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THE MAGAZINE OF THE ACTUARIES INSTITUTE

Actuaries DIGITAL

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IMPORTANT INFORMATION FOR CONTRIBUTORS
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Young Actuaries Program (Melbourne) – Data Analytics

By James Morris *(jmorris@australiansuper.com)*

Reading time: 3 mins

After-work on a cold Thursday evening in Melbourne, the Young Actuaries Program ("YAP") membership gathered for the latest instalment of the 'Evening Speaker Series' – Data Analytics. James Morris reports.

The event's audience heard four prestigious speakers' thoughts on a range of topics including the importance of data analytics, emerging trends and the synergies between actuarial and data analytics skill-sets.

The panel of speakers consisted of both actuaries and non-actuaries with varying backgrounds, each working with big data sources in their specialised fields, which yielded a great dispersion of thoughts and discussion topics. The panel included:

- Genevieve Hayes, the Analytics and Actuarial Manager at the Victorian Managed Insurance Authority (VMIA);
- Peter Stuchbery, an owner of Nature, a Melbourne-based quantitative research agency;
- Sheena Wong, a consultant at Quantium; and
- Stacie Haber, who leads Mercer's Insights & Analytics function in the Pacific.

Pearls of Wisdom

Two key themes which permeated the discussion were captured well by Stacie in her talk, who noted the increasing "democratisation and proliferation of data". Throughout the evening, it was clear that the sheer volume and availability of data, combined with increasingly sophisticated tools and techniques for analysis and visualization, is opening up new and exciting avenues for exploration.

Not so long ago, simply having a data analytics function was a significant differentiating factor for businesses. Nowadays though, the use of data analytics is becoming much more main-stream as organisations are rapidly realising the value in retaining and analysing large quantities of data to help facilitate better informed decision making. As Sheena noted in her presentation, in data analytics today "it's becoming more about the speed of analysis and the ability to communicate effectively with the business".

In a similar vein, most of the speakers also remarked that the landscape for data analysts is changing into one which is much more consultative. Capability in crunching the numbers is paramount (and a requirement for all analysts), but as Peter noted "what sets a great analyst apart is their ability to work effectively with the business ...understand the analysis and also communicate it clearly". Data analytics teams therefore need a

wide variety of skills including model building, data visualisation and communication.

Another clear theme for the evening was that this consultative approach is one of the areas where actuaries should be well positioned to add value.

With its focus on both consulting and analytical skills, the actuarial pathway is designed to help turn information into actionable insights.

Indeed, many of the skills actuarial students learn have great synergies with data analytics, particularly around cleaning of data and the approach to model building and consultation. To borrow a terrific turn of phrase from Genevieve, "Analytics and actuarial: The best of both worlds. It's a combination of a consistent contender for job of the year, with the sexiest job of the 21st century".

Another key theme of the evening was around security & privacy, which is already very important and will only become more so, given people's sensitivity to the usage of personalised data. There was a broad agreement that personalisation generally helps improve user experience up to a point, but can easily backfire if it goes too far and becomes overbearing. This is a fine line which data analytics professionals should be aware of.

Words of Advice for Young Actuaries

There were plenty of fantastic insights scattered throughout the evening for the YAP members in the audience, with some of the salient points including:

- "Every skill you acquire doubles your odds of success" – when preparing for a role it's all about building a portfolio of marketable skills. When taken together in combination these groups of skills are more valuable than being above average in each area.
- "Change before you have to" - the actuary of the future is going to enter the workforce with a stronger grasp of analytics than ever before, so get started with learning these skills now.
- There is a shortage of people who can cross the divide between analysts and consultants – being able to talk about complex ideas in simple terms is an invaluable skill.
- There are plenty of open source applications through which you can start learning and practicing data analytics for free, including online courses (e.g. MOOC's & CodeAcademy), programming languages (e.g. R & Python) and datasets or competitions (e.g. Kaggle) – the skills you'll learn will stand you in good stead, so go get started learning!
- Look out for the regular Data Analytics column "Normal Deviance" in *Actuaries Digital*, read Part One "Getting started in analytics", Part Two "In praise of the GLM" and Part Three "Burying the GLM" by Hugh Miller.

The Young Actuaries Program runs a number of events in Melbourne including evening speaker sessions and networking lunches. For more information please contact me via email and keep an eye on upcoming YAP events in our Events Calendar.

Actuaries in Asia - Singapore and Kuala Lumpur

By Kitty Chan

Reading time: 4 mins
Asia Liaison Manager, Kitty Chan, reflects on her first three months at the Actuaries Institute.

Looking at my schedule and making plans for the next few months, I noticed it has been three months now since I joined the Actuaries Institute team, working in Asia.

Since joining, I have spoken with and made lots of valuable connections with Members and senior actuaries in Hong Kong and Asia.

I would like to thank all those Members who sent me welcoming messages. I look forward to working closely with our Asian-based community!

The highlight of my time with the Institute so far has to be the Asia Tour, which took place in May.

I visited a few Asian cities with our President, Jenny Lyon and CEO, David Bell.

Our first destinations were Singapore and Kuala Lumpur.

Meetings with the Monetary Authority of Singapore and the Actuarial Society of Malaysia went well; we discussed and learned about the regulatory environments in the respective local markets.

Singapore Fullerton

We also met with the representatives of the Singapore Actuarial Society, the Actuarial Society of Malaysia and the Life Insurance Association of Malaysia to share our views about the Actuarial profession in Asia.

Jenny and David spoke to our members at the Presidential Dinners. We enjoyed the networking opportunity, delicious meals and kind hospitality from the locals.

Jenny Lyon at IFoA conference (HKG)

Jenny Lyon presents at the HKG CPD Tour

David Morrison at HKG CPD Tour

The next destination was Hong Kong – our 'hub' outside Australia!

We met with Dr. Moses Cheng, Chair of the Independent Insurance Authority, Hong Kong and Kevin Lee, President, Actuarial Society of Hong Kong to share comments on issues surrounding the industry.

We presented the CPD Tour at the Hong Kong Presidential Dinner and were delighted to have David Morrison AO speaking to our Members there. His speech on leadership impressed everyone who attended the session. Jenny was also invited to speak at one of the panel discussions of the IFoA Asia Conference 2017 about the Future of the Actuarial Profession in Asia.

To learn about Actuaries' life over here, I have asked few questions to members Ling Mien Yeo, Stephen Lum and Iris Lun.

The Questions:

1. What is your background, practise area and links/circle in Asia?
2. How would you compare the two markets, Australia vs Asia?
3. If you could pick one thing (anything) and send it back to Actuaries in Australia, what would it be?
4. What is your view about the future and challenges of Actuaries in Asia?

Stephen Lum, FIAA

Latest Job Title: Acting Chief Actuary at Am General Insurance Berhad (Kuala Lumpur, Malaysia)

1. Chinese born and bred in Malaysia...I lived in Australia for approximately 15 years before moving to Singapore 2 years ago. I have been working in the GI industry, mainly in Pricing and Reinsurance.
2. Australia is obviously a more mature market than Asia. It is usually easier to get things done in Australia because of aligned understanding and culture; however, in Asia, one needs to be careful and not assume that what you asked is necessarily understood by your audience or stakeholders. Always double check and clarify. Be courteous in your questions so that they do not sound intimidating or offensive in certain cultures.
3. Durian – yummy!
4. Depending on the markets, there are plenty of opportunities in Asia for actuaries as we are highly regarded and our opinions are generally sought after. Of course, we must not take this advantage for granted and we have to constantly demonstrate (or evolve!) our value-add to businesses/ organisations especially with the onset of digital/disruptive technology age.

Ling Mien Yeo, Student

Latest Job Title: Manager, Professional Practice Change & Transformation at Deloitte Malaysia

1. I have a Bachelor of Commerce (Honours) majoring in Actuarial Studies from the University of Melbourne and a MSc Risk Management from the University of Southampton. I previously worked as a capital markets regulator but now work in change and transformation for Deloitte.
2. The financial markets are similar in some respects but also different in others. Investor knowledge differs, and as such the rules and regulations that are in place reflect some of these differences. Also, as Australia is a more matured market, products and services are already more established compared to most of Asia. The markets in Asia that have recently developed and are developing have the advantage of learning from the rest of the world to try to find what suits their market best.
3. Durians – just because you can't get good ones in Australia (they have to be from Malaysia, fresh, not frozen from Thailand).
4. The relevance of actuaries in Asia. There are only so many insurance firms there and only so much actuarial work to be done. Actuaries need to be adaptable and show that our skills can be used in many industries. The increase in supply is vastly more than demand and traditional actuarial roles will not be enough to provide jobs for everyone.

Iris Lun, FIAA

Latest Job Title: Founder, 10Life at Hong Kong

1. Having been in the life insurance industry across Asia and Europe, mainly working for large financial institutions for almost 2 decades, I co-founded 10Life, an insurtech startup based in Hong Kong, with a mission to make insurance transparent and simple for consumers.
2. Insurance can be complicated in both markets, but much more so in Asia due to the popularity of bundled products often mixing protection with savings and investment elements. In addition, distribution of insurance products are still mainly through tied agents and banks. As a result, unbiased comparison of insurance products are often lacking, creating mistrust and misunderstanding of insurance among consumers.
3. Convenient and low cost public transport system (in exchange please send back unlimited supply of fresh air)
4. With the advancement of technologies like AI and machine learning, robo-actuaries will start replacing human actuaries for most of the traditional actuarial work. Probably not too different for actuaries elsewhere!

Next, China!

Read Kitty's report on China **here**.

Actuaries in Asia - Beijing and Shanghai

By Kitty Chan

Reading time: 4 mins

The Institute's Hong Kong based Asia Liaison Manager, Kitty Chan, reflects on her visits to Beijing, Shanghai and the China Actuarial Association, along with President, Jenny Lyon and CEO, David Bell.

We departed Hong Kong and flew to Beijing. Upon our arrival, the whole city was overwhelmed by the “One Belt, One Road” campaign. We were very lucky to enjoy the clear blue sky at Beijing!

First stop was Renmin University of China. We spoke to Professor Xiaojun Wang, Director of Center of Risk Management & Actuarial Studies about our Qualification and Education system.

We shared the same passion in nurturing highly skilled Actuaries for the future and agreed we would consider future opportunities to collaborate.

We then visited the China Actuarial Association and were welcomed by President, Mr. Chen Dongsheng. Mr. Chen recognised the strong relationship between the two professional organisations and said he hoped this would continue.

We had the opportunity to speak to one of the most respected and experienced FIAA working in Greater China and Asia, Steven Hui. Steven has been an active contributor to the Actuarial profession and I look forward to working with him on our Asia Initiatives.

Our last stop was Shanghai.

Dr. Zhigang Xie, Director of the Research Center for Insurance and Actuarial Science at the Shanghai University of Finance and Economics, invited us and Robert Chen, International Council Committee Member, to a Tea Ceremony. It was an unforgettable experience where we were fortunate to have a Tea Master performing the historic ritual as we talked about the Actuarial profession.

I was really impressed with some of the stories shared by the local actuaries, so I asked a few questions to members Scott Yin and Tuan Miang Chua.

The Questions:

1. What is your background, practise area and links/circle in Asia?
2. How would you compare the two markets, Australia vs Asia?
3. If you could pick one thing (anything) and send it back to Actuaries in Australia, what would it be?
4. What is your view about the future and challenges of Actuaries in Asia?

Scott Yin, FIAA

Latest Job Title: Founder, Chief Pricing Officer & Chief Actuary at AXA TP P&C Insurance

1. I've been working in the China GI market for the last 7 years, 5 of which was working as a consulting actuary, and then last 2 years as the Chief Actuary of AXA Tianping (a JV between AXA and a local motor insurer). Before moving to China, I worked in Sydney for 5 years, in both corporate and consulting actuarial roles.
2. The Australian market is more mature, risk quantification and management is often more sophisticated than in China, for a young actuary building a solid technical foundation, it is an ideal environment. On the other hand, while there are admittedly more overseas trained actuaries in China than a few years ago, a gap still exists at the very experienced end. This provides opportunities for younger actuaries to be exposed to a variety of situations that otherwise they would not be able to see.
3. O2O food delivery is life changing! Thousands of takeaway options delivered to your door, almost makes late night overtime enjoyable.
4. The technology is rapidly changing all aspects of life everywhere. In China, the latest buzz is O2O bike sharing. With these innovations come new risks and insurance products. AXATP for instance, is working with one of the largest bike sharing Application in China to provide PA coverage for each journey, daily number of policies is expected to be in the millions. Products such as these are been launched at a record pace, while the amount of data available for analysis far exceeds that of yesterday. How actuaries respond to these challenges and how the actuarial techniques evolve to stay relevant will be very interesting to watch in the years to come.

Tuan Miang Chua, FIAA

Latest Job Title: General Manager & Head of Region ASEAN, China, Hong Kong and India Life/Health at Gen Re

1. I was born in Malaysia and completed my actuarial degrees in University of Melbourne and Macquarie University. Most of my 20+ years of corporate experience has been with reinsurance companies, in particular Life & Health reinsurance. I live and work in Shanghai for the last 16 years and prior to that I also worked in Singapore and Kuala Lumpur. As the Regional General Manager of Gen Re Life/ Health, I travel extensively to the various Asian cities.
2. Asia and Australia are 2 very different insurance markets. In Asia, the consumers are a lot more concerned about their long term children education and retirement needs. Social security coverage is also generally at a much lower level. Long term guarantees, in both investment return and protection, are major issues for the life & health industry in Asia. Asia is a heterogeneous market and there are also significant differences between the developed and developing markets.
3. APEC Business Travel Card.
4. With the projected growth of the insurance industry in Asia in the foreseeable future, actuaries will continue to be in high demand. Except for a few markets, there are currently very few actuaries who work in other industries, for example banking, retirement, investment, energy, infrastructure etc. The challenge for the profession is to demonstrate the value that we can bring to the Asian society beyond the traditional practice area of insurance.

The 10-days Asia Tour concluded at Shanghai.

See you all next year!

Read Kitty's report on Singapore and Kuala Lumpur **here**.

Wealth Management Investment Competition 2017-2018 and Last Year's Results

By Martin Hickling *(mjhickling@optusnet.com.au)*

Reading time: 4 mins

Last year 163 participants answered 20 demanding propositions put to them as if they were an Investment Analyst / Economist in the Wealth Management Investment Competition. Overall the profession did pretty well with a 62% hit rate. Some did very well – two with 100% hit rates - while others have much explaining to do! Are you willing to go again for 2017-18?

The following table shows the propositions, initial level from a year ago and the closing level. If you had answered 'No' to every proposition you would have done quite well. The correct answer was 'No' for 18 of the 20 propositions. Generally the 'Bulls' did much better than the 'Bears'.

Proposition	Initial level	Closing level	Correct answer
NYMEX WTI crude oil price will be above U$75.00/bbl as at 30 June 2017	US$49.10 @ 5/16	US$46.04 @ 30/6/17	No
The Japanese 10-yr bond yield will be negative as at 30 June 2017	-0.105% @ 5/16	0.086% @ 30/6/17	No
The S&P ASX 200 price index will be above 6000 as at 30 June 2017	5323 @ 5/16	5721.5 @ 30/6/17	No
The theoretical spread on the Aussie iTraxx index, a proxy for 5-year credit default swap rates, will be trading above 200 as at 30 June 2017	123.7 @ 5/16	83.5 @ 30/6/17	No
The Australian Bureau of Statistics (ABS) weighted average eight capital city residential property price index March quarter 2016 to March quarter 2017 will decline by more than 5.0%	8.7% in Dec '15	+10.2% @ 31/3/17	No
The iron ore price will be below US$40/t as at 30 June 2017	US$49.30 @ 5/16	US$62.90 @ 30/6/17	No
The seasonally adjusted annual rate of Japanese real GDP for March quarter 2017 will be below +0.5%	Jan - Mar '16: + 1.9%	+1.0% @ 31/3/17	No
Melbourne weekend residential auction clearance rates for Autumn (March – May inclusive) 2017 will average under 65%	Autumn '16: 75.1%	Autumn '17: 79.9%	No
The S&P 500 index will be above 2200.0 as at 30 June 2017	2097 @ 5/16	2423 @ 30/6/17	Yes
The AUD/USD rate will be below 68.0 cents as at 30 June 2017	72.4c @ 5/16	76.9c @ 30/6/17	No
The China General Manufacturing PMI will be below 47.0 for May 2017	50.1 @ 5/16	51.2 @ 5/17	No
The S&P ASX 200 VIX will be trading above 20.0 as at 30 June 2017	16.5 @ 5/16	13.4 @ 30/6/17	No
The RBA cash rate target will be 1.25% or lower as at 30 June 2017	1.75% @ 5/16	1.50% @ 30/6/17	No
The Federal Reserve target rate will be 1.00% or higher as at 30 June 2017	0.50% @ 5/16	1.25% @ 30/6/17	Yes
In the 12-months to June 2017, including dividends and franking, the share price of Commonwealth Bank (CBA) will outperform the share price of BHP Billiton (BHP)	CBA $74.37; BHP $18.65 @ 6/16	CBA +19%: $82.81 + $2.22ff + $1.99ff; BHP +30%: $23.28 + $0.185ff + $0.532ff @ 30/6/17	No
The reported US unemployment rate for May 2017 will be above 5.0%	4.7% @ 5/16	4.3% @ 5/17	No
The USD gold price will be above US$1500 as at 30 June 2017	US$1212 @ 5/16	US$1241 @ 30/6/17	No
The Australian 10-yr government bond yield will be below 2.0% as at 30 June 2017	2.32% @ 5/16	2.60% @ 30/6/17	No
The Australian inflation-linked government bond yield will be below 0.90% as at 30 June 2017	0.98% @ 5/16	1.10% @ 30/6/17	No
The Greek 10-yr bond yield will be above 8.0% as at 30 June 2017	7.27% @ 5/16	5.42% @ 30/6/17	No

Top ranking participants for the 2016-17 Competition

Each participant started with 20 points. Applying the scaling factors (see previous articles for the scaling factor applying to each proposition) to the responses of each participant gives a final score. The top score was 38.08. The bottom score was 7.99. The median score was 20.3.

The following table shows the top six participants in the competition. Amazingly both Colin Grenfell and Stephen Woods didn't get any proposition wrong. Colin got 18/18 with two 'unsures'. Stephen got 14/14 with six 'unsures'. Mudit Gupta got 18/20. Chao Gan got 17/19 with one 'unsure'. Adrian McGarva and Ben Trollip had identical responses. They got a super impressive 19/20, but missed out by saying 'yes' to the high scaling proposition that Japanese 10-year bond yields would remain negative. Oh, so close.

Rank	Name	Score
1	Colin Grenfell	38.08
2	Stephen Woods	34.86
3	Mudit Gupta	34.70

4	Chao Gan	34.22
=5	Adrian McGarva	31.04
=5	Ben Trollip	31.04

The person who responded 'unsure' to all twenty propositions finished on 20 points!

This Year's Competition

As with last year's competition, you will be given twenty propositions relating to investment markets. For each proposition you must answer: 'yes', 'no' or 'unsure'.

At 30 June 2018 your Portfolio Manager boss will then assess how well you have performed. Hope you do ok! It might be your last chance if you had a tough 2016-17.

Each proposition will be scaled depending on the responses from other participants in the competition. For a proposition which receives more 'yes' answers than 'no' answers, the scaling factor for a 'yes' answer that proves to be correct will be lower than the scaling factor that would be used for a 'no' answer if that had turned out to be correct.

The scaling factor to be used for each proposition is: the sum of all 'yes' and 'no' answers divided by the number of correct answers.

Those participants with correct answers for a proposition will be given 1 point multiplied by that proposition's scale factor. Incorrect answers will be given a score of zero points. Any 'unsure' answers will not affect the scale factor and will be allocated one point for that proposition.

For example, if a proposition had 30 'yes' answers and 20 'no' answers, and the correct answer was 'yes', those that answered 'yes' would get a score of 1.67 and those that answered 'no' would get a score of zero points. If the correct answer was 'no', those that answered 'no' would get a score of 2.50 and those that answered 'yes' would get a score of zero points. Those that answered 'unsure' would get 1 point.

Each participant's total score will be the sum of their scores for each of the 20 propositions. A 'market index' score will be 20 points. Can you beat the market? The winner of the competition will be the person with the highest total score. Fabulous prizes will be offered to the top three place-getters. There is nothing to lose, except for bragging rights!!

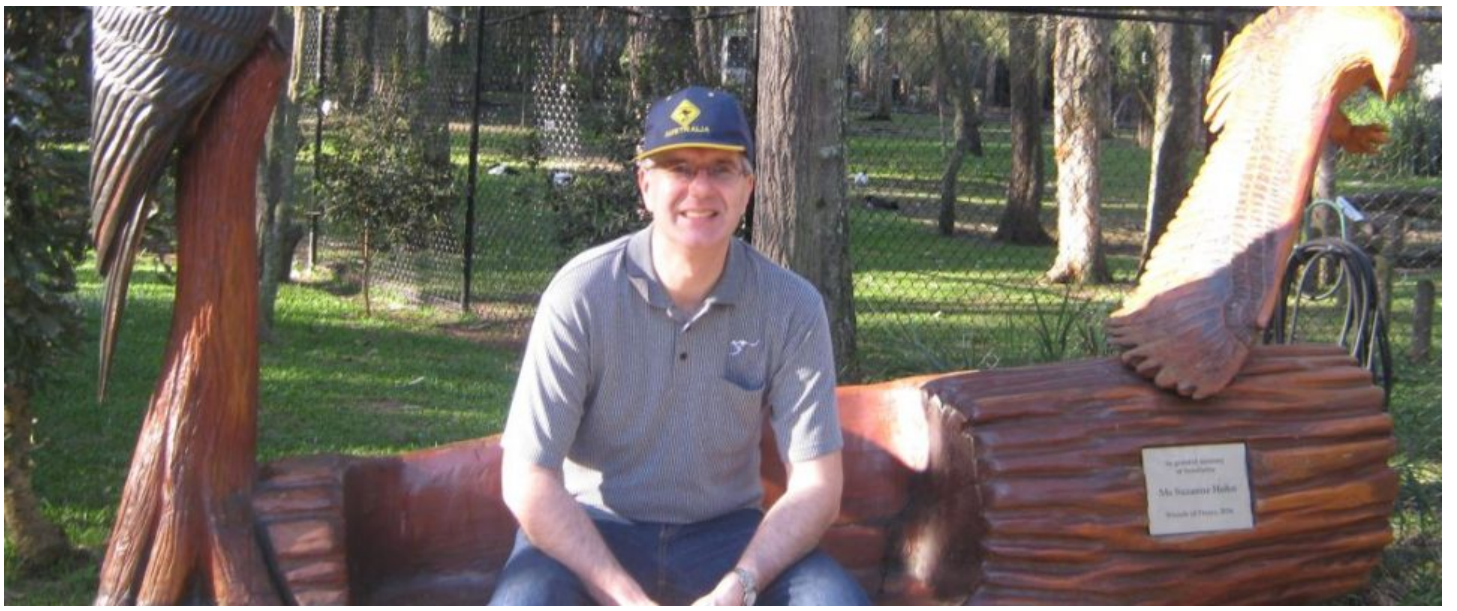
Entries must be received no later than **5.00pm Friday 11 August 2017**. Enter the competition **here**

When entries have closed the spread of answers for each proposition will be revealed in an *Actuaries Digital* article. Are you bullish, bearish or just not sure?

Click here for Terms & Conditions.

The propositions that will be put to you in the survey are:

1. The AUD/USD rate will be below 75.0 cents as at 30 June 2018 [*RBA series FXRUSD, source: WM/Reuters; 30 June 2017: 76.9 cents*]
2. The iron ore price will be below US$50/t as at 30 June 2018 [*Spot Iron Ore - China Import Fines 62% Fe per dry ton, source: Commsec; 30 June 2017: US$62.90/t*]
3. The S&P ASX 200 price index will be above 6000 as at 30 June 2018 [*source: Commsec market close; 30 June 2017: 5721*]
4. The Australian 10-yr government bond yield will be above 2.75% as at 30 June 2018 [*RBA series FCMYGBAG10D, source: YieldBroker; 30 June 2017: 2.60%*]
5. The Australian inflation-linked government bond yield will be above 1.30% as at 30 June 2018 [*RBA series FCMYGBAGID, source: YieldBroker; 30 June 2017: 1.10%*]
6. The USD gold price will be above US$1400 as at 30 June 2018 [*Spot US$ per fine ounce, source: Commsec; 30 June 2017: US$1241*]
7. The S&P 500 index will be below 2400.0 as at 30 June 2018 [*source: Google Finance, close of market; 30 June 2017: 2423*]
8. The Japanese 10-yr bond yield will be above 0.20% as at 30 June 2018 [*source: Bloomberg series GJGB10:IND; 30 June 2017: +0.086%*]
9. The Federal Reserve target rate upper bound will be 1.75% or higher as at 30 June 2018 [*source: Bloomberg series FDTR:IND; 30 June 2017: 1.25%*]
10. The Greek 10-yr bond yield will be above 7.0% as at 30 June 2018 [*source: Bloomberg series GGGB10YR:IND; 30 June 2017: 5.42%*]
11. The Australian Bureau of Statistics (ABS) weighted average eight capital city residential property price index March quarter 2017 to March quarter 2018 will be negative [*source: ABS 6416.0, March Qtr 2017: +10.2%]*
12. NYMEX WTI crude oil price will be above U$55.00/bbl as at 30 June 2018 [*source: Bloomberg series CL1:COM; 30 June 2017: US$46.04*]
13. The China General Manufacturing PMI will be below 50.0 for May 2018 [*source: Bloomberg series CPMINDX:IND; 31 May 2017: 51.2*]
14. Melbourne weekend residential auction clearance rates for Autumn (March – May inclusive) 2018 will average under 70% [*source: Domain/REIV; Autumn 2017: 79.9%*]
15. The reported US unemployment rate for May 2018 will be above 4.7% [*U-3 US Unemployment Rate Total in Labor Force Seasonally Adjusted, source: Bloomberg series USURTOT:IND; May 2017: 4.3%*]
16. The investment return for the median balanced superannuation fund for the year to May 2018 will be lower than 5.00% (source: SuperRatings SR50 Balanced (60-76) Index, May 2017 +9.06%).
17. The S&P ASX 200 VIX will be trading above 18.0 as at 30 June 2018 [*source: Google Finance, close of market; 30 June 2017: 13.4*]
18. The RBA cash rate target will be 1.75% or higher as at 30 June 2018 [*RBA series FIRMMCRTD, source: RBA; 31 May 2017: 1.50%*]
19. The seasonally adjusted annual rate of Japanese real GDP for March quarter 2018 will be negative [*source: Japanese Cabinet Office, Jan.-Mar. 2018 (The 2nd preliminary); March 2017: +1.0%*]
20. In the 12-months to June 2018, including dividends and franking, the share price of Commonwealth Bank (CBA) will outperform the share price of BHP Billiton (BHP) [*source: Google Finance, closing share prices on 30 June 2017 and 30 June 2018, including dividends in period, adjusted for franking, dividends not reinvested*]



Under the Spotlight - Sean Elliot

By Sean Elliot

Reading time: 4 mins

A self described "very typical actuary", Sean Elliot, lecturer at Bond University goes Under the Spotlight to share his career journey; what gets his goat; and his penchant for chess and sci-fi films.

Name... Sean Elliott

Title... Mr

Organisation... Bond University

Your email address is... seane38@gmail.com

Summarise yourself in one sentence... A very typical actuary

My interesting/quirky hobbies... My quirky hobby is chess. However, work and family responsibilities have stopped me playing competitively for many years.

The sport I most like to watch... I still love to watch soccer and miss the coverage of the Premier League in the UK.

My favourite artist/album/film... My kids have helped me to maintain an interest in science fiction films. My favourite science fiction films include Star Trek and Interstellar. I also enjoy comedies (such as Hot Fuzz) and fast moving spy thrillers (such as the Bourne trilogy).

The person I'd most like to cook for... My wife. She is my biggest critic and never gives me the opportunity to cook for her.

I'm most passionate about... Issues relating to Special Educational Needs for kids. Our son has struggled with the UK system. The system is a huge challenge for governments, yet even more challenging for kids and their parents.

What gets my goat... The state of the private sector pensions system in the UK. It was once the envy of the world, but is in a terrible state. This is mainly due to stock market returns that have been nowhere near the levels required to fund guaranteed benefits, when those returns have been applied to past contributions paid. Public sector pensions in the UK face a similar plight.

Not many people know this but I... was for a short time a promising chess player during my youth. I won the British Under 18 Championships at the age of 16. However, I admit readily that I played out of my skin during that tournament. My closest rivals only lost to me because they tried too hard to beat me.

If I hadn't become an actuary, I would be... crunching numbers somewhere. Accountancy was a good, solid alternative career, but I would have needed to work very hard to succeed.

Why and how I became an actuary... I grew up in Bristol in the UK, and when I was at school, a local life insurer called Clerical Medical launched a new bursary scheme for pupils at local schools. I applied and was very fortunate to be accepted. The bursary helped me to survive university life in London, and I joined a life insurance company after graduating.

Where I studied to become an actuary and qualifications obtained... I passed all of the actuarial exams, except the communications paper, when I was working for Allied Dunbar (now Zurich) in the UK. Shortly after joining Hazell Carr, I passed the communications paper and became a Fellow of the Institute of Actuaries.

My work history... I worked for Allied Dunbar (now Zurich) from 1990 to 1998. During my time there, I was based in the Actuarial Division. Until 1995, I was rotated between the three main areas in the Actuarial Division (Product Development, Financial Forecasting, and Valuations). From 1995 to 1998, I worked on the Pensions Review, when the Pensions Review Team was working on loss assessment and redress to people affected by Pensions Mis-selling.

From 1998 to 2002, I worked with Hazell Carr on outsourcing projects relating to loss assessment and redress to people affected by Pensions Mis-selling.

As the Pensions Mis-selling Review wound down, I looked for new opportunities to work with Hazell Carr, and helped to form a startup Pensions Consulting Office in Newbury in 2002. With key input from an actuary with many years of business development experience, we grew the business under challenging conditions. We sold the business in 2004.

From 2004 to 2008, I worked for SBJ Benefit Consultants (now Capita) in Reading on Pensions Consultancy. I became a Scheme Actuary and managed a team of actuarial analysts. The team of actuarial analysts in the Reading office supported the Scheme Actuaries and worked brilliantly under pressure.

I joined Heath Lambert in Reading in 2008 to work as a Scheme Actuary and provide support to the Actuarial Director. With the support of a very dedicated and capable team of actuarial analysts, we redeveloped the suite of actuarial services and repriced to turn the actuarial division from loss-making to profitable. We provided Scheme Actuary services to clients and developed a ground-breaking Risk Management system for trustees and employers. Following a series of corporate restructuring programmes, I left the business in 2013.

From 2014 to 2016, I worked as a contractor with Hazell Carr in a major pensions administration office in Bristol. Our team delivered against targets for a major data cleanse project.

What I find most interesting about my current role... Finding new ways to teach established material to students, many of whom have grown up in a 'hi-tech' environment.

My role's greatest challenges... Adapting to life as a lecturer and researcher. Improving student engagement is a major challenge, because it involves hard work in redesigning course materials.

Who has been the biggest influence on my career (and why)... I had the privilege to work with Graham Hazell and David Carr for a short time. They are enterprising actuaries who revolutionised actuarial education in the UK. They also created a massive outsourcing business that assisted life insurance companies with resolving pensions mis-selling issues during the late 1990s and early 2000s. Darryl Boulton and Adam Galache-Brown were sources of great support during my time at Hazell Carr. More recently, Nigel Bankhead has been an inspiration to me. Nigel's expertise on actuarial consulting in pensions and related legal issues has been invaluable.

If I were President of the Institute, one thing I would improve is... Modernising the exam system to reflect that good students tend to prefer practical content. This also involves trying to keep theoretical content at a relevant level.

At least once in their life, every actuary should... go self-employed. Running your own business is one of the most educational (yet humbling) things that you can do.

My best advice for younger actuaries... Try to find your niche interest area and see whether you can build on it.

If I could travel back in time I would... want to change things that I have done wrong. I tended to be very meticulous with my work, but I am as fallible as anyone else and felt terrible when any mistakes, no matter how small, were identified.

If I won the lottery, I would... keep quiet and try to work out what to do with all that money!

Simple Products

By Robert Kerr

Reading time: 4 mins

If it takes nine hours to read the online contract for Kindle e-readers, and this is considered simple compared to current insurance contracts, have we gone wrong somewhere? Robert Kerr explores the benefits and drawbacks of increasingly complicated insurance products.

"If I had my way, I would write the word 'insure' upon the door of every cottage and upon the blotting book of every public man, because I am convinced, for sacrifices so small, families and estates can be protected against catastrophes which would otherwise smash them up forever." Winston Churchill

Insurance products have been around for a long time. In recent years we have seen products become increasingly complicated with the addition of more minor benefits and conditions. This has been to provide a competitive advantage by scoring higher with the rating houses.

Does this benefit the consumer?

Most people believe that choice is good for you. In many cases this is true. Where you already know what you would like then having the choice allows you to access what you would like. This is the basis of the supermarket where choice means you are more likely to be able to buy what you desire.

However, where you have limited knowledge, then choice makes it increasingly hard to truly compare products[1][2]. This has also been shown to be true for insurance products[3][4]. This leads to customer confusion about what the product delivers. This is known as a decision conflict situation. Individuals change their decision making process from one of maximising their satisfaction to one of choosing a satisfactory option. This customer confusion means customers cannot identify products which meet their needs even when the market provides them. This leads to customers becoming less engaged, putting off the decision and ultimately not purchasing.

Are our Products complex?

A recent article by Choice[5] highlighted that it took nine hours to read the online contract for Kindle e-readers. I know I haven't read mine and I'm sure few people have. But these contracts are simple compared to current insurance contracts.

Insurance Council of Australia recently published a paper[6] on consumers with product disclosure statements. This highlighted some significant gaps between the consumer's belief of what the product offered and the actual product offering. These are products which consumers are used to purchasing. I expect these gaps are greater for life insurance products.

When comparing the readability of our current products the Flesch Reading Ease[7] was below 30. This indicates that it is only suitable for university graduates.

What is Simple?

The UK government did a review into simple products[8]. This produced nine principles for simple financial products (i.e. banking and insurance). Some of these are

- Essential product features. Simply explained.
- Useful for the consumer and meets the needs of the target market.
- Clear, straightforward and standardised language.
- Product names that clearly identify the nature of the product.
- Conditions, options and exclusions are limited to what is appropriate, reasonable and necessary for the product, and are simply explained.
- A clear pricing structure which is easily understood by the consumer and allows products to be compared with one another.
- Clear methods of informing the consumer about the current prices.

Simple is about the consumer. Simple to understand and simple to use. Taking an analogy from the car industry, many recent developments are technically very complicated. For example, auto-parking, collision avoidance, changing lanes technology etc.

However they have been aimed at improving and simplifying the customer experience.

Do we need simple products?

Despite the introduction of insurance in super, Australia still has an underinsurance gap[9]. In particular this gap exists for young families and individuals on lower incomes.

At the Actuaries Summit, Renee Hancock[10] from Good Shepherd presented on microfinance. Good Shepherd provides basic financial assistance to those with limited or no financial resilience. They have recently developed an Essentials Insurance cover for car insurance and contents insurance for this market.

Developing simple products for life insurance would help provide the cover that is required towards providing financial security for customers. Simple products would allow customers to simply purchase a good quality, ease to understand, product. This would be a good step towards improving the availability of life insurance and reducing the underinsurance gap.

These simple products may not contain all the non-essential product features and may be lower ranked by rating houses. However, I feel it is more important to have some appropriate good, and essential, cover than the best cover.

This could lead to improved engagement in life insurance, understanding of the products, and consumer trust in our industry.

Our current products can also be improved. Products can be better targeted towards particular needs. Benefits payable can be simplified. Product documents can be more clearly highlight the benefits and improve readability. This would make it easier for customers looking for a more bespoke product to be able to meet their needs.

This article is drawn from a presentation to the 2017 Actuaries Summit. You can access the **full presentation** and **audio**.

Summary

Insurance is traditionally an area which is difficult to understand. Recently the products we offer have become increasingly complex. Unfortunately this can disengage customers from a product which they need to ensure they provide for their families.

There is a need for complex products which offer more cover and are tailored to an individuals need. But there is also a need for simple products to engage more with some of our potential customers and meet their essential needs.

As Winston Churchill said for a small sacrifice families can be protected against catastrophes which would otherwise smash them up forever.

This article reflects my own views and opinions and not my employer or any organisation I am associated with.

[1] http://faculty.washington.edu/jdb/345/345%20Articles/Iyengar%20%26%20Lepper%20(2000).pdf

[2] http://www.news.com.au/finance/business/retail/three-in-five-australians-find-the-overabundance-of-choice-on-the-shelves-makes-it-harder-to-choose/news-story/322aa4a9ff7122825872b16f0a0fc609

[3] http://jama.jamanetwork.com/article.aspx?articleid=2475470

[4] https://www.cmu.edu/news/stories/archives/2015/december/health-insurance-complexity.html

[5] https://www.choice.com.au/about-us/media-releases/2017/march/nine-hours-of-conditions-apply

[6] http://www.insurancecouncil.com.au/issue-submissions/reports/consumer-research-on-general-insurance-product-disclosures

[7] https://en.wikipedia.org/wiki/Flesch%E2%80%93Kincaid_readability_tests

[8]https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/191721/sergeant_review_simple_products_final_report.pdf

[9] http://ricewarner.com/australias-relentless-underinsurance-gap/

[10] http://actuaries.asn.au/Library/Events/SUM/2017/ReneeHancock.pdf

management function) supports the first line, and becomes involved on specific issues as needed;
- 3LOD reinforces the notion that internal audit should not be the main control against risk. It should be a check on what is done by the first and second lines;
- Properly implemented, the model should eliminate inefficiencies, gaps and overlaps in risk and compliance management by multiple functions; and
- Companies with a strong 3LOD model should perform better. They are set up to identify and react to risk quickly, allocating resources as required based on priorities. Strong communication between the lines will reinforce this.

Ultimately, the onus is on each company and its stakeholders (including regulators) to ensure that its risk management framework is strong, effective and is suited to the company's circumstances.

The practical application of the 3LOD model to PHI will likely vary slightly to the other APRA regulated industries, reflecting differences in risk profiles, organisational structures and statutory obligations.

Structures are only one part of the picture. The capability of the people performing key roles is a key driver of the success of a risk management framework. This is relevant for the actuarial profession and the unique skills that actuaries provide to many financial services companies.

Notwithstanding the prescribed role for the CRO under CPS 220, APRA have confirmed the important role played by AA's in life, general and health insurance, even if they do not fit neatly into a 3LOD model. Actuaries bring a strong understanding of these industries (in particular, insurance risk) that non-actuarial CROs often do not have. This point must not be overlooked by external stakeholders, and the profession must continue to reinforce this.

It does not matter if the AA falls into one line of defence or another. The key issue is that the AA has a responsibility to protect policyholder obligations, which is separate from other management roles. This adds another layer of risk management to decision making.

3LOD is a useful structure. Referring to the earlier analogy, 3LOD is in many ways like a well organised football team. Both will maximise the likelihood that any threat is diffused before it can do any damage – either to the company or the scoreboard.

[1] It is debatable whether several of the AA's reviewing functions are second line or third line. Many of the infrequent (annual) reviews could be considered as third line, supporting any independent monitoring undertaken by the risk management function.

Introducing the new Diversity and Inclusion Working Group

By Lily Meszaros

Reading time: 4 mins

The Institute has established a new Working Group to help implement the Diversity and Inclusion Strategy endorsed by the Institute's Council at its June 2017 meeting.

The new strategy is a response to the changing working environment and increasingly diverse backgrounds of actuaries. It will help the Institute build and maintain effective relationships with members and other stakeholders, and improve its decision-making processes. Research and studies show that diversity and inclusion policies enhance an organisation's financial performance and reputation.

An important long-term objective of the strategy is that the change in member demographics should be reflected in the member representation on key Institute bodies and activities. This in-line with current business best practice.

The strategy takes account of the three diversity pillars: culture, age and gender which best reflect the Institute's membership.

- **Culture:** 38% of our members speak at least one Asian language - (Fellows 25%, Associates 41% and students 54%.) 23% of members have an Asian surname and 13% live in Asia.
- **Age:** 55% of members are younger than 34.
- **Gender:** 33% of members are female (Fellows 36%, Associates 17%, Students 43%, Accredited 1% and Affiliates 3%). The Institute is above the 30% 'critical mass 'level in regards to female representation, at which diversity becomes more effective. Females constitute 25% of the membership of Practice and Council Committees, 20% of the Convenors of Practice and Council Committees, 57% of Young Actuaries Program Organising Committees, and one-third of Council.

The objective of this working group is to assist with implementing the activities and outcomes around the three goals articulated in the Diversity and Inclusion Strategy.

Goal 1

Create a diverse and inclusive environment.
This sets the foundations for the Institute to build an inclusive culture where all members and HQ staff are valued and recognised for their unique qualities, ideas, experiences, voices and perspectives. The environment will empower members to make their mark.

Goal 2

Ensure committees and working groups represent the membership.
The Institute will establish aspirational targets for HQ as well as for representation on committees and other volunteer groups. These targets will reflect the demographics of our membership and the business environment in which our members work.

Goal 3

Promote the benefits of diversity within the profession.
The Institute will promote the Diversity and inclusion strategy and plan to increase awareness.

Members of the Working Group:

Trang Duncanson is a Partner at Deloitte and Chief Editor of *Actuaries Digital*. Trang has a keen interest in diversity and inclusion, particularly how we can leverage the latest in thought-leadership into this space to enhance the leadership capabilities of actuaries, and to help to bring the best out of the teams we lead. She has presented previously on the topic of diversity to the Sydney Young Actuaries Program and continues to take an active interest in this topic across its many dimensions, particularly with a focus on culture and its potential implications to the future of actuaries as leaders within organisations.

Declan Moore is the Chief Underwriting Officer, QBE Australia & New Zealand. Declan' previous role in QBE was a global one and he has been based both in Europe and Australia. He has seen first-hand the benefits of having a diverse and inclusive society and workplace. Declan's ambition is that the Institute's working group will become redundant, but until then he intends to be an enthusiastic advocate of the Institute's diversity and inclusion initiative.

Angela McLaughlin (Tatarow) is Head of Actuarial, Information at MLC Insurance. Angela is a mother of two, and currently transitioning back to work part-time after maternity leave. She has 16 years' experience in the life insurance industry, most recently at MLC in a variety of roles within Risk and Actuarial Services, Angela is especially keen to be involved in this group to demonstrate (and continue to learn!) how the concepts of flexibility and part-time can work successfully across all levels of an organisation.

Elizabeth Martin (Liz) currently works at KPMG as an Associate Director. Liz has spent most of her career in actuarial consulting, working in Australia, Asia and the UK. "One of the most rewarding aspects of my role has been mentoring and development of teams. I'm a huge supporter of the Institute's diversity and Inclusion initiative as I strongly believe in the benefits of diverse teams, and in having diversity in role models in the profession. During my time working in London I saw first-hand the benefits of being part of a team with different backgrounds and experiences, which makes work life more interesting and results in broader solutions to problems when everyone can draw on their own unique perspectives."

Ashish Ahluwalia is a Principal of Finity Consulting, with a focus on general insurance and data analytics. Ashish is interested in this initiative as he is a younger member of the profession from South Asian descent who spends an increasing amount of time working outside traditional actuarial areas, with teams made up of more diverse skillsets (software developers, database engineers, statisticians, data scientists, marketing professionals, etc.) Ashish looks forward to applying learnings from his experiences to support the Institute's diversity and inclusion initiative and also to learn about things he can apply to his own work life.

Helena McGeorge recently started with Deloitte's Actuaries & Consultants practice as a graduate, She is keen to get involved with the Institute's diversity and inclusion plan to help contribute to shaping the future of the actuarial profession, one which she hopes will offer her an inspiring and rewarding career.

Katrina McFadyen is Head of Communications and Marketing at the Actuaries Institute and Chief Editor (HQ) of *Actuaries Digital.* Having been involved with the profession since 2002 Katrina strongly supports the Institute's focus on diversity and inclusion, empowering members to make their mark and strengthen brand 'Actuary'.

Lily Meszaros is the Committee & Volunteer Engagement Manager at the Institute and is a firm believer that diversity drives innovation and growth. Lily looks forward to exploring this further with the Working Group as the implementation plan is rolled out.

The Institute President, **Jenny Lyon** supports this initiative.

To further diversify the Working Group, expressions of interest from male members are invited, contact Lily Meszaros to find out what's involved. The Working Group also welcomes feedback on the new strategy, so please get in touch via email to the Institute or by phone +61 (0) 2 9239 6121. Watch this space for further updates as the initiatives are rolled out.

Education Strategy Review - An update

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

Reading time: 2 mins

The key focus of the last Institute Council Meeting was the Education Strategy Review. The goal is to improve our qualification education system, starting with Part III, which is provided by the Institute. Here, President Jenny Lyon outlines where the review is up to.

At the Council Meeting on 7 June 2017 Daniel Smith, the Convenor of the Education Strategy Review Committee, briefed Council on the Committee's recommendations. His report followed a year of investigation and detailed analysis, as well as input from our key stakeholders including, most importantly, members.

Council has now taken the next major step and asked the Committee to prepare an implementation plan, which it will consider at the September Council meeting. Our assessment will be rigorous, making sure that the plan for the new education model can be properly funded and implemented. Only then will Council make a final decision on a new approach to qualification education.

We are also continuing our discussions with our university partners.

The education model that Council considered at its June meeting will phase in changes to the current education system over five years from 2018-2022, as described below.

Fellowship program

The key changes will occur around the delivery method and content of the current Part III (to be retitled Fellowship) program. It will be delivered by the Institute under a new professional education model, by a dedicated faculty. This will address significant concerns raised by members about the quality of the current Part III program.

The Fellowship program will be implemented in a staged process. Students starting the program in 2022 will have a completely new curriculum. The staging will start with two subjects in 2019 (subjects yet to be decided).

The content of the new syllabus is still at an early stage of development, and there will be further consultation.

Online delivery is an important part of the new education model. Face-to-face learning will continue as part of a blended learning platform.

University accreditation

This will be unchanged until 2022 during which time we will develop a simpler and more efficient accreditation process, for example, program-level accreditation. Universities will need to meet the International Actuarial Association's syllabus and mutual recognition requirements with other actuarial associations. Recognition of prior learning will continue as currently offered.

Alternate pathway

An alternate pathway for Part I examinations will continue through the UK Institute and Faculty of Actuaries.

Associate program

This program (currently Part II) will continue to be delivered by accredited universities until at least 2019. We remain in discussions with universities about the best way to deliver the Associate program.

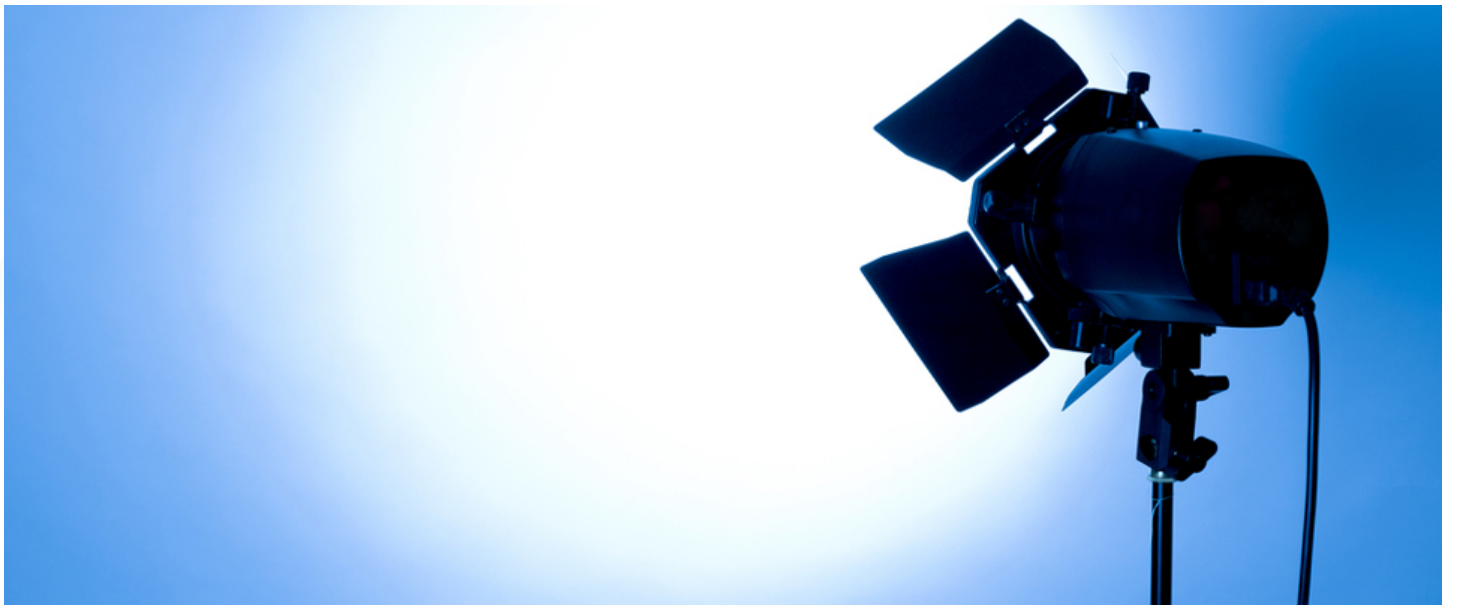
Work experience and preparing for Fellowship

There will be a transition to a one-year work experience requirement (currently three years) for Associates. The details of how and when this will occur are to be finalised. Once this transition is implemented there will be a new requirement that students will need to complete the Associate program before progressing to the Fellowship program. This will ensure that prospective Fellows have completed a solid year of relevant work experience and will be equipped to handle the demands of the Fellowship program.

Next steps

If Council agrees to implement changes to the qualification education system following its consideration of the

implementation plan in September, the Institute will commence hiring the first members of the teaching faculty. Their job in 2018 will be to prepare the curriculum, teaching materials and method of delivery for the first Fellowship subjects to be offered in 2019, and support the current program of Part III subjects. They will work with our dedicated and valued education volunteers to achieve this.



Under the Spotlight - Dr David Lau

By Dr David Lau

Reading time: 2 mins

Professor at Bond University's Actuarial Science program, Dr David Lau has experience working for some of the world's leading insurance and regulatory businesses. Here, Dr Lau goes Under the Spotlight to reveal his undying passion for mathematics and some rather quirky hobbies.

Name... David Lau

Organisation... Bond University

Your email address is...dlau@bond.edu.au

Summarise yourself in one sentence... I am a book worm.

My interesting hobbies... Chinese calligraphy

David at Heriot-Watt University Malaysia campus

My favourite energetic pursuit... swimming

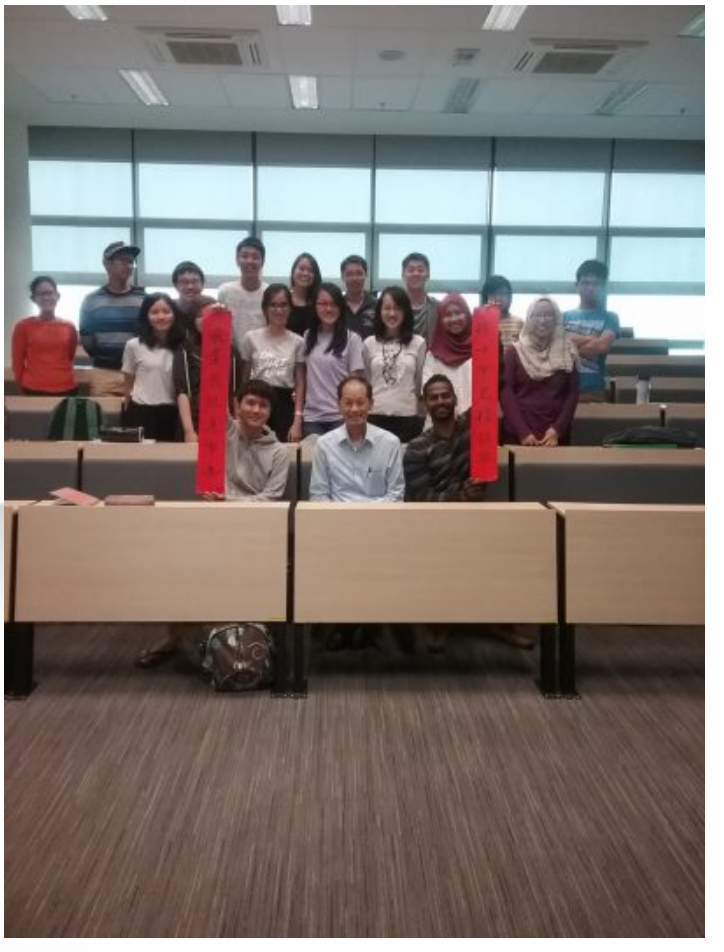
The last book I read (and when)... Bayesian Statistics (Jan-April 2017)

My favourite artist/album/film... Teresa Teng

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

I'm most passionate about...mathematics

Not many people know this but I...knit scarves



David and his students before Chinese New Year

Four words that sum me up... hard working, curious, resilient

If I hadn't become an actuary, I would be...a mathematician

My work history... AMP, Legal & General, Colonial, CommInsure, APRA, SwissRe, Heriot-Watt University Malaysia.

Why and how I became an actuary... because no one wanted to hire me as a mathematician.

Where I studied to become an actuary and qualifications obtained... Australia

What I find most interesting about my current role...having a chance to re-read the Actuarial Control Cycle(ACC) textbook and read newspaper articles with the ACC lenses.

My role's greatest challenges...to make the "soft" principles in the course more concrete.

Who has been the biggest influence on my career (and why)... Pai Yong, Michael AA, Luke Seberry. They helped me pass my life insurance exam at a time when I could not even answer the easiest questions, due to lack of practical experience.

My proudest career achievement to date is ...re-built the IBNR, Replicating Portfolio calculations at SwissRe.

David at Heriot-Watt University Malaysia campus 2

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

When I retire, my legacy will be...the people whom I have trained, whom I have taught.

Why I'm proud to be an actuary...because this profession is respected by the society, works in the public interest, and is well paid.

The most valuable skill an actuary can possess is ...risk management

My best advice for younger actuaries...find some area which interests you. Do some networking if you cannot get to those jobs via normal channels.

If I won the lottery, I would...I would still be doing the same things.

Critical Line Volume 14

By Dan Mayoh *(dan@fintega.com)*

Reading time: 3 mins

Dan Mayoh brings you the 14th instalment of the popular Critical Line Puzzle Challenge with a nod to a Royal Flush Jackpot.

A certain Melbourne poker room offers a progressive 'Royal Flush Jackpot' which goes up over time, and is awarded if your hand makes a royal flush on the flop when playing Texas Hold'em. This means that two cards in your hand plus the first 3 community cards are a 10, Jack, Queen, King and Ace of the same suit (any ordering of the 5 cards is permissible). Once the jackpot is awarded, it resets to a smaller amount and starts building again.

After not being awarded for so long that the jackpot reached its highest ever level, it was then awarded four times in less than ten days earlier this month. It got me thinking about the expectations involved, and forms the basis of this volume's puzzle.

Assume that there is a poker room offering this jackpot to players and the following information holds true:

- There are 18 tables, each with 10 players, and each table deals 20 hands per hour. For this purpose, a 'hand' consists of all 10 players receiving 2 cards each, and 3 community cards being dealt in the centre of the table, all from a standard 52-card deck that is shuffled after each hand.
- All tables operate non-stop 24 hours a day and are always full with exactly 10 players.
- The 18 * 20 = 360 hands dealt each hour are spread out in such a way that every 10 seconds there is a new hand dealt somewhere in the poker room.
- If any of the 10 players in a hand can make a royal flush using their two individual cards plus the 3 community cards, the jackpot is won.
- The jackpot increases at a rate of 15 cents every 10 seconds until it is won. When won, it resets to a value equal to 1/3 of the won amount.
- At midnight on the morning of 1 July 2017 the jackpot amount is exactly $10,000.

The challenge for this month is to figure out:

1. What is the probability of the jackpot being won in a given hand?
2. What is the expected length of time between jackpot wins?
3. What is the expected value of the jackpot size at midnight on the night of 31 December 2017? Explain the reasoning behind your answer as elegantly as you can.

For your chance to win $50, send your solutions to **ActuariesMag@actuaries.asn.au**

Solution (Volume 13)

Lost in the jungle

An actuary has gone for a hike in the jungle and become disoriented. He knows that he is 1km away from a perfectly straight road of infinite length, but does not know which direction he is facing. The forest is very dense so he will not be able to see the road until he walks upon it. What is the shortest distance he needs to walk to be certain of finding the road?

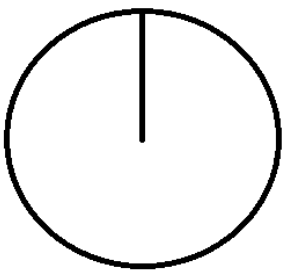
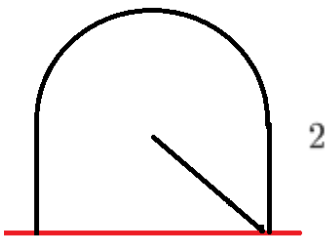
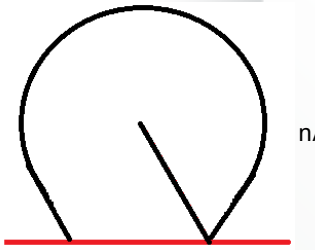
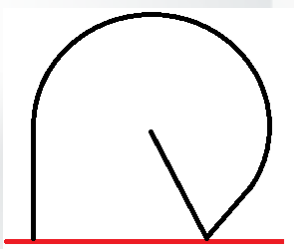
Solution

We had seven submissions this month. The table below shows four possible routes to escape the jungle. The simplest strategy is to walk 1 km in any direction and then walk 2π km in a circle around your starting position. This guarantees that you hit the road eventually.

The best strategy, submitted by Matthew Floyd, Phichol Lee and Andrew Parker, is to walk $\frac{2}{\sqrt{3}}$ in any direction, then to turn 150 degrees and walk $\frac{1}{\sqrt{3}}$ until you meet the circle of radius 1km that is centred at your starting point. You follow the circle around for $\frac{7}{6}\pi$ km at which point you head straight for one 1 km. This path will cross every tangent to the circle and therefore guarantee that you find the road.

Note: the red line in the illustrations below represents a tangent to the circle of radius 1km that is centred at your starting position.

The winner of this month's book voucher is Matthew Floyd.

Submission Strategy (Illustration)		Distance (exact)	Distance (approx.)
John De Ravin, Chris Barry		$1+2\pi$	7.283 km
Michael Eabry, Paul Swinhoe		$2+\sqrt{2}+\pi$	6.556 km
Nicola Westoby		n/a	6.459 km
Matthew Floyd, Andrew Parker, Phichol Lee		$1+\sqrt{3}+\frac{7}{6}\pi$	6.397 km

Interview with new Banking Practice Committee Convenor - Jason Slade

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

Reading time: 4 mins

Jason Slade became Convenor of the Banking Practice Committee in April following the resignation of Phil Everett. The Institute's Public Policy Advisor John McLenaghan interviewed Jason to find out a bit more about the man charged with delivering the Part III Banking Course and his vision for the profession engaged in banking.

Q) – Firstly Jason, you have an accent. For our readers' benefit, will you tell us where you are from and how your career led you to these shores?

A) I am a proud son of Devon in England but have now lived in Australia for nearly 20 years. I came to this country for love not money. I met my future wife (a Kiwi) in London and we decided to try the Antipodes for a year or two, twenty years later we're still here.

One of the great things about being an actuary is that the profession's skill sets transcend borders and business disciplines so continuing my career here was very possible.

Q) – Was the actuarial profession an early and obvious calling for you?

A) No, it wasn't. I always had a love of mathematics but like many actuaries I wasn't too sure about what the profession did before I joined it. My father was a shipwright with an electrical background and so I followed suit initially by taking a degree in electronics and electrical engineering. However, I soon realised that I was a lot better at theory than practical, if you saw my year 3 electronics project you would understand why. So I took a role as an actuarial student with a London-based employee benefits firm while I undertook my studies with the UK institute.

Q) – Tell us about your early career and influences – did you have a mentor to guide your path?

A) My career in the UK was focused on employee benefits and pension business but when I arrived in Australia I was encouraged by Institute Life Member Tim Jenkins to try life insurance. Tim was a great mentor to me and really supported me getting established in Australia and he helped give me confidence that the actuarial skill set really does travel well across the different disciplines. I think mentoring is a great way for people to give back to the profession – it certainly helped me.

Q) – Banks, everywhere, have been under intense review, over the past decade. The GFC, new capital requirements, the FSI and now greater executive scrutiny and the Major Bank levy are impacting the industry. How do you see this playing out for the industry and the profession?

A) I see an enormous potential for actuaries to become leaders in banking. It is a larger sector than the traditional insurance industries and offers great scope for advancement for people with our skill set. In the current climate bank, both management and shareholders have become increasingly risk conscious with an insatiable appetite to better understand their exposures and how they should respond. This is bread and butter stuff for actuaries with their natural focus on financial risk measurement and management.

Q) – What are the main challenges for the profession working within the sector, where are the opportunities?

A) In recent years, my career has shifted towards banking as the sector has become more dominant in financial services. I am convinced there is no reason that we cannot eventually see a future banking actuary running a major bank or at least taking on Group CRO roles. Getting the banking course established will help pave the way for that to happen. Actuaries have a reputation for technical expertise and we want to see their general business insights come to the fore.

However, whilst financial risk measurement and management is our bread and butter, I don't under-estimate how to move to the next level, actuaries need to focus more and more on our communication skills so that the full value of our work is understood.

Q) - What would you like the BPC to achieve?

A) Our primary task is to get the banking Part III course established. We also want to create a network of banking actuaries that can assist the development of the course and get qualified. We also have a keen desire to lift the profile of the banking actuary through public policy advocacy – we want to showcase that we can and do think deeply about issues that affect the industry, our clients and consumers and are a credible, independent and authoritative voice.

Q) – Is the BPC looking for volunteers to help it meet its objectives?

A) Yes! I am very keen to get some younger voices volunteering for working groups and project teams. This will help form the network and spread the word about the course and the value of the banking actuary.

Q) – On a personal note are there any other actuaries in your family?

A) Not yet. I have two daughters who are showing a keen interest in STEM subjects but I don't think they will be necessarily interested in following their dad's footsteps.

Q) – How does Jason Slade unwind after solving the problems of the banking world?

A) I'm a cycling tragic! It's a great sport and a complete break from the pace and pressure of work. I'll be off to the south of France shortly to take part in an international road race – no, not le Tour, but it will probably feel like it after the race.

President's Column - How can Mentoring Open Doors to Career Development?

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

Reading time: 4 mins

Institute President Jenny Lyon gives some insight into the benefits of the Institute's Mentoring Program and just how mentoring arrangements can help to develop young actuaries' networks and career.

I had the pleasure of spending time celebrating with some of our newly qualified Fellows the other night. The topic of conversation with one group was the mentoring program which the Institute has run over the last few years and there were some interesting comments.

"I do have a mentor but it's not part of the Actuaries Institute program". This actuary had attended the initial briefing about the program, had some concerns about how onerous it might be to find a mentor but at the meeting had connected with one of the potential mentors and then set up a private arrangement. So, while there was no formal link with the Actuaries Institute program, it had initiated conversation and the result was a successful mentoring arrangement. This is not unusual and the program is probably as successful in generating informal mentoring arrangements as more formal ones.

When the program was established we felt it was important that members looking for a mentor should be active in the process. This process helps to ensure the best outcomes and includes:

- Thinking about what you want to achieve from a mentor relationship;
- identifying the best sort of person to help you in the process;
- finding and approaching potential mentors; and
- being proactive about the ongoing relationship – ensuring meetings happen; doing any 'homework' and making sure you get the most out of the meetings.

What do mentors have to offer?

One thing that new graduates and actuaries often talk to me about is their desire to work with other more experienced actuaries. This is particularly the case for those working in less traditional roles or organisations where there are few other actuaries employed. As a profession, we have encouraged our members to step out of the traditional fields and take their skills into new areas. My observation is that our younger members are keen to embrace these new opportunities, but are also keen to retain their "actuarial link" and understand their professional responsibilities. Therefore a mentor working in an actuarial role might be ideal to sound out your new ideas or learn alternative ways of thinking. It is the judgement and thinking processes which experienced actuaries bring rather than specific technical knowledge that is usually of benefit.

Importantly mentors bring experience. Early in your career you are by definition limited in your exposure to different situations. For example, you may never have lived through a period of high inflation or seen a market crash and it would be useful to discuss different risk factors and mitigations. Discussing the emotional and behavioural impacts on people in real life situations can be very different from the theory. See *Actuaries Digital* article 'War Stories from Life Insurance Actuaries' as a good example.

Mentors can be useful at all stages of your career and for various reasons, for example:

- You're considering a change of career and need to understand a new field;
- you want to understand how things are done in a different industry to broaden your thinking;
- as a manager for the first time you recognise you need new skills;
- you are seeking to enhance your career options and are seeking advice on how to do that;
- if you are faced with professional challenges you may be keen to get some advice from outside your organisation; and,
- a mentor can be a great source of networking – they know lots of people in the industry and can potentially introduce you to others who can help you.

Why do we have a Mentoring Program within the Institute?

Being a mentor brings it's own rewards and benefits. As well as helping someone at a key point in their working life you will also have the opportunity to understand the motivations and challenges faced by the younger members of your team better, find out what is being learned at university and in the professional exams and gain some insight into your own ability to listen and communicate effectively on a wide range of issues. You don't have to have extensive experience, a new graduate looking for a mentor will be interested in a recently qualified actuary who has faced the challenge of being new to the work force and combining this with study.

Both mentors and mentees stand to gain professional development and opportunities for networking, while simultaneously fostering a sense of community within the profession. The Institute's Mentoring program offers an excellent starting point and provides a helpful framework and another environment to make these connections within the actuarial community outside the workplace.

Members who work in small organisations may have only a small group of actuaries/managers internally from who to seek advice. While your manager may be a good mentor you may also be looking for an external influence.

Many of our members are keen to stay closely associated with the profession and keen to support others; others are new to Australia and this is a good way to start building a network.

So, while I am supportive of any mentoring relationship which works for you, I encourage you to consider whether the Institute program might be helpful. The more people who connect with our system the more we are able to get feedback to improve the program on an ongoing basis.

We have now launched the intake for the 2017/18 Mentoring Program. To express your interest, please email mentoring@actuaries.asn.au by Friday 28 July 2017.

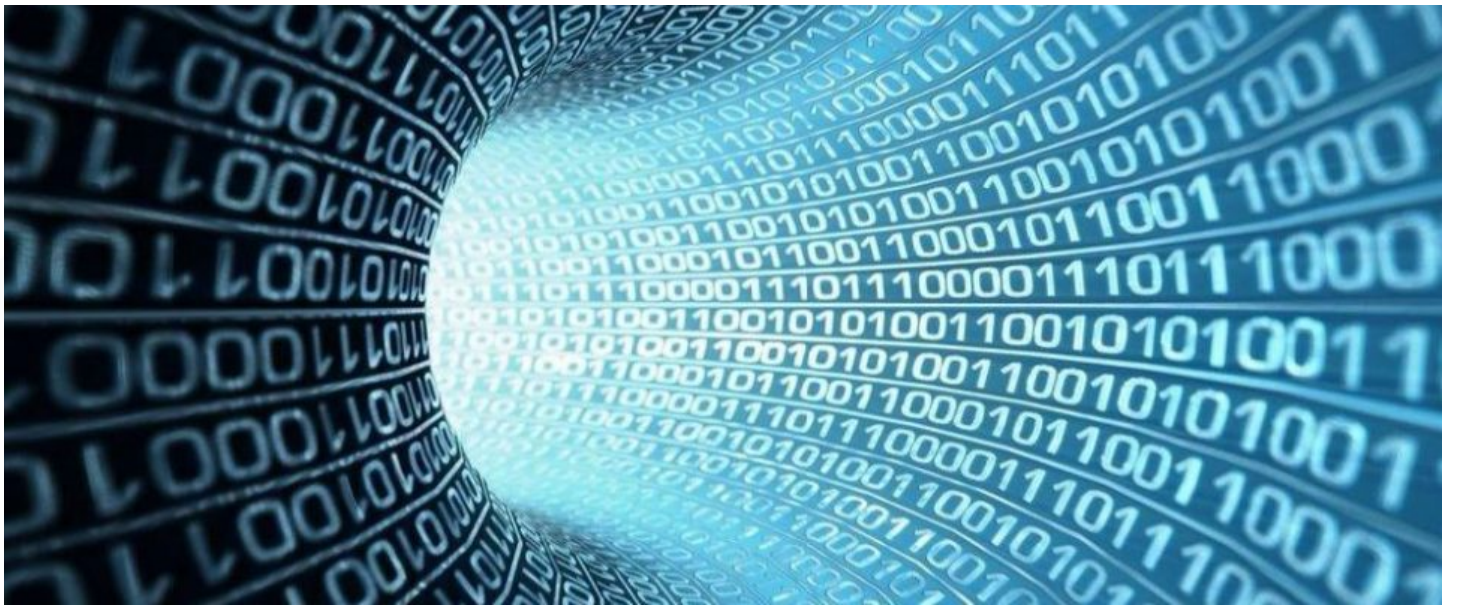
The Mentoring Working Group will also be holding an Information Session at the Institute (also available via webinar) on Tuesday 18 July. The session will comprise an interactive panel discussion by a selection of mentors and mentees who will share their personal experiences, a presentation of the survey findings of participants' views on the program and reveal some exciting future developments. Register now.

YAP Trivia night

I was also lucky enough to attend the YAP trivia night. I have been to a few of these and this year there was a particularly enthusiastic and vibrant group. There was a lot of keen competition and another clear demonstration that our younger members have a huge amount to offer by way of intellectual capital and effective communication. Last year I was stunned when we asked to name the K-Pop boy bands (I didn't even know what K pop was!), this year I realised it was a long time since I had been to do some integration. Fortunately, both times my team were on top of it!

I'd like to thank the organisers for what is a fun evening with great opportunities for networking.

Finally I am holding some lunches for our younger members to seek their views on the future for the profession and how we can support them, so if you would like to attend please register once the invitation comes out.



IFRS 17 Taskforce Update - July 2017

By Trang Duncanson *(Trang.Duncanson@nab.com.au)*

Reading time: 3 mins

With the finalization of the long awaited IFRS17 global accounting standards in May 2017, the Institute of Actuaries IFRS17 Implementation Taskforce will be updating its members monthly on its activities.

IFRS 17 will result in significant changes to the accounts of life, general and health insurance companies in Australia, and major changes will be needed to actuarial work supporting those accounts.

Taskforce scope and aims

This Taskforce was established in December 2016, is chaired by Ian Laughlin, and its core membership includes representatives from General insurance, Life insurance and Health insurance practice areas; Industry and Big Four accounting firms; New Zealand Society of Actuaries; APRA; and the Accountants and Actuaries Liaison Committee (AALC).

The Taskforce scope includes:

- Production of technical guidance (for the Australian profession in particular), with an ambition to produce the first iteration by end 2017 initially in the form of information notes – this is being delivered by the technical work-streams (see below);
- Coordinating with third parties and other professional bodies - e.g. APRA, ASIC, ATO, Treasury, AALC, AASB, IAA (International Actuarial Association), industry bodies, analyst community etc. This coordination is led by **Ian Laughlin**.
- Actuaries Institute communications which covers interaction and communications with Council and members, and coordination with Practice Committees. This coordination is led by **Trang Duncanson**.

Six technical work-streams have been created under the Taskforce, to enable faster progress on key items requiring guidance. The technical work-streams and the Taskforce lead contact details are shown in the table below.

While each of the technical work-streams have their respective focus areas, the aims of each are aligned. Where relevant, the streams will aim to create examples to illustrate the nuances.

Technical Work-streams	Coverage within work-stream	Taskforce Lead Contact (see end of article for contact details)
General Model/ building block approach (BBA)	• Onerous contracts • Current estimates (initial recognition and subsequent measurement) • Contract Service Margin (CSM) - initial recognition and subsequent measurement • Reinsurance • Contract modification /derecognition	Grant Robinson
Variable fee approach (VFA)	• Eligibility for the VFA, and composition of the pool of underlying items • Treatment of participating contracts not eligible to use the VFA • Unit Linked with Insurance Riders in the same contract • Groupings that are required under the VFA (consideration of mutualisation) • Issues specific to the VFA relating to the Risk Adjustment, amortisation of the CSM, options under the contract, reinsurance, expenses and taxation • Issues specific to the use of the VFA by friendly societies • The treatment of asymmetry • The calculation of VFA starting amounts on transition	David Rush
Premium allocation approach (PAA)	• Eligibility for the PAA • Liability for remaining coverage • Liability for incurred claims • Onerous contracts under PAA • Significant financing requirement • Issues specific to the PAA relating to reinsurance and expense acquisition costs • The calculation of PAA starting amounts on transition	Brendan Counsell
Risk adjustments, discount rates	• Determining the discount rate and allowance for financial risk • Determining the risk adjustment	Brett Pickett
Level of aggregation, definition of portfolios and groupings	• Defining insurance contract portfolios and boundaries • Dividing portfolios into groupings (onerous, no significant chance of becoming onerous, other, year of issue) • Issues specific to the level of aggregation and boundaries relating to reinsurance • The level of aggregation on transition	Benoit Laganiere
Disclosures, OCI and strategic	• Other Comprehensive Income (OCI) • Disclosures / presentation • Strategic transition (e.g. tax and APRA).	Hoa Bui

**the lead is supported by numerous volunteers from our membership across Life, General Insurance and Health.*

Taskforce activities to date

- ***Interaction with third parties***:
  - Members of the Taskforce have met with APRA, ASIC, AALC, AASB, ATO, Treasury, FSC and ICA. Where contact has been made there has been real interest in what we are doing and a ready willingness to co-operate.
  - There has been ongoing interaction with the IAA, and in particular feedback has been provided to them on a proposed monograph on risk adjustment as well as International Actuarial Notes received from them that the relevant work-streams will consider in their work.
- ***Technical work-streams***
  - There has been a pleasing number of volunteers in response to our recent requests for assistance, and each of these work-streams are now mostly fully resourced. In addition, each of the work-streams have had several meetings to agree their scope of work, and by the end of July 2017 we will have come up with a more detailed 6mth delivery plan.
  - To progress each work-stream, the short term approach is to prepare a Q&A by topic, as this will facilitate both the discussion meetings and engagement with the membership, as well as in the drafting of the guidance notes in due course. We also recognised that further international (actuarial) information notes were being developed, and that a core need of our work-streams was to consider these and to extract the useful and relevant parts for our Australian membership.

High level calendar of activities of Taskforce and its workstreams

Date	Taskforce delivery
July 2017 – August 2017	• Detailed 6mth delivery plan • Key issues under each stream for further discussion/drill-down • Preparation of member discussion materials for first Insights
5 September 2017	Member insights session planned

Recent relevant articles and links:

- Video: IASB Chairman Hoogervorst introduces IFRS 17
- IFRS 17: The IAA's Three Layers of Support
- IFRS17 to usher in 'financial transformation' - iFoA's *The Actuary*

- Insurance Contracts IFRS enters the Home Straight - *Actuaries Digital*

Taskforce Workstream Contact Details:

Grant Robinson
David Rush
Brendan Counsell
Brett Pickett
Benoit Laganiere
Hoa Bui

If you have any general questions please contact our Actuaries Institute representative on this task-force who will be able to direct you to the right person: Lily Meszaros at Lily.Meszaros@actuaries.asn.au or by phone +61 (0) 2 9239 6121.

General insurance: The wide-ranging implications of IFRS 17

By Alice Boreman () and Laura Barella ()

Reading time: 7 mins

The new accounting standard for insurance contracts, IFRS 17, will have wide-ranging implications for (re)insurers, and many firms are preparing for significant changes to their business operations.

After 20 years in the making, the International Accounting Standards Board (IASB) has published the new accounting standard for insurance contracts, IFRS 17. It will be effective from 1 January 2021, with prior-year comparative reporting required. Here we provide a taster of the key changes to the recognition and valuation of insurance contracts that will affect general insurers.

Currently, comparisons across different industries, products, companies and jurisdictions are difficult. The IASB wants to achieve consistent accounting for all insurance contracts by all companies around the globe (although the US has opted out and US GAAP will persist) and enable comparability with non-insurance products.

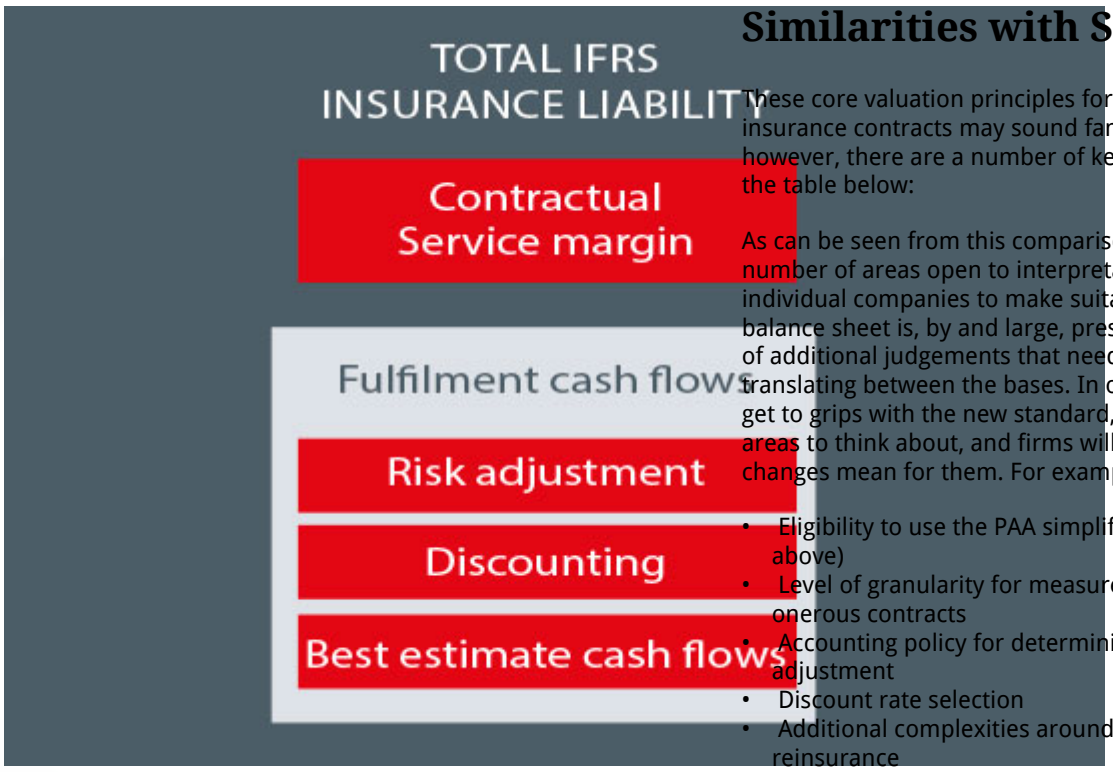
Not only will this affect general insurers' operations, but it will also introduce changes to the presentation of results in the financial statements as well as potentially having an impact on the financial results themselves.

General measurement model

The general measurement model for liabilities under IFRS 17 is known as the building block approach (BBA) and all (re)insurance contracts will be measured as the sum of:

- 'Fulfilment' cashflows (updated at each reporting date), which are defined as:
  - The present value of probability-weighted expected cashflows (best estimate cashflows); plus
  - An explicit risk adjustment for insurance risk
- Contractual service margin (CSM), which is the expected profit from the unearned portion of the contract

Under the BBA, the CSM is amortised and profits are recognised over time as insurance services are provided over the coverage period of the contract (over the term of the policy). However, losses from onerous (or, more simply, 'loss making') contracts are recognised immediately. After the end of the coverage period, any future profit or loss from the run-off of the liabilities (which, in general insurance, usually extends past the end of the coverage period) will flow straight through into the income statement.



Similarities with Solvency II

These core valuation principles for measuring liabilities for insurance contracts may sound familiar from Solvency II; however, there are a number of key differences, as detailed in the table below:

As can be seen from this comparison, the standard leaves a number of areas open to interpretation or offers options for individual companies to make suitable choices. The Solvency II balance sheet is, by and large, prescribed, so there are a number of additional judgements that need to be made by companies in translating between the bases. In order for general insurers to get to grips with the new standard, there are a number of key areas to think about, and firms will need to decide what these changes mean for them. For example:

- Eligibility to use the PAA simplification option (discussed above)
- Level of granularity for measurement and recognition of onerous contracts
- Accounting policy for determining and reporting risk adjustment
- Discount rate selection
- Additional complexities around accounting for outwards reinsurance
- Reporting and disclosures

Possible simplification

One of the most important questions for general insurers will be whether to use a simplification option known as the premium allocation approach (PAA). This is an alternative to the BBA. This simplification is only permitted in certain circumstances and is only applicable to unexpired risks, but the incurred claims liabilities must still follow the BBA model. Under the PAA approach, the CSM is not required. Rather, at inception, the liability for unexpired risks, or the "liability for remaining coverage" as it will be known under IFRS 17, is calculated as the premiums received less associated acquisition costs. Over time, the liability for remaining coverage is updated to reflect additional premiums received (if any) and the profit that has been recognised in the income statement for the coverage that was provided in that period; that is, the premium earned over the period. Again, similarly to the BBA, any losses from onerous contracts must be recognised immediately at inception and, after the end of the coverage period, any future profit or loss from the run-off of the liabilities will flow straight through into the income statement.

This approach will be permitted for contracts where the period of cover is one year or less, or where the measurement of the liability for remaining coverage would not differ materially from that estimated using the BBA. The standard states that the latter requirement is not met if, at inception, there is expected to be significant variability in the fulfilment cashflows affecting the measurement of the liability for remaining coverage during the period before a claim is incurred. Further, it states that variability in the fulfilment cashflows increases with the length of the coverage period of the contract. In other words, this means that multi-year policies covering risks such as construction, energy, engineering, accident and health, directors and officers, credit and surety, mortgage indemnity and warranty business may not meet the PAA eligibility criteria. Where a firm wishes to use the PAA approach, this will need to be justified, and agreed with its auditor as an appropriate approximation.

TOPIC	IFRS 17	SOLVENCY II
Recognition	Earliest of start of coverage and premium receipt (plus onerous contract test)	Date party to contract
Measurement model	Building Block Approach (BBA), or Premium Allocation Approach (PAA) for eligible contracts	No choice, cashflow approac aligned to BBA under IFRS 1
Discount rate	Company-specific, principles-based	Prescribed
Risk allowance	Risk adjustment – no prescribed method	Risk margin – cost of capital prescribed
Contractual service margin	Eliminates day-one gain (measure of unearned profit)	No similar concept, day-one immediately into own funds
Other comprehensive income (optional)	Isolates the impact of discount rate changes from the rest of the P&L	No similar concept

Level of granularity

Under the new standard, there are requirements on the level of granularity at which the recognition and measurement principles should be applied. Specifically, the principles should be applied at a 'portfolio' level, where portfolio is defined as a group of contracts with similar risks which are managed together.

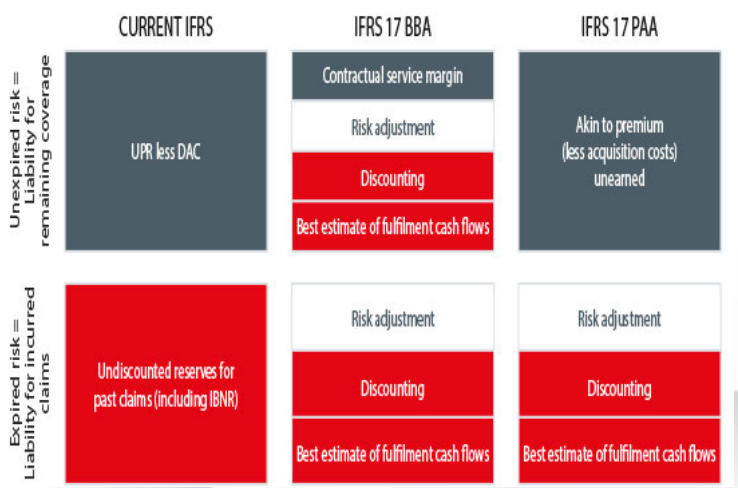
Dividing into these portfolios sounds eminently sensible. However, because the implication of recognising losses immediately means that loss-making contracts should not be allowed to offset profitable ones, insurers will need to split portfolios further. Portfolios will need to be split into groups (once at inception only) which include contracts written within the same 12-month period and contain: 1) onerous contracts (if any); 2) contracts that have no significant possibility of becoming

onerous subsequently (if any) and; 3) the remaining contracts in the portfolio (if any). There is, however, an exemption where regulatory pricing constraints exist – for example, currently, loss-making male drivers would not need to be separated from profit-making female drivers because of the EU Gender Equality Law. Further, when using the PAA, it should be assumed that no contracts in the portfolio are onerous at initial recognition, unless facts and circumstances indicate otherwise.

Accounting policy options for risk adjustment

If using the BBA, for most general insurers, the profit from the CSM will be released over a short time period providing little flexibility. The risk adjustment, however, will run off gradually over the full term to settlement of all insurance obligations. Therefore, the risk adjustment will be a key driver of the profit profile over time (sometimes referred to as the profit signature). The risk adjustment on gross cashflows is defined as the compensation that an insurer requires to make it indifferent between the present value of uncertain cashflows and the present value of certain cashflows. For ceded cashflows a risk adjustment must be held to represent the transfer of risk from the insurers to the reinsurer from the underlying insurance contracts.

The insurer needs to decide on the appropriate policy, methodology and assumptions for setting the risk adjustment. Guidance is provided on factors to consider; these are predominantly focused on appropriately reflecting the risk characteristics of the insurance contracts. However, IFRS 17 does not prescribe an approach and so there is significant flexibility. Accounting policy should be considered carefully, given its impact and how the approach will respond appropriately to changes over time – for example, risk changing over the underwriting cycle.



Discount rate selection

The discount rate should reflect the risk characteristics of the cashflows arising from the insurance contracts. It should not reflect risk characteristics of financial instruments held by the insurer unless the insurance contract cashflows have the same risk characteristics.

The discount rate can be determined using either a top-down (starting with an actual or expected reference portfolio rate) or a bottom-up (starting with a risk free rate of return) methodology.

IFRS 17 provides insurers the option to choose to take the volatility due to changes in discount rates straight to profit and loss or through other comprehensive income (OCI). This accounting policy choice is connected to the classification of financial instruments in IFRS 9 (many insurers will have the option to defer the implementation of IFRS 9 from 2018 to 2021, such that IFRS 9 applies at the same time at which IFRS 17 becomes effective).

The treatment of changes in current discount rates in IFRS 17 for insurance contracts creates a potential opportunity to reduce accounting mismatches.

Additional complexities around accounting for outwards reinsurance

Under IFRS17, you must model outwards contracts in the same way as inwards business. This means calculating:

- Discounted best-estimate cashflows
- Plus allowance for credit risk
- Plus risk adjustment (reflecting the risk ceded)
- Plus contractual service margin (if applicable).

With the PAA eligibility test having to be applied to outwards contracts too, multi-year reinsurance coverage may have to be measured on a BBA basis. Careful consideration will also need to be taken on how retrospective reinsurance covers are accounted for.

All of this may lead to potential asymmetry between gross and ceded profits/losses.

Presentation and disclosures

Financial statements will look different under IFRS 17. Perhaps the biggest change will be to the income statement, which will no longer show written premiums (these will be disclosed in the notes instead) and revenue and expense will be recognised as earned (not received) or incurred (not paid). Disclosures will be more burdensome under IFRS 17 and in particular will involve detailed reconciliations between opening and closing balances as well as disclosure of the confidence level of the insurance liabilities.

IFRS 4*	IFRS 17
Premiums	Insurance revenue
Investment income	Incurred claims and expenses
Incurred claims and expenses	Insurance service result
Change in insurance contract liabilities	Investment income
Profit or loss	Insurance finance expense
(*) Common presentation in the statement of comprehensive income in applying IFRS 4. Note: Grey shading denotes line items on the balance sheet	Net financial result
	Profit or loss
	Discount rate changes on insurance liability (optional)
	Total comprehensive income

Closing remarks

The standard will go live on 1 January 2021 and it is therefore important for general insurers to begin considering the changes now. As actuaries, we should get involved in the transition to IFRS 17 within our own companies; questions you may want to consider are:

- Does this affect the company you work for (are you operating domestically or under US GAAP)?
- What will be the impact on your financial results at transition and going forward? Include thinking about accounting policy choices around PAA eligibility, discount rates and the risk adjustment.
- What is the operational impact on data, systems, processes and people?
- Is there a working group already set up in your company? Who is on it?
- Are there projects already under way to transform finance/ actuarial processes? Are they thinking about IFRS 17? How does this integrate with IFRS 9 work, which may already be under way?

We think that 2017 should see firms begin a process of engaging with key stakeholders, establishing timelines to perform impact analyses and making plans for implementation. This should set companies up to be able to have a timely implementation with time for a dry run before 2021.

Latest findings

The IFoA set up a Working Party in 2015 to consider IFRS 17 for general insurers, and we are exploring the implications together with practical suggestions for implementation. The Working Party presented at GIRO 2016 and will be presenting at GIRO 2017 to provide an update on our work.

This article reflects the understanding of the IFoA's IFRS 17 General Insurers Working Party up to the point at which the final IFRS 17 Standard was published. It is written from a UK perspective.

This article was originally published here, in *The Actuary*, by the Institute & Faculty of Actuaries on 8 June 2017.

2017 Insurance CRO Forum

By Gavin Pearce *(gavin.pearce@zurich.com.au)*

Reading time: 3 mins

The annual Insurance CRO Forum was held at the Actuaries Institute on Monday 19 June 2017. The aim of these forums is to get the Chief Risk Officers from life, general, health and lenders mortgage insurance companies together to discuss a topic of interest. Gavin Pearce reports.

For this year's forum there were 17 people registered, of which seven were actuaries (not that we were counting). The topic discussed at the forum was "Outsourcing & Third Party Risk". The subject was discussed from three very different perspectives during the half day forum – a procurement manager, a risk manager, and a Board director.

CRO Gavin Pearce (left) pictured with David Bell, Actuaries Institute CEO (right)

The formal proceedings started at 9:15am with a formal welcome by David Bell (CEO, Actuaries Institute). Whilst David suggested he knew nothing about risk management, he then shared his thoughts on reputation risk (showing he does have some risk management knowledge). As the Convener of the Organising Committee, I then made some opening remarks. I postulated that relying on organisations outside the core insurance company to provide vital elements of its service to customers and compliance with regulatory requirements needs careful management, strong risk controls and governance oversight. I suggested that whilst the dollar benefits of such arrangements are usually quite evident, sometimes the risks are not - misalignment of incentives and motivations, differences in culture, 4th and 5th party risks (i.e. where the insurer outsources an activity and creates a reliance on the service provider's own supply chain), and political risks if your business partner is in another country.

The forum consisted of three plenary sessions:

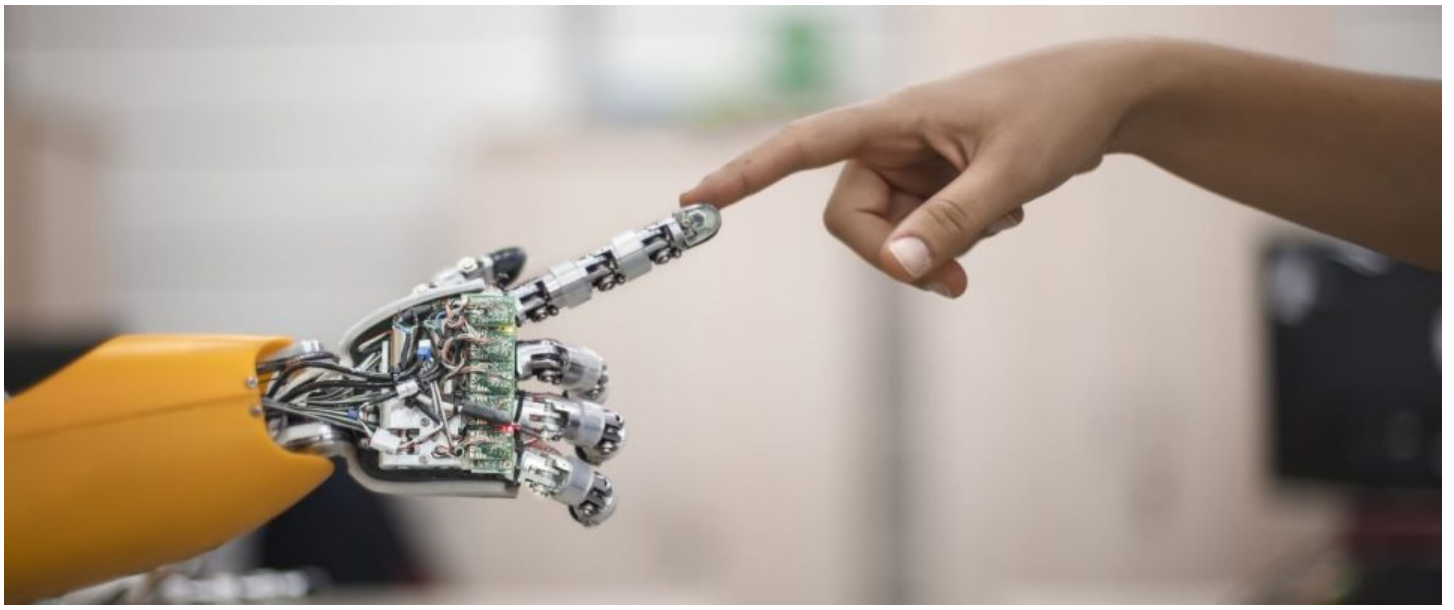
- Plenary 1 was presented by Daniel Tuddenham (Head of Outsourcing, AMP - Alliances Group) and Derrick Au (Commercial Manager, AMP - Alliances Group) who discussed outsourcing from a procurement perspective.
- Plenary 2 was presented by Simone Leas (Head of Group Risk and Compliance, ClearView Wealth Limited) who talked about the implementation of the APRA Standard CPS 231 at her organisation.
- Plenary 3 was presented by David Plumb (Non-Executive Director, icare) who shared his views on outsourcing and third party risk from a Board member's perspective.

During the forum the Chatham House Rule was in effect. That is, participants are free to use the information received, but neither the identity nor the affiliation of the speaker, nor that of any other participant, may be revealed. So, if we told you what each of the speakers and participants said we'd have to kill you. Having said that, some of the highlights from the forum discussions were:

- You need to be clear what is and isn't outsourcing. Services consumed as a business is not outsourcing. Outsourcing covers activities that would/could be done in house.
- Notwithstanding this point, several organisations are managing their outsourcing and other third party business services through a common framework.
- Selling a part of your business can lead to an outsourcing arrangement coming into effect.
- Emerging trends that will impact on the need for outsourcing and third party arrangements include:
  - We live in uncertain times! This is as relevant to outsourcing as other parts of a risk management framework
  - The concepts of the "typical customer", "average person" and "usual life journey" are no longer suitable in most situations.
  - Consumer tastes are changing. For example, research shows that most millennials would rather spend money on events and experiences than tangible assets.
  - The XaaS ("X as a Service") economy is growing – for example, software as a service.
  - Big data analytics, Internet of Things, artificial intelligence, and robotics are all important and developing.
  - Customer centricity and the tension between speed to market and the associated risks.
  - Ways of working are changing, including the "gig economy".
- It is important to understand what outsourcing arrangements are in place across your organisation, who owns the relationship/contract, the level of materiality, any correlations between parties, etc (i.e. a central source of truth).
- When considering outsourcing, keep in mind the value proposition to your customers. Don't erode this value for the sake of saving a few dollars.
- There are alternatives to outsourcing, including JVs and staged ownership.
- Don't transfer poor processes to third parties. It's difficult enough to manage a poor internal process; managing it at arm's length is much harder.

The forum concluded at 1:30pm with a light lunch for those who didn't have to rush back to their offices immediately.

Thanks to Craig Calder from ThinkClear Group who did a great job facilitating the forum. Thanks also to the Organising Committee (Gavin Pearce, Catherine Dube, Blair McAuliffe, Jess Telford and Liz Gemmell) and the Actuaries Institute for their support.



Will there still be actuaries in the year 2049?

By Actuanonymous

Reading time: 2 mins

You asked, and we listened! In this inaugural 'Ask an Actuary' column - since Bruce and Gae went underground - our anonymous actuary and resident mystery writer answers your burning question: will there still be actuaries in 2049?

Will there still be data in 2049? Of course there will! Oh my goodness, there will be so much data, coming from sources that we can barely even imagine! Maybe in 2049 data collection will be so perfect that I won't need to worry about data quality issues ever again! (I recognise that my level of excitement around data is much higher than the general population, and yes, maybe I do have a problem).

I suspect that your concern is that the increasing level of automation will mean that computers are doing actuaries jobs in 2049. However, although computers will obviously be able to do a lot more than they do now, they will not be able to deal with the infinite array of how data can be collected, stored and understood. And as long as there is that need for a human to direct the computer on how to interpret and analyse the data, there will be a need for actuaries. We will almost certainly be using entirely different techniques to what we currently do, but our skills will be needed.

Your concerns remind me of advice given to Max Planck in the late 19th century. He was told by his professor that he shouldn't study physics as a career because "almost everything is already discovered". Thank goodness Planck didn't listen to his teacher, because he went on to become the father of quantum theory. Similarly, I think you shouldn't be advising your kids not to become actuaries because there'll be nothing left for us to do in 2049 – there will be work that we can't even imagine yet.

Find out more about this column and please, submit any question you would like our columnist to answer to: **ActuariesMag@actuaries.asn.au**

“There’s a BEAR in there” – The new financial services regime in Australia

By Mark Baxter

Reading time: 4 mins

Mark Baxter looks at the potential consequences of recently announced, significant extension to APRA’s powers relating to senior banking executives - will the Banking Executive’s Accountability Regime be a teddy BEAR or a grizzly BEAR?

I never thought I would be quoting Humphrey B Bear’s theme song as part of a financial services paper but the staff in the federal government have been quite inventive with the acronym for a change to the regulatory regime that potentially has far reaching consequences. The Banking Executive’s Accountability Regime – Will it be a teddy BEAR – which gives comfort that appropriate prudent decisions will be made? Or a grizzly BEAR – where there is a major impact on governance, management decisions and potentially stifles innovation?

Due to the perception that executives have not been bought to account following a number of banking sector scandals, the government has announced a significant extension to APRA’s powers relating to senior banking executives. These powers include:

1. A requirement to advise APRA of all senior executive appointments prior to the appointment being made.
2. Enhanced powers to remove and disqualify senior executives and directors.
3. Enhanced conduct standards for senior executives and the ability to apply potentially significant civil penalties to banks that do not follow these standards.
4. Enhanced powers for APRA to review and adjust remuneration policies, including that a minimum proportion of remuneration must be deferred for up to 4 years.

Currently this is to apply to banking only – however, I believe that it will only be a matter of time before it applies across the entire financial services sector in Australia. Many of the scandals in Australia have related to the insurance and financial planning subsidiaries of the major banks – it would seem odd that if you are an executive of an insurance subsidiary of a bank you would be subject to this regime but if you are an executive in a stand-alone insurer you are not.

The proposed Banking Executive Accountability Regime (BEAR) very much reflects the Approved Persons/Senior Manager regime that currently exists in the United Kingdom. Having just returned to Australia from senior executive positions in the UK I would like to give my personal views from my experience under such a regime.

In the past few years, UK regulators have been placed under significant pressure to ensure that individual executives are qualified to do their roles and are held to account. They have ramped up their approval process and their oversight of individuals. In many instances the UK regulator requests full details of the recruitment process (including the full short list of candidates and the rationale for selecting the preferred candidate), interview notes and copies of any psychological tests. The regulators’ criteria are not merely around “fit and proper” but more ambiguous qualities which include gravitas, resilience, cultural fit and so forth – all of which are a matter of judgement and can be affected by unconscious bias. For a senior role in the UK I was interviewed for almost 4 hours by 11 staff sourced from the regulators.

What are the potential consequences of this?

- It is becoming increasingly difficult to inject new blood into financial services in the UK as many good senior executives from other sectors recoil at the involvement of the regulators in the recruitment process.
- A significant industry has developed around coaching senior executives to “get through” the approval process
- A refusal by the regulator can be the end of an executive’s career – good and talented people may find that they do not fit in with the regulator’s views around what is needed.
- This process is no guarantee that “bad apples” will not get through (see case study).

- In some specialist areas the regulators' requirements are creating a severe shortage of people who can carry out specific roles.
- There is a danger that talented senior executives could be excluded from the financial services industry based on perceptions rather than concrete evidence.

In spite of the potential adverse consequences approval of senior executives is a very popular policy. I still recall mentioning how exhausting the process was at a garden party in our local square and the neighbours all said "so it should be!" Once in place this sort of regime will be hard to reverse as a result of public perception.

On an on-going basis in the UK the regulators often felt like a phantom member of the executive team or the board. In many instances the regulator appeared to be an active part of the politics and decision making of a firm. The regulators often requested draft board papers for review – which in my view is not appropriate. This is classic "moral hazard" – who is to blame if something goes wrong? Has the regulator become such an intimate part of decisions that they are also to blame for poor outcomes? Given the implied threat of sanctions has the regulator constrained executives so much that they are unable to make sensible risk based decisions? Does such a regime stifle innovation?

In spite of an intrusive approval and oversight regime the UK has not been immune from serious financial scandals. In response to the proposed regime APRA's Chairman, Wayne Byers stated:

"Most importantly, we do not consider that the measures announced in the budget will fundamentally change APRA's supervisory philosophy," he said, adding "their very presence will help us encourage and promote prudent behaviour to begin with".

This is encouraging, however, given the likely popularity of such a measure amongst the general public, APRA will be expected to use these powers. It will only take one major scandal to place pressure on APRA to act more forcefully.

This case study in relation to the Chairman of the Co-Operative Bank in the UK is a case in point. The public will often have expectations beyond the regulators' powers of investigation. In the case study cited where the Chairman had drug abuse issues many people were asking – why didn't the regulator know? The tabloids were also having a field day – the court of public opinion was placing significant pressure on the regulators.

The regulator also needs to be careful in how this sort of regime is introduced; casual comments by the regulator about executives will have a greater significance than ordinarily, and that could have an adverse impact on people's careers. A robust approval process will need to be established so that it is seen to be fair and reasonable and not just based on perceptions. Additional resources will need to be allocated to implementing and maintaining this sort of regime.

Given APRA's current statements bringing the BEAR into the Australian regulatory regime appears to be a relatively benign teddy bear to provide comfort that prudent decisions will be made. However, over time it is likely to bring a fundamental change to regulatory philosophy and may turn out to be a grizzly bear within Australian financial services.

The Magic Pudding of Claim Farming

By Geoff Atkins *(geoff.atkins@finity.com.au)*

Reading time: 3 mins

Geoff Atkins explores the escalating costs in CTP and motor insurance driven by the intervention of third parties.

In 2012, I wrote about the many problems in UK motor markets from what has broadly been termed "claim farming" (that article can be found here). I finished with the question: could it happen in Australia?

Well, it's now clear that it's happening here in a big way. We fear that unless concerted action can be taken to cut out farming, it will spread and become so embedded that we'll never stop it.

The visible part of claim farming is the cold call to an individual asking about a recent accident. The hidden part includes the exaggerated CTP claim, the inflated car repair bill, the excessive fees for a rental car – all paid for by the unknowing policyholder.

Our silos make us vulnerable

Unlike the UK, our insurance products for motor vehicle property damage and bodily injury are totally separate. And the CTP schemes are all state based. The claim farmers don't care about these distinctions. We are more vulnerable, and much less able to respond, because of our silos. Participants are spread across public and private sectors, have no regular communication channels and (in the past) no clear common interest in tackling a systemic problem.

Did you know?

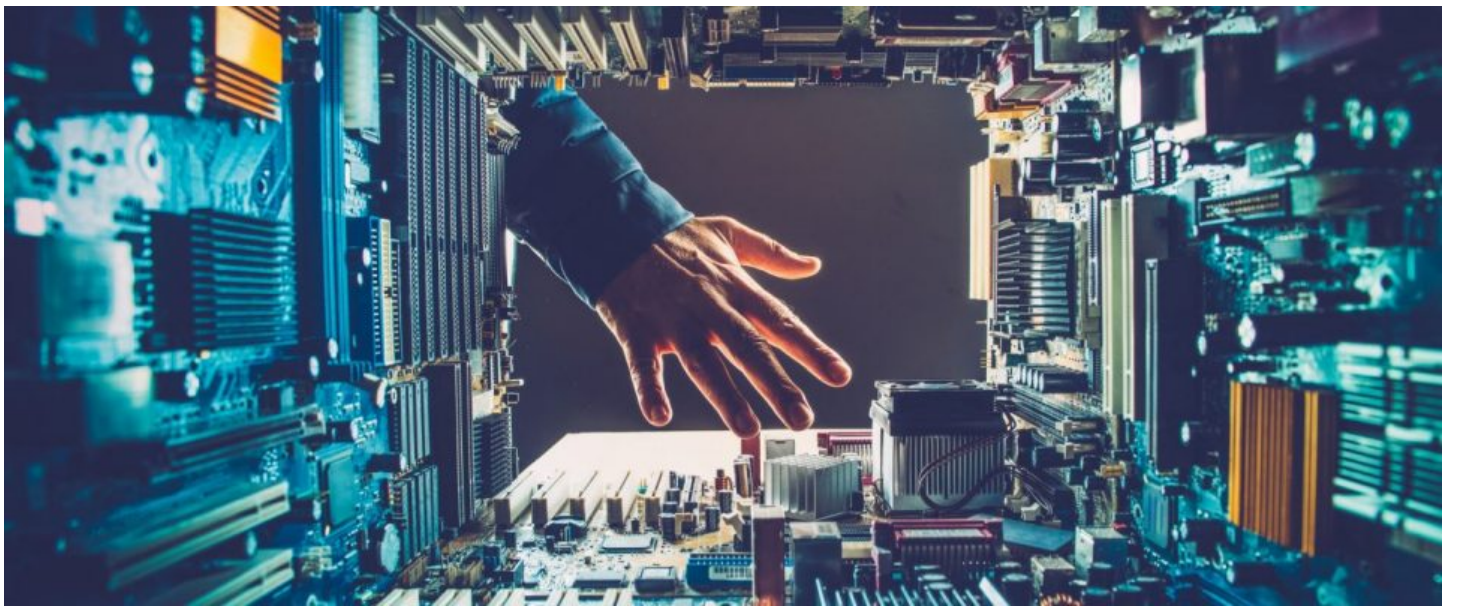
- The ACCC reported over 2,700 complaints about unsolicited calls in the seven months to November
- 2016 from just three states (1,700 in NSW, 600 in Qld, 400 in SA). With 2,700 complaints, how many have received a call?
- By 2014, two thirds of all British motorists had been contacted by a claims management company, and one in three had received more than ten calls.
- The frequency of CTP claims for minor injury in NSW is now 2.5 times the 2011 level, and Qld is seeing an increase in minor claims, while the accident rate is stable – coincidence?
- The average cost of a third party property damage claim in motor has been rising quickly, with a significant proportion coming from car hire costs – coincidence? In this context, the main victim of the claim farming exercise is the insurer of the vehicle at-fault. The third party claim presented to the control.
- Phone calls seem to come from overseas call centres. Callers frequently misrepres from the regulator, an insurer or law firm, and they appear to have confidential ac
- It remains unclear whether this activity is illegal or not.

What can be done?

It is hard. In the UK, the insurance industry and government have been actively fighting claim farming since the mid-2000s, with only limited success. The UK government is now consulting on still more law changes.

And who really cares in Australia? For an insurer faced with a dubious claim, it is often cheaper and easier to grit the teeth and settle it. There is no perceived value in pursuing the individual motorist for fraud. An insurer, whether government or private, can live with the pain, put up its premiums, and still be fine. The average motorist paying around $100 a year more because of claim farming is none the wiser and just grumbles about the insurers.

So do we care enough? Are the many elements of the insurance system willing to leave their silos, put aside competitive interests and work together? How can we mobilise the scarce resources of regulatory and crime fighting authorities to tackle the dark side of the motor insurance business? Some government and private institutions are acutely aware of this emerging issue. Various investigations are underway and actions are being developed and implemented, but actions are not likely to succeed unless they can influence many parts of the claim farming networks and ultimately get to the core of the problem.



Normal Deviance - Burying the GLM

By Hugh Miller

Reading time: 3 mins

*My **previous column** praised the virtues of the generalised linear model. This month we dismember it and look to more modern approaches to fill the void.*

I love generalised linear models (GLMs) and still fit a lot of them. However, they were developed in a world very different to today's—datasets were smaller (both the number of records and the number of variables), computers were slower, and applications were not as extensive. This context shows—GLMs do carry a number of important limitations:

- **Time to fit:** Choosing the structure of a GLM is a fairly manual process. Not only do you have to decide which predictor variables to leave in or out, but there are a host of subsidiary questions. Do we need to add splines or polynomial effects? Do we need to group up categorical levels? Do we to search for 2-way or 3-way interactions? This all takes time. Scaling analysis to cover additional variables and new models means that this time cost becomes prohibitive.
- **All-or-nothing effects:** Effects in a GLM are either in or out—either you add a risk term for drivers of a certain car or not. This creates a degree of ad hoc judgement. While facilitating human judgement is good, the choice is not always clear cut. There will be effects that are marginally significant but material, and the all-or-nothing approach is not ideal. It is far better to allow for an in-between parameter value, as is often the case in other algorithms.
- **Distributional contortions:** GLM fits can go awry if the underlying distribution of the response variable is not close to what is assumed. This is a particular problem for modelling continuous response variables—I have fit many gamma models, but have rarely (never?) seen a distribution that would satisfy a formal test for the gamma distribution. The problem is often in the tails. GLMs usually assume thin-tailed distributions so it's common to have too many unusually large or small values.
- **Dangerous extrapolation:** GLMs seem particularly prone to one type of error where the combined effect of two strong linear terms leads to an implausibly extreme prediction (too large or small). Because these edge cases tend to have fewer data points, they can be overlooked in diagnostic checks but will cause problems down the track when the model is implemented. Capping variables and checking interactions for particularly strong effects can help, but a model structure that naturally prevents the problem would be better.
- **Accuracy:** While the predictive accuracy of GLMs is often commendable, it cannot offer the depth and complexity that modern algorithms do. In some contexts, the extra performance counts.

So if we are to discard GLMs, what do we replace it with? There are lots of options—the whole area of prediction has been an active research area for decades. The answer can vary too. If interpretation is important, than a decision tree or a GLM could work. If accuracy is paramount, then a more complex model such as a decision tree ensemble or neural network might be best. If something has to adapt and evolve over time, a model built within a Bayesian framework might be best.

My personal interest is in extensions of the GLM that overcome some of its shortcomings. Penalised regression is a good example, where some of the challenges around variable selection and all-or-nothing can be overcome. However, this often sacrifices some of the GLM's advantages, including inference on parameters and some of the more subtle user control. Perhaps one day we'll reach nirvana where one framework will cover the majority of problems. But for the foreseeable future, we're in a world where a toolbox of approaches is needed.

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