUM(ABS(M12:HD12))$

Using an array formula tells Excel that we want the ABS function to act 200 individual times, and return a 1 x 200 vector array equal to the absolute value of each of the 200 cells, M12:HD12. We then have a SUM function wrapped outside of the 1 x 200 resulting array, which just lives in Excel's memory and not on the actual worksheet. The SUM function is able to act on these 200 values and resolve them down to a single cell answer.

In this case, we hope the answer will be zero. If not, at least one of the individual checks is non-zero. This approach also avoids the potential problem of two non-zero values cancelling each other out.

The next example, which I will mention only briefly, is a way to write a MIN IF function. Here, we want the minimum value from a range of data, subject to meeting a certain condition. This is not a native Excel function, but we can do it with an array formula, by wrapping a MIN function around an IF function, and using range references rather than single cell references inside the IF function.

Let's say cells A4:A123 contain months, cells B4:B123 contain sales figures, and we want to find the smallest sales figure that occurred in January. Then we can use:
`=MIN(IF(A4:A123="January",B4:B123,FALSE))`

Note that by having the IF function return 'FALSE' instead of the sales data for all non-January rows, we are allowing the MIN function to ignore these values. With this basic construct, we can write MIN IF and MAX IF formulae based on almost any evaluation criteria we desire.

SHOULD WE AVOID ARRAY FORMULAE IN OUR MODELS?

This is an interesting and often debated question. I work as a financial modelling consultant, and I have discussed this question at length with colleagues in the industry. A common school of thought is yes, when writing models that other people may use, we should avoid using array formulae because "clients don't understand them".

This argument can also apply for in-house model developers who may require a colleague to use or one day inherit their model. It's an argument I understand, but not one that I blindly agree with.

Drawing the line at array formulae is arbitrary. I've met many, many Excel users who make extensive use of VLOOKUP but are unfamiliar with the INDEX and MATCH functions. I have never had anyone suggest

	A	B	C	D	E	F	G	H	I
1		The block of cells B8:H17 has been given the range name 'data'.							
2		Write a single cell array formula in cell B20 that returns the number							
3		of the row from the range 'data' that has the greatest row sum.							
4		So if it was the top row, the formula should return 1.							
5		If it was the bottom row, the formula should return 10.							
6		Do not use any 'helper' cells. Good luck!							
7		data							
8		68	21	46	31	25	67	47	
9		40	61	28	23	65	43	48	
10		49	65	52	57	56	21	51	
11		27	31	46	64	51	60	33	
12		49	69	49	52	40	60	28	
13		42	67	58	43	51	59	51	
14		50	32	34	45	37	50	56	
15		43	36	61	35	22	22	58	
16		63	36	69	24	64	33	27	
17		42	65	29	29	66	41	64	
18									
19		the row of 'data' with the greatest sum is:							
20									
21									

to me that when preparing a model I should avoid INDEX and instead use VLOOKUP because people are more comfortable with it.

I should use the best tool for the job, and in the case of looking up values from a table that tool is almost exclusively INDEX and MATCH. Typically, the client is also delighted to have learned a new feature for their Excel arsenal. So why should array formulae be any different?

I also think part of the job of a consultant is to not only produce the best output they can, but also demonstrate some improved ways of doing things. People also tell me that array formulae are slow to calculate, but this is not true of all array formulae. With skilled design, they can be extremely fast and extremely useful. Array formulae are not scary, and they're not mystical. They are not commonly needed, but they are a valuable feature of Excel to exploit (with care) when the time calls for it. If you have an opinion on this topic, please send me an email.

AN EXCEL FORMULA WRITING CHALLENGE!

If you are interested in learning more about array formulae, there is a superb

book on the subject that came out last year, easily purchased online. The book is called *Ctrl+Shift+Enter – Mastering Excel Array Formulas* by Mike Girvin. Thanks to the generosity of the publisher, Holy Macro! Books, I have a copy to give away to whichever reader submits the most elegant single-cell array formula solution to the posted challenge. Two key criteria for elegance will be brevity of formula length, and flexibility of the formula to also work on a different sized data set. A formula that can easily be extended to a 100*100 block of data without the need for extra terms will be more elegant than one that can't be so easily extended. Be warned, this is not an easy challenge! Send your responses to me via email by 5 September.

You can download the challenge file at www.actuaries.asn.au/Library/AAArticles/2014/R1C1ArrayFormulaChallenge.xlsx.



Doctor Who?

After a brutal power struggle, Dr Bruce has usurped Gae for the Irony Throne. Well, perhaps less a brutal struggle and more the case of Gae stepping down and the Institute desperately turning to the nearest hack.

Dr Bruce will bring a fresh Gen-Y perspective to the Actuaries magazine: obviously pretentious while infuriatingly distracted.

Dr Bruce is uniquely qualified to give advice on all aspects of modern actuarial life. He has observed people with years of experience. Also, he has recently completed his doctoral thesis in Being Sensitive at an online-only University and has other similarly useful qualifications such as CERA.

DEAR PRESIDENT DR BRUCE,

I am outraged by the extravagance shown by the Actuaries Institute in moving to more luxurious premises. How can our Institute justify its excesses? – I Reject the Premise(s)

Good advice in situations like this is for you to write a strongly-worded letter. Mission accomplished. However, there is a page to be filled and the magazine has already blown its monthly budget for Americanised stock photos with contrived demographics. Thus, you'll get something that angry letters seldom deserve: a response.

The Institute space is a reflection of the Institute's pace, and it is this pace of expansion that draws the ire of many members. There was a time when a modest Institute was enough to afford actuaries a very high standard of living. Now it seems to take an army to defend our privileges.

Some common complaints against our Institute lack consistency: membership is too expensive; and members do not get to meet like they once did; and the new premises with larger meeting facilities are excessive.

Regardless, I sympathise with your complaint. Our Institute may 'justify its excesses' by noting that the staff-to-member ratio has remained steady and so the growth is just reflective of the membership. This has merit but you do not find this satisfying. Indeed, it is a bold strategy to placate the angry members by pointing to the massive growth in the number of Fellows.

The popular advice for those who'd like to see change is to get more involved. This advice serves our Institute well: there is nothing like a committee to dull one's enthusiasm. I endorse this advice. The Institute staff weekend spa retreat helped me change many of my

positions on Institute extravagance. I now believe that the Institute hasn't any fat left to cut, or exfoliate.

You seem ready for battle but you should be pragmatic. You are not going to win the hearts and minds of the membership on the topic of square-footage. Peace of mind will come from engaging in battles of practical consequence. You should divert your energies to a populist cause such as promoting actuaries in new frontiers where they can produce comparable results for a price that says "well, they must be better".

Although your anger could be redirected to be productive, the Institute should still respond to the concerns you have. As a start, they should hire more branding experts to tone down their communication with members to give the illusion of modesty.

For example, why is every meeting scheduled in the Institute Library? This gives the impression that the Institute facilities equal those of the Cluedo mansion. Tea in the conservatory, anybody? (Spoiler: it was the lead piping and there is no prize for guessing which council member was the casualty.) 'Cramped Meeting Room 2' is a more appropriate title to placate the masses.

The modesty rebranding may have already started if the dry egg salad sandwiches that get dished up at lunch meetings are any indication. I digress.

I envy your enthusiasm to take on City Hall. Australia loves an underdog. We comfort ourselves that it is not the size of the dog in the fight that matters, but the size of the fight in the dog (and the legal ramifications for organised dogfighting). But that is not to say that your enthusiasm is well placed. The willingness to fight is a powerful commodity that can be better channelled into something greater than floor space. For example, eradicating malaria or origami. **A**



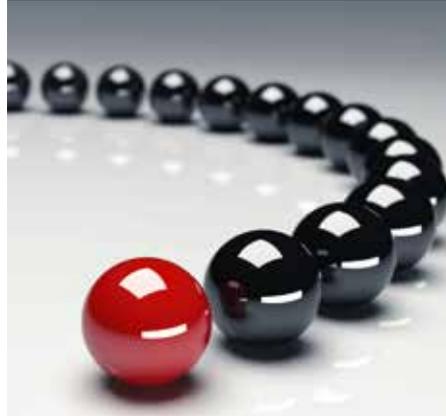
Event Notice

Actuaries Summit

Take the Lead

17-19 May 2015

Grand Hyatt Melbourne



Call for Papers and Presentations

The 2015 Actuaries Summit will be held at the Grand Hyatt in Melbourne, delegates are guaranteed a thought-provoking and informative program, plus numerous networking opportunities to catch up with colleagues and make new contacts.

The Summit will appeal to a broad range of professionals, with a theme of **Take the Lead**, delegates will gain insights into what it takes to become a leader of tomorrow, in whatever context that means for the individual – new ideas, new ways of thinking and challenging the norm. There will also be plenty of opportunities to catch-up on the latest actuarial developments.

The program is now being prepared and papers and presentations are invited on any of the listed topics (or a different topic). The deadline for submissions is Friday 12 September 2014.

Get involved and lodge your submission by the deadline to ensure it is considered for the Summit program.

Save the date for the Institute's premier event, we look forward to seeing you in Melbourne in 2015.

Potential Topics

General Insurance

Contact: **Ash Evans** ash.evans@taylorfry.com.au

- Catastrophe modelling and mitigating natural disasters
- Advances in the general insurance market
- Claims reserving and capital management
- Risk margins and insurance risk concentration charges

Health

Contact: **Kenneth Chua** kenneth.chua@suncorp.com.au

- What is the true cost of a \$7 doctor fee?
- Vaccinations – Is it time we mandated them?
- Should we revisit community rating?
- The unknown – Should we be saving up for the 'tobacco' of the future?

Life Insurance

Contact: **Shannon Lin** shannon.lin@aia.com

- What are insurance companies doing in response to rising claims costs?
- Reinsurance – In or out?
- Direct marketing – Advisors in or out?
- Life insurance and technology – What are life insurers doing to capture young clients?

Legislation

Contact: **Barry Rafe** barry.rafe@au.pwc.com

- Impact of new capital standards
- Stronger super and FoFA

... continued

Submissions

Please email your completed Submission Form, including your synopsis, to:
events@actuaries.asn.au

2015 Actuaries Summit Submission

<http://www.actuaries.asn.au/Library/Events/SUM/2014/SUM2015SubmissionTemplate.doc>
by Friday 12 September 2014.

It is important to lodge your synopsis by the deadline to ensure it is considered for the Summit program.

Contacts

If you have any questions please contact the committee member indicated on each topic.





Wealth Management and Superannuation

Contact: **Jeff Warner** jwarner@australiansuper.com

- How much do people need to retire and what products work?
- Do structured investment products deliver?
- How can we compare life stage products?
- Post retirement – the conundrum that won't go away
- Lump sum or income at retirement? Why did the UK remove compulsory annuitisation?
- Member-engagement – What are funds doing? Is it working? How can actuaries assist?

Investments

Contact: **Charles Wu** charleswu@mediasuper.com.au

- Investing in the post-retirement phase
- Outcome driven investing in a low growth environment
- Reassess alpha and beta – Is what you see what you get?
- Is there a role for impact investing?

Risk Management

Contact: **Chao Qiao** chao.qiao@au.pwc.com

- Bedding down and enhancing ICAAP
- Risk culture and risk appetite
- Risk interdependencies: aggregation and allocation; cascading of risk tolerances
- Operational risk
- Emerging risk

Banking

Contact: **Chao Qiao** chao.qiao@au.pwc.com

- Capital requirements for banks (e.g. DSIB)
- Volume and cost of regulation
- Digital impacts on banking
- Capital impacts of banks owning insurers

Leadership

Contact: **Lesley Traverso** lesley.traverso@quantum.com.au

- Leading technical teams – What are the challenges?
- How to motivate the highly intelligent
- How to be a professional leader – Small p
- A thought leader? What does that mean? How do you become one?

Data Analytics

Contact: **Lesley Traverso** lesley.traverso@quantum.com.au

- The Privacy Act – A help or a hindrance?
- Who can define 'Big Data' – How big is big?
- 'Analyse This' – What's next?

Public Policy

Contact: **Elayne Grace** elayne.grace@actuaries.asn.au

- Actuaries and Public Policy – What can we contribute?
- Climate Change – What needs to be done?
- How is the pooling concept of insurance changing with the increase of more personalised detailed information?
- What will be the impact of the falling uptake of advanced maths in Australian schools?





New Members Networking Evenings

The New Members Networking Evenings held in Sydney and Melbourne each year provide excellent opportunities for new members to get to know each other, meet the CEO and the Institute's President or Senior Vice President, and even reconnect with old friends from University.

This year the Sydney event was hosted by Senior Vice President Estelle Pearson and CEO David Bell at the Institute's (relatively) new premises on Monday 26 May, with 39 new members attending.

In Melbourne 23 new members joined President Daniel Smith and CEO David Bell at the Westin Wine Room the following evening, Tuesday 27 May.

At both events Members enjoyed drinks and canapés while CEO David Bell officially welcomed them to the Institute. David also provided information on upcoming events and other Institute activities.

In Sydney Senior Vice President Estelle Pearson shared some insights into her role, the role of Council and the Presidential trio. She also spoke about the importance of promoting the profession and other initiatives implemented by the Institute. Nick Li, President of the Young Actuaries Program (YAP) highlighted the importance of developing professional networks and the role of YAP in providing these opportunities through their events.

In Melbourne Daniel Smith talked about his role as President and the importance and value of being a member of the Institute. He also encouraged new members to give back to their profession by volunteering once they have qualified. Sophia Sophos and Ruby Huang from YAP in Melbourne gave an overview of the program and as per their colleagues in Sydney highlighted the role it plays in providing opportunities for new members to develop their professional networks and interests.

When formalities concluded new members were able to get to know each other over drinks at the respective venues plus chat with the presenters and HQ team members.

Feedback from these events continues to be positive and we look forward to welcoming more new members in 2015. **A**

Participant quotes

"To be able to meet so many peers who have similar experience at one place. Great to get to know people from different areas. The YAP representatives, Keri and Jia are commendable for their friendliness and helpfulness."

"A very good event especially for new starters and students. Should definitely continue in future."

"It allows me to get to know of the upcoming events that will be organised by the YAP committee and networking opportunities. It also allows me to meet up with friends from the same cohort in university."



Sydney – Estelle Pearson presenting



Melbourne introduction

Welcome to New Members

JUNE 2014

JULY – AUGUST 2014

NEW MEMBERS – AUSTRALIA

Andrew BIRD	VIC	Tikiri Bernadine APPUHAMY	NSW	Cheng SHEN	ACT
Aaron Kenneth BLACKWELL	NSW	Elleia Wagdi AZIZ	NSW	Yeyun SHEN	NSW
Danielle Kayla CASAMENTO	NSW	Noor-E-Hanaa BADULLA	WA	Yufei SUN	WA
Bingkun CHAI	NSW	Battsetseg BATBAATAR	NSW	Darryn TAM	ACT
David Zhi Wei CHAN	NSW	Veeru Kumar BODDULURI	WA	Miao TIAN	VIC
Allan CHEN	NSW	Samuel James BRASS	VIC	Wenxin TIAN	ACT
Miaoer CHENG	ACT	Yang CAO	ACT	Alasdair Nam Thang TRAN	ACT
Robert John Edward CUMMING	NSW	Francis Ka-Kin CHAN	NSW	Francesca VAN DER MERWE	NSW
Ritu Prakash DAVID	ACT	Yin Pok Herbert CHAN	NSW	Claire VAN HELDEN	NSW
Jing FANG	VIC	Nitin CHANDHOK	NSW	Bojun WAN	NSW
Dennis Christopher GLORIE	WA	Baikang CHEN	NSW	Liyang WAN	WA
Bhavish GUNGARAM	WA	Jeffrey CHEN	NSW	Shuai WANG	ACT
Peng GUO	NSW	Long CHEN	NSW	Bo WEN	NSW
David HUDSON	NSW	Timothy CHONGYEOW VOON	NSW	Alexander Tong WU	NSW
Huayun JIANG	QLD	Anthony Lucas CHRISTIE	NSW	Mengdi WU	ACT
Karen Trinh LAM	QLD	John Robert CONNOR	NSW	Jie XU	WA
Brendan Kai Hong LAW	VIC	Andrew Huy Quang DO	VIC	Mingda XU	VIC
Benjamin Saik Hui LIM	NSW	Stephen DONG	NSW	Su XU	NSW
Tyrone Marcel LOUW	VIC	Wei GUO	NSW	Huiqi YANG	NSW
Jonathan LUK	NSW	Nathan HUANG	NSW	Chen YE	ACT
Danny Ka Chun MA	NSW	Yi Dan JIA	VIC	Ziyan ZHAO	ACT
Tatenda MAKONI	NSW	Peter KENNELLY	WA	Hailun ZHOU	ACT
Yutai MAO	ACT	Anna KNEZEVIC	NSW		
Shilpa MUNGREE	WA	Alexandro Hoyen LAI	NSW		
Elizabeth Huong Viet NGUYEN	QLD	Lerisca LENSUN	NSW		
Lingshuang QIU	VIC	He LI	NSW		
Eleanor Jane STOECKELER	QLD	Selina LI	NSW		
Alvin TEOH	NSW	Shuo LIU	NSW		
Matthew Kung-Chuong TIONG	NSW	Yikan LIU	ACT		
Werner van der MERWE	NSW	Kaidi LUO	ACT		
Man XU	NSW	Anthony Denis MAHER	VIC		
Shaoyang XU	NSW	Jeremy Yin Wai ON	QLD		
Qizhi ZHOU	NSW	Terence John O'NEILL	NSW		
Weifeng ZHU	VIC	Andrew Robert PALMER	NSW		
Zhaowei ZHU	NSW	Juhi PIPARAIYA	VIC		

NEW MEMBERS – OVERSEAS

Chun Ting Timothy HO	HONG KONG	Chiu Shing CHAN	HONG KONG
Donghyun JEE	NEW ZEALAND	Jesse Jai EEDRAH	NEW ZEALAND
Mei Fang Fang LOW	MALAYSIA	Spencer ENESA	NEW ZEALAND
		Chih Chuan LIM	SINGAPORE
		Jun Hao WONG	MALAYSIA



Latest Results

PART III RESULTS SEMESTER 1 2014

In Semester 1 2014 the new computer-based exams were used for the first time for Global Retirement Income Systems, as well as Life Insurance, General Insurance and Investment Management and Finance (which had used the new exams in the previous semester).

The overall pass rate, including the UK ST9 ERM, UK ST1 Health and Care and ASSA F101 Health Principles exams, for Semester 1 2014 was 35%. This was the same as the previous semester.

The pass rates over the last 10 semesters, including the UK ST9 ERM and UK ST1 Health and Care and ASSA F101 Health Principles exams follows.

2014 (1)	2013 (2)	2013 (1)	2012 (2)	2012 (1)	2011 (2)	2011 (1)	2010 (2)	2010 (1)	2009 (2)
35%	35%	41%	39%	37%	33%	36%	40%	40%	40%

It was pleasing to see increases in the pass rate on the previous semester in three courses: Global Retirement Income Systems, General Insurance 3A and Commercial Actuarial Practice. Pass rates dropped slightly in Life Insurance 2B and General Insurance 3B. It was disappointing to see particularly significant decreases on the previous semester in Life Insurance 2A and Investment Management and Finance 5B.

Opposite are the pass rates for each course in Semester 1 2014 compared with the previous four semesters.



	2014 (1)	2013 (2)	2013 (1)	2012 (2)	2012 (1)	2011 (2)
Course 1 Investments	n/a	n/a	n/a	42%	30%	31%
Course 2A Life Insurance	26%	42%	52%	33%	33%	20%
Course 2B Life Insurance	37%	39%	26%	40%	25%	15%
Course 3A General Insurance	26%	18%	32%	30%	28%	23%
Course 3B General Insurance	26%	27%	35%	38%	38%	31%
Course 5A Investment Management and Finance	n/a	51%	n/a	57%	n/a	62%
Course 5B Investment Management and Finance	29%	n/a	57%	n/a	59%	n/a
Course 6A Global Retirement Income Systems	60%	n/a	42%	n/a	31%	n/a
Course 6B Global Retirement Income Systems	n/a	41%	n/a	21%	n/a	63%
UK ST9* Enterprise Risk Management	30%	22%	40%	33%	37%	26%
UK ST1 Health and Care	36%	10%	45%	38%	38%	n/a
Course 10 Commercial Actuarial Practice	60%	58%	53%	56%	57%	55%

*pass rates for UK ST9 above are for non-Fellows only. The pass rates for Fellows in the UK ST9 exam have been as follows:

Semester 1 2014: 6 sat, 2 passed, (33%). Pass rate for all members (30%).
Semester 2 2013: 6 sat, 2 passed, (33%). Pass rate for all members (39%).
Semester 1 2013: 3 sat, 0 passed, (0%). Pass rate for all members (39%).
Semester 2 2012: 4 sat, 2 passed, (50%). Pass rate for all members (33%).
Semester 1 2012: 6 sat, 4 passed, (67%). Pass rate for all members (39%).
Semester 2 2011: 7 sat, 2 passed, (29%). Pass rate for all members (26%).

PASS RATES AND EXAM CENTRES

This analysis of the overall Part III pass rates in different locations excludes the UK Part III exams.

	2014 (1)	2013 (2)	2013 (1)	2012 (2)	2012 (1)
Sydney	37%	34%	41%	37%	34%
Melbourne	39%	31%	38%	38%	45%
Other Australian	33%	57%	41%	59%	29%
Overseas	37%	35%	47%	36%	30%

The pass rates across the main exam centre categories were very similar in Semester 1 2014. The Sydney and Overseas pass rates were the same as the overall pass rate. The Other Australian category was slightly lower with 33%, with the pass rate for Melbourne being slightly higher at 39%. This is broadly similar to the previous semester, with the exception of the Other Australian category, which was significantly higher last semester. **A**



Sam Maitra

Title... Head of Actuarial Services

Organisation... Avant

Summarise yourself in one sentence...
How about four words (see later)...

My interesting/quirky hobbies...
I wish I was interesting and quirky enough to have such a hobby!

My favourite energetic pursuit... Hot Yoga

The sport I most like to watch...
State of Origin... Go the Blues!

The last book I read...
(Not counting kids story books)... *Zen and the Art of Motorcycle Maintenance*

My favourite artist / album / film...
Robert De Niro / Nirvana – *Unplugged in New York* / *Taxi Driver*

The person I'd most like to cook for...
My wife

I'm most passionate about... My kids

What gets my goat... Queue jumpers and people who don't walk in a straight line

I'd like to be brave enough to...
Go scuba diving with my wife without freaking out

In my life I'm planning to change...
Gradually

Not many people know this but I... am taller than I look

Four words that sum me up... Husband, father, happy, driven

What I wanted to be when I grew up...
A garbage man (a tall one, I guess). In saying that, I do spend a lot of time (both at home and work) cleaning up other people's...

Why and how I became an actuary... I liked maths in high school and I heard it paid well

Where I studied to become an actuary...
Macquarie University

My work history... Have been lucky enough to work in a number of different roles across GI including consulting, corporate, reinsurance, a brief stint in Hong Kong and now in medical indemnity

What I find most interesting about my current role... Realising how actuaries can add value at the strategic level

My role's greatest challenges... Keeping on top of it all

Who has been the biggest influence on my career (and why)... I have learnt more from Martin Edwards (my boss at Avant) in the last three years than I did in the 10 years prior

My proudest career achievement to date is... The team I have built at Avant. I couldn't be more proud to lead a group of such capable, dedicated and good people

10 years from now, I will be... 46

When I retire, my legacy will be... The impact I had on the people I worked with

Why I'm proud to be an actuary... Because I love what I do for a living

The most valuable skill an actuary can possess is... Good instincts

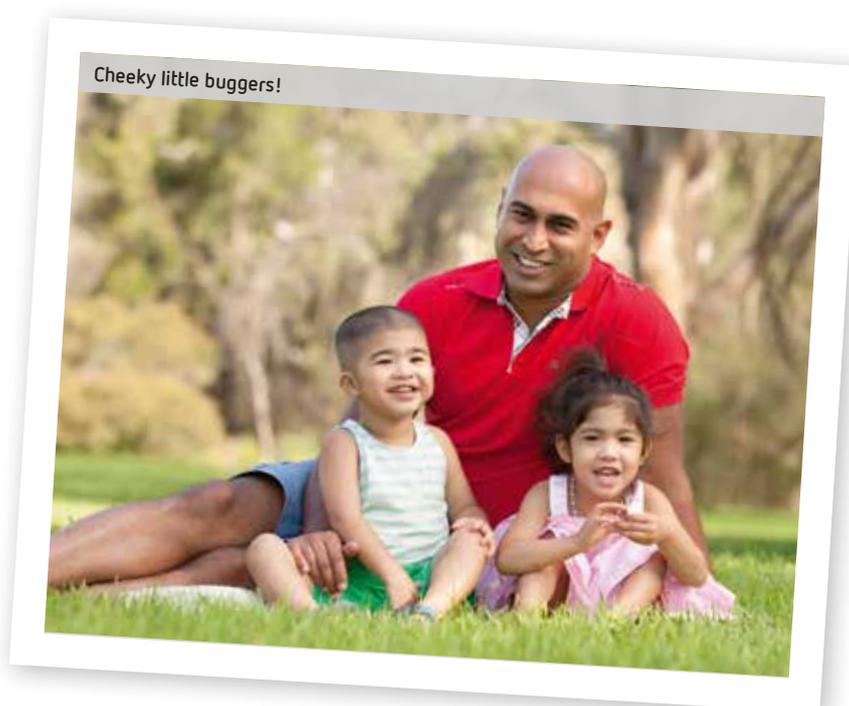
If I were President of the Institute, one thing I would improve is... The level of understanding high school students and university graduates have about their current job prospects following completion of an actuarial degree... every time I hear about grads having to work as bank tellers...

At least once in their life, every actuary should... Think strategically

My best advice for younger actuaries...
Slow down, calm down, don't worry, don't hurry, trust the process

If I could travel back in time I would...
Not change anything

If I win the lottery, I would...
Probably keep working **A**



Modern Yo-Yo Play

“WOW! I remember these! The Coca-Cola yo-yos back in the day were really popular!” This is one of the most common reactions I receive during my yo-yo practices, performances and competitions. Apart from the fun of yo-yoing itself, I also really enjoy the surprised and amazed looks from people as I demonstrate modern yo-yoing. The more incredulous reactions, give me the most motivation to continue with playing yo-yos.

WHAT IS ‘MODERN YO-YOING’?

The reason it is considered ‘modern’ is that the yo-yoing techniques nowadays are something people couldn’t even imagine when the Coca-Cola yo-yo hype was on several decades ago. Tricks have been evolving at an exponential rate, so that an experienced player today could easily beat the World Yo-Yo Champion of 10 years ago. Not only are the skills far more advanced, but also different divisions have been created, some with yo-yos detached from the string (which look like diablos in a way), and others have two yo-yos involved at the same time and some are tied with a weight instead of on your finger. If you are interested to see some modern yo-yoing in action simply search ‘World Yo-Yo Contest’ and be ready for some moves you never expected.

WHEN AND HOW DID YOU START?

I played a little bit of yo-yo when I was in Junior High School back in China due to the famous TV series ‘Blazing Teens’. I was able to do the old-school tricks such as rock the baby and the sleeper, and nothing further than that.

The day that I really started getting into ‘Modern Yo-Yoing’ was

4 September 2010, after watching the World Yo-Yo Contest. I was really amazed and inspired by the world-class players. I began my journey when I got my first competition-level yo-yo.

Due to the traditional Chinese way of thinking, most people in China consider yo-yos as just kids’ toy (especially if no professional-level skills are demonstrated). Luckily here in Australia, applause and encouragement are far more common than teasing and misunderstanding. The first time I tried to yo-yo in the school corridor, more than 20 classmates were collected within two minutes. I was ready for some harsh words (trust me, I’ve experienced that, and was ready for dealing with it), but instead I heard “Wow, that was amazing!” “I didn’t know a yo-yo can do that!” The encouragement is one of the major reasons to keep me going.

IS IT SAFE TO HAVE YO-YOS FLYING AROUND YOU?

My answer is yes – well... if you put in the correct effort. Controlling yo-yos not to hit other people or objects is much easier than it looks, and the non-metal yo-yos are quite harmless. With metal throws, it can occasionally hurt the players themselves if advanced tricks are played, but many of us just learned to ‘get used to it’ since they hardly ever cause an injury or anything beyond pain.

However, if the yo-yos have knots inside, the injury can get serious with a hard throw (because all the power is hitting back straight after you throw the yo-yo). The only time I really hurt myself, which left me with stitches above my left eye, was when I didn’t check if the yo-yo was winded properly. One important lesson you can hear from any professional player is: check your yo-yos by throwing gently at the beginning of each session. Safety first.

HOW DOES YO-YOING CONTRIBUTE TO YOUR LIFE?

The minor hand extreme sport (yes, 'sport' I'd like to call it) of yo-yoing builds self-confidence – since, even some of the simple tricks can be astonishing if demonstrated to an unfamiliar audience with the right approach. Yo-yoing has made me a more outgoing person and has strengthened my communication skills, I went to my first yo-yo meet one month after I got my hands on a yo-yo, and with around a year's experience speaking English. I have been welcomed into the Australian yo-yo community- it's where I get the encouragement I need when faced with unfamiliar situations in a new country.

Yo-yoing also really helps to develop hand-eye co-ordination, since one centimetre or one second can make a huge difference in advanced yo-yo tricks and determine if you will be successful. It also helps to relax my eyes: as an actuarial studies student, I do most of my work online; majority of my hobbies involves a computer as well, so I generally use computers more than 10 hours per day; playing yo-yos requires my eyes to change focus a lot and whether it's thanks to yo-yoing or not, my eyesight is still perfect!

Another positive I didn't expect when I began yo-yoing has been from becoming an online forum administrator for more than three years. This forum (namely 91yoyo) has been the largest Chinese yo-yo community and has 1000-4000 new posts per day. Managing the daily activities of the forum and organising yo-yo related competitions and events really helps to develop my leadership and teamwork skills. As well, organising big events and gaining sponsorships from yo-yo companies worldwide has proved invaluable experience for my life and future career.

HOW DO COMPETITIONS WORK?

Yo-yo players perform 'freestyle' to compete. A 'freestyle' performance is a fixed length of time (usually two or three minutes), filled with yo-yo tricks chosen by players. During the contest, the players must not only successfully execute the tricks, but do so with passion, synchronisation to the music, interactivity with the audience and so on.

Competitions are usually divided in five different contest divisions, some big contests can also have another division (Artistry Performance) where the players are judged only on the performance aspect of their routine. There is one World Yo-Yo Contest and many national/multinational contests. The Japanese and American ones are the largest nationals, yet the Australian contests are stepping up the game as well!

HOW DO YOU FEEL WHEN YOU ATTEND THE AUSTRALIAN NATIONAL YO-YO CONTEST?

In one word: excited; two words: excited but nervous... sorry, that's three!

At my second time ever attending a yo-yo competition I started planning my freestyle only one week before



Australian yo-yo players are definitely one of the friendliest groups of people I've ever known.

the contest date (which is really late, with many players planning weeks or even months in advance), and saw many crazy tricks from other players the day before the contest.

When I stepped on stage, I was nervous and overwhelmed by excitement. Although I remembered all tricks clearly in my head before the contest, my mind went blank after the music started, and I can hardly remember what happened on stage... until the applause brought me back. I ended up doing exceptionally well (compared to my practices) and was lucky enough to be granted the National title. The moment when I was announced as the Australian Yo-Yo Champion was definitely one of, if not the, best moment in my life.

WHAT ARE YOU NOW UP TO?

With Actuarial Studies I now have a much heavier workload than when I was in high school! Right now I concentrate more on how to invent some really nice, fresh tricks, as well as focusing on the performance aspect. One of my other plans is to one day do an artistic yo-yo freestyle with my own composition. It's a long way off, but I'll do my best towards it!

YO-YOING SOUNDS FUN! HOW CAN I JOIN?

Australian yo-yo players are definitely one of the friendliest groups of people I've ever known. There are regular meetings in Sydney and Adelaide. If you don't live near a local yo-yoing club, just join the yoyos.com.au Facebook group and there will be more than enough tips if you throw in a question. Go ahead and get a yo-yo off the internet, and let's begin! **A**

For some cool yo-yoing – See 'Yo-Yo Baby':
<http://www.youtube.com/watch?v=ShTSo7LkU5g#t=20>



Daniel Smith
president@actuaries.asn.au
@DanielSmithFIAA

Educating the Actuary of the Future

Have you noticed that some things are harder to do than they are to watch, while it is the reverse for others?

A good example of the first case is exercise – much easier to watch someone else. In the reverse is manipulating a spreadsheet – ever tried to watch someone else only to find yourself saying “just give me the keyboard”?

Interestingly, study seems to be something that is much easier to watch than to do. Ever noticed how many people who sat exams years ago are convinced that they're so much easier now?

In a related sense, debates about a subject's syllabus often end up with the 'watchers' lamenting that the real material has been dropped out for more namby-pamby touchy-feely content while the 'doers' complain that what they're studying is no longer relevant.

This is of particular importance to the profession right now. Last year Council created a working group (representing a broad cross section of the membership) charged with making recommendations to Council on their vision for educating the actuary of the future. It was considered that there are four key objectives to be addressed by the education process:

- actuaries should be equipped to operate successfully in a dynamic business environment;
- actuaries can effectively apply their skills in new and emerging fields and are flexible and adaptable in their thinking;
- to attract high quality entrants to the profession; and
- maintaining global recognition of the Australian qualification.

The working group was asked to initially start with a clean sheet of paper – what would we create if we were starting from scratch. From there consideration has been needed to be given to the current state of play and international requirements.

The Education Strategy Working Group (ESWG) has consulted a broad range of members and has developed a straw man proposal for what the Associate level qualification might look like in future. It is now in the process of seeking feedback from members in specific areas for refinement and submission to Council. Assuming all goes well the refined straw man will be put before all members following the September Council Meeting.

This is an extremely important piece of work for the Institute. The manner in which students are educated has changed significantly over the last decade and the actuarial education needs to adapt to maintain its relevance. As part of making the necessary changes we need to have a sensible debate about what elements of

an actuarial education are core and what can be electives.

Arguably a first step is to agree on what the actuarial paradigm is. The issue of an actuarial paradigm was highlighted by Richard Fitzherbert in his 2006 paper titled 'Paradigms, Research and Recognition of the Actuarial Profession' and it could be argued that the issues raised have not yet been adequately addressed.

My initial thoughts are that the core skills of an actuary can be described as having a cohesive understanding of financial mathematics, economics, accounting, insurance and statistics. Is that enough or good enough? We do need to consider the actuarial paradigm as part of this debate – what do we own and what should we own?

In order to prevent the debate from spiralling out of control there are some key base assumptions that need to be accepted and in my view these are as follows:

- the changes are not going to allow a reduction in the standard or quality of new actuaries;
- the contents of the syllabus need to meet the needs of the actuary of the future and not the actuary of the past;
- the syllabus requirements need to have some flexibility to enable people with a broad range of academic backgrounds to enter the profession without prohibitive barriers to entry;
- universities will be needed to provide a large proportion of the actuarial education; and
- the Institute needs to maintain its gatekeeper role and must be able to determine accreditation.

The ESWG and Council are very keen to receive feedback from members in relation to the straw man proposed by the ESWG as we work towards developing an education framework that will meet the needs of actuaries for the foreseeable future. You should expect to see more following the Council Meeting in September. **A**



We need to consider the actuarial paradigm as part of the 'future Actuary' debate – what do we own and what should we own?



David Bell
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Should the Institute *CONSIDER* Adopting a Public View on Climate Change*?

"If you don't know where you're going,
you might end up some place else."

Legendary American baseball coach 'Yogi' Berra was famous for his mangled use of the English language. In this case, however, I think he got it right, when I consider the Institute's approach to adopting any form of public position on climate change.

There is an old saw that 'nature abhors a vacuum' and, in my experience, this applies to debates on contentious policy issues. If the Institute vacates the field on climate change (or doesn't even express a view), then individual actuaries will, naturally, continue to comment as is their right and want. This means that, inevitably, individual views are likely to become interpreted as the views of the Profession (I have first hand experience of this on another issue).

Rather than letting this happen, why don't we attempt to work out what makes sense for the Profession to talk about, and have the Institute speak on your behalf?

Currently, the Institute does not have a public view on climate change, and the Profession, seemingly, has chosen to avoid having a structured debate on the issue. Having said that, there are instances where we do comment on issues relating to climate change including, for example, the Institute's response to the Productivity Commission's Inquiry into natural disaster funding and our 2011 submission to the Garnaut update on climate change. Individual Members and committees, through News Bulletins, also comment on, or refer to, climate change developments in various ways.

Unusually, perhaps, I would like to start out by explaining what this article is not attempting to do.

Firstly, I am not making an argument, in favour or against, any policy position dealing with climate change mitigation. Nor am I lending any support to any theory about why climate change is occurring (or not occurring to the extent that is being claimed). I will also avoid any forensic assessment about the science behind the arguments, for and against, on climate change because I am not a scientist.

What I do want to do is tackle the issue of whether or not the Institute should consider adopting any public position on climate change. I would like to test Members' views on the issue through feedback in a discussion



forum (www.actuaries.asn.au/climatechange) which is now active. Alternatively you may wish to email me at david.bell@actuaries.asn.au.

Why I am doing this? There are different views within the Profession about the issue (not to mention the wider world). However, this fact, of itself, should not stop a rational discussion and a well-informed debate or limit our contribution in other areas. I have also been encouraged by a number of members to tackle the issue; equally, I've been told by others that the Institute should tread carefully.

Fundamentally, however, it seems to make sense for the Profession to consider seriously, whether it should have a view on one of the most important and debated public policy issues of this decade and into the future. It would be unremarkable if we were to do so. Public positions on climate change have been adopted by numerous leading financial services companies and other organisation, as have the actuarial bodies in the UK and US.

In fact, I think it is fair to state that climate change is always happening but, if extreme change occurred rapidly, then it would challenge the well-being of humans. Therefore the Profession should not ignore the risk of rapid and extreme climate change.

Actuaries are already involved with modelling and business decisions which relate to climate change, translating climate predictions into economic costs. Actuaries have professional and regulatory responsibilities to assess risks based on reasonable evidence at their disposal. If this is the case shouldn't the Profession have a view if actuaries are already practising in this field, and will continue to do so, quite possibly at an increasing level? It also needs to be recognised that individual actuaries are already commenting on climate change related issues and have been doing so for some time and will continue to do so.

In response, one argument runs that by commenting on what is a controversial and politically-charged issue, the Institute runs the risk of being portrayed as having a 'political' agenda and getting dragged into matters outside of its expertise and remit.

Alternatively it can be said that if the Profession and Institute cannot comment on any aspect of climate change (where Members currently practice) then we look out-of-touch, and not prepared to debate the large and important issues that affect our country and our planet. Importantly, how can actuaries properly advise their business and clients about potential business risks if they are not across the debate over climate change?

I respect both these different points of view.

Drawing on this issue of respect, I would ask that contributors to the discussion forum provide their opinions and facts and avoid running-down the opinions of others. I would also encourage everyone who wants to have their say – it's important that we receive a broad-based view on these matters. My understanding is that previously there has only been a relatively small number of Members who have contributed to discussion.

My assessment is that we are fortunate that individual actuaries and the Profession are, I believe, prepared to have the discussion in a mature and balanced way, applying their well-known reputation for rational process and intellectual rigour.

HOW I APPROACH THE ARGUMENT

My starting proposition is to consider the question as to whether the Profession should consider adopting a position on any aspect of climate change.

Firstly, I will set down what actuaries are doing,

business-wise, in the climate change space.

Secondly, I will attempt to identify the different components of the climate change debate.

Thirdly, I will identify how best to make an assessment of what is relevant and appropriate for the Institute to comment upon in the climate change debate.

Finally, I will offer, as best I can, an assessment of where I think the balance of arguments lie about what role the Institute has in climate change policy and what areas we might be able to talk about.

ACTUARIES' INVOLVEMENT IN CLIMATE CHANGE RELATED ACTIVITY

Currently actuaries are involved in many areas of business that are impacted by weather-related perils (storm, bushfire, cyclone, riverine flood) that are potentially affected by climate change. The range of impacted general insurance products alone includes:

- Personal lines: home and contents, domestic motor vehicles, travel and mortgage; and
- Commercial lines: fire, farm and crop, construction and engineering, marine and aviation and motor vehicle.

The Profession has already observed the potential for its involvement in 'greenfield' product development. In the Institute's submission to the Garnaut Climate Change Review (2011) we identified opportunities for actuarial input into insuring mitigation activities such as bio-sequestration, geo-sequestration and nuclear power generation.

Actuarial expertise has also been required for the development of insurance and financial products that provide enhanced protection against operational disruption from weather events that could impact distribution and supply chains, as well as, water and energy supplies. Similarly, actuaries have also been involved on the investment side e.g. in the financial modelling of investment projects motivated by improved energy efficiency and carbon emission reductions.

More broadly, the Profession's capacity to model the cost of weather-related peril, if climate does change, can provide invaluable assistance to policymakers grappling with future infrastructure, taxation, population and regional and urban development issues. Whichever way we look at the climate change debate, actuaries will be involved in assessing its potential risks across a number of commercial and public policy fronts.

BREAKING-DOWN THE DEBATE ON CLIMATE CHANGE

What are the different components of the climate change debate? I would assess them to be, in the most general terms:

1. What is the science behind the argument that climate change is occurring and, moreover, is climate change

increasing in its extent and impact? Is this science valid?

2. Accepting the view that greenhouse gases are increasing due to human activity, what is the link between greenhouse gases and climate change?
3. What other factors (e.g. sunspot activity) are potentially responsible for changes in the climate?
4. What policy solutions are available for business and governments to deal with climate change mitigation and adaptation?
5. What roles are actuaries playing already and should play in to the future, in dealing with climate change activity (including either or both mitigation and adaptation)?

A PRINCIPLES-BASED (AND COMMON-SENSE) APPROACH TO DETERMINING WHAT THE INSTITUTE SHOULD HAVE A VIEW ON

The established principles which guide the development of the Institute's public policy are:

- The public benefit. As a professional body the Institute holds the 'public interest' or 'common good' as a key principle in developing policy.
- Risk-focus. In developing solutions to public policy problems, actuaries take an evidence-based approach that focuses on risks.
- Transparency and disclosure. The availability of quality data underpins the careful analysis that actuaries can provide.
- Equity and the 'level playing field'. Individuals should be given fair treatment and should not be subject to unlawful discrimination.
- 'Good' regulation. Excessive or unnecessary regulation can obstruct an efficient market from functioning and can undermine the 'public interest'.

In addition to guiding principles it also helps to use a healthy dose of common-sense.

From a 'common-sense' point-of-view the Institute should only comment on matters where it can bring expertise and credibility to bear. Presumably, what actuaries are already doing in climate change related activity will be relevant here.

AN ASSESSMENT OF WHERE THE INSTITUTE MIGHT HAVE A VIEW ON CLIMATE CHANGE POLICY

From a policy principles perspective an appropriate contribution by the Institute on climate change appears to meet the public interest test, as well as bringing into play the skills that actuaries have in the fields of risk and a commitment to data quality through transparency and disclosure. The Institute has skills in harnessing the expertise of actuaries into making a contribution on good regulation. The issues of equity and 'level playing field' are less clear.

Using a combination of our policy principles and a common-sense approach, I would draw the following conclusions

- it's unlikely that the Profession can draw any conclusions on the broader 'science' of climate change identified earlier at points one to three framework for assessing climate risks and possible actions that might lower them (this is already happening);
- actuaries can make assessments about economic models associated with climate change (actuaries are expert in assessing and creating economic models);
- the Institute can make a meaningful contribution to the development of public policy (so long as it is in an area which reflects actuaries' expertise); and
- the Institute should not be dragged into any political debate on climate change (this would be damaging to its reputation for impartiality).

WHAT NEXT?

I look forward to the debate that follows on whether Members think that the Institute should consider adopting a view on climate change and what the elements of that view should be.

I will then speak to the Public Policy Council Committee about whether it is possible to take the issue forward and how we might do that.

I will of course keep Members informed on developments. **A**

Author's note: I would like to thank those Members who reviewed this article (and who hold a range of views on this topic), for their input and guidance. The final product, however, is mine alone.

** I have used the term 'climate change' rather than 'global warming', which some commentators use as well when making a short-hand reference to the subject.*



Event Notice

General Insurance Seminar

Insuring Tomorrow

17-18 November 2014 • Hilton Sydney



Join Facilitator Michael Pascoe for the General Insurance Seminar

The Seminar has built up a reputation for showcasing leading edge thinking in the general insurance industry. With the global economic landscape changing and a data and social media revolution underway, this year's Seminar focuses on how the actuarial profession can help the general insurance industry insure tomorrow.

Michael Pascoe is one of Australia's most respected and experienced finance and economics commentators with four decades in newspaper, broadcast and on-line journalism covering the full gamut of economic, business and finance issues.



Michael is seen on Channel 7's Sunrise and news programs, is Contributing Editor for the Sydney Morning Herald and Age BusinessDay.com.au sites, is a weekly finance columnist for Yahoo7 and a popular conference speaker, bringing rare humour and plain language to the 'dismal science' of economics.

Michael was born and educated in Queensland, starting his career with The Courier-Mail before working in Hong Kong for three years on the South China Morning Post. He joined the Australian Financial Review in Sydney upon returning to Australia and then pioneered specialist finance journalism in commercial broadcasting - first with the Macquarie Radio network, then with Channel 9, Sky News and 7.

Michael has four sons, maintains a love of rugby union, a dislike of gardening and what he calls 'an outlook of optimistic scepticism'.

Mr Michael Pascoe appears by arrangement with Saxton Speakers Bureau

Early Bird Registrations Open – 1 September 2014

The **Enterprise Risk Management Seminar** will be held on Wednesday 19 November. A discount registration will be on offer if you attend both GIS2014 and ERM2014.

Find out more about both Seminars at www.actuaries.asn.au

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Siddharth Parameswaran	Research Analyst (Insurance), JP Morgan
Justine K Brindley	Legal Manager & Senior Lawyer – General Counsel GI Advisory, Suncorp
Jeanne Fennell	Principal, Marsh
Richard Enthoven	Chief Executive Officer, Hollard
Andy White	Group Head of Capital Modelling, QBE
Stuart Bingham	Senior Manager, APRA
Alex Sanchez	General Manager, Policy, Economics & Taxation Directorate, ICA
Anne O’Driscoll	Non-Executive Director, Steadfast Group & Commlnsure
Frankie Carroll	Deputy CEO & CFO, QRA
Paul Ormonde-James	Group Manager – Operations, Insights & Commercialisation, Australia Post
Ty Birkett	Managing Director, Willis Re
Andy Pitman	Director of the ARC Centre of Excellence for Climate System Science, UNSW
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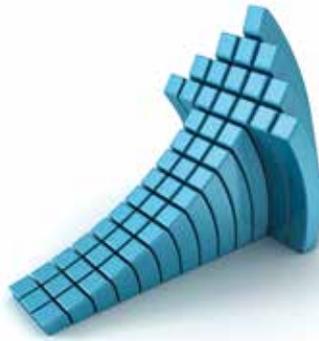


Event Notice

Enterprise Risk Management Seminar

Capturing the Upside

19 November 2014 • Hilton Sydney



The GFC storm is over, there's a glimpse of blue sky, it's time to concentrate on growth at all costs!

Actually, now is the time for ERM to shine and come of age – and the Actuaries Institute will be holding the Enterprise Risk Management Seminar at the Hilton Sydney on Wednesday 19 November 2014.

With the theme *Capturing the Upside*, ERM2014 will explore why Enterprise Risk Management is central to strategy in creating and sustaining value.

Venue

Hilton Hotel Sydney
488 George Street
Sydney NSW 2000
† +61 (0) 2 9266 2000

Registration

Register online now at <http://actuaries.asn.au/microsites/enterprise-risk-management-seminar> or contact the Actuaries Institute to manually register for this event.

Registration opens on Friday 1 September. Register by Friday 24 October to take advantage of the Early Bird discount.

Speakers

Plenary 1: Capturing the Upside in Practice

Scott Mackenzie – Chief Risk Officer, TAL
Antonio Ybarra – Risk Director, BUPA
Mike Thornton – Group Chief Actuary and Chief Risk Officer, AMP

Plenary 2: Stress Testing

Ignatius Li – Director, Deloitte
Jeremy Waite – Head of Analytics – Australia and New Zealand, JLT Towers Re
Tim Spicer – Actuarial Leader, Genworth

Plenary 3: Emerging Risk

Professor Barbara Norman – Director Canberra Urban & Regional Futures, University of Canberra
Emma Herd – Executive Director, Emissions and Environment, Westpac
Tim Andrews – Director, Finity
Andy White – Group Head of Capital Modelling, QBE

Plenary 4: Operational Risk – Value and Resilience in a World of Disruptive Change

Tara Cahill – Chief Risk Officer Group Services, Westpac
Heather Navid – Innovation Programme Director, TAL
Kieran McKenna – Chief Risk Officer, Cuscal

Plenary 5: Risk Appetite

General Insurance Risk Appetite Statement Working Party
Life Insurance Risk Appetite Statement Working Party
Dean Saunders – Head of Risk Strategy and Governance, Westpac

Plenary 6: Stakeholder Views of ERM in Practice

Jim Minto – Group Chief Executive Officer & Managing Director, TAL
Damien Mu – Chief Executive Officer, AIA
Shaun Dooley – Executive General Manager, Enterprise Risk & Chief Credit Officer

Program at a Glance

Wednesday 19 November 2014

Sessions	8.30am to 5.25pm
Seated Buffet Lunch	12.40pm to 1.30pm
Cocktail Party	5.30pm to 6.30pm

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