JUNE 2015
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WRITER OF THE MONTH
Paul Harwood wins a £50 book token for his feature on the evolution of enterprise risk management, courtesy of SIAS

SIAS
Staple Inn Actuarial Society

COVER: GENE CORNELIUS / SHUTTERSTOCK

editor@theactuary.com

Strength in numbers

Kelvin Chamunorwa encourages wide input to develop adequate financial solutions

I recently attended a conference on financial services investment in Africa. The 300 attendees included senior executives from banks, insurers and private equity funds and represented 25 countries from the continent – all under one roof. Perhaps unsurprisingly, the breadth of insight was unbelievable. Even though there was a wide range of interests and focal points, the conference organisers skilfully crafted these into a common purpose: to explore opportunities to drive sustainable economic growth. The resounding appeal of the conference was evident.

Given the diversity of the actuarial community, which Nick Salter considers in his final president's comment (*p8*), it made me wonder whether a similar model could work for some of our own actuarial conferences. Increasingly, solutions to financial needs are not limited to one product, solution or source, but rather a combination. Take long-term care funding as an example, for which a concoction of savings, pensions and insurance solutions is required.

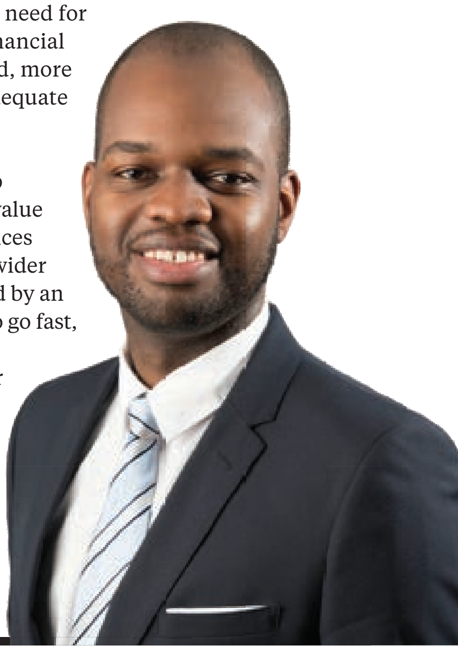
Following the UK general election last month, there were various leadership changes. Dr Ros Altmann, a consumer champion, was appointed to the cabinet as minister of state for pensions. *The Actuary* caught up with Dr Altmann in a wide-ranging interview covering later-life care, consumer engagement and her priorities in government. On care, Altmann also points to the need for a blend of financial solutions and, more generally, adequate financial education and advice (*p17*).

"There is value in a broader conversation as a financial services industry, bringing together thinking with a wider remit"

There is clearly a need to delve into issues within separate specialist areas, and develop specific solutions to these. But there is also value in a broader conversation as a financial services industry, bringing together thinking with a wider remit. My point is probably best summarised by an old African proverb that says: "If you want to go fast, go alone. If you want to go far, go together."

To conclude, I'd like to remind you that our search for a new editor of *The Actuary* from January 2016 is still on. If you are interested in the role, please be sure to apply to SIAS by 30 June.

Kelvin Chamunorwa
Editor



The Actuary
theactuary.com

redactive

Publisher
Redactive Media Group
17-18 Britton Street,
London EC1M 5TP
+44 (0)20 7880 6200

Publishing director
Joanna Marsh

Sub-editors
Kathryn Manning
Caroline Taylor

News editor
Will Green
+44 (0)20 7324 2742
will.green@redactive.co.uk

News reporter
Cintia Cheong
+44 (0)20 7324 2743
cintia.cheong@theactuary.com

Digital assistant
Tania Forrester
tania.forrester@redactive.co.uk

Sales manager
James Condley
+44 (0)20 7324 2750
james.condley@redactive.co.uk

Display sales executive
Vlad Harmanescu
+44 (0)20 7324 2726
vlad@redactive.co.uk

Senior recruitment sales executive
Emmanuel Nettey
+44 (0)20 7880 6234
emmanuel.nettey@redactive.co.uk

Senior designer
Gene Cornelius

Picture editor
Akin Falope

Production executive
Rachel Young
+44 (0)20 7880 6209
rachel.young@redactive.co.uk

Print William Gibbons

Internet
The Actuary:
www.theactuary.com
Staple Inn Actuarial Society:
www.sias.org.uk
Institute and Faculty of Actuaries:
www.actuaries.org.uk

Managing editor
Sharon Maguire
+44 (0)20 7880 6246
sharon.maguire@redactive.co.uk

Editor
Kelvin Chamunorwa
editor@theactuary.com

Features editors
Contact:
features@theactuary.com

Jeremy Lee, pensions, investment, ERM, banking

Richard Purcell, life, health and care

Richard Schneider, life, Solvency II, mortality/longevity, modelling and software

Helen Lau, GI, reinsurance, environment, careers

Gemma Gregson, pensions, GI

People/society news editor
Yvonne Wan
social@theactuary.com

Student page editor
Jessica Elkin
student@theactuary.com

Arts page
arts@theactuary.com

IFoA news editor
Alison Jiggins
+44 (0)20 7632 2172
alison.jiggins@actuaries.org.uk

SIAS representative
Mark Gorman

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Changes of address should inform the membership department as above.
For delivery queries, contact: Rachel Young E rachel.young@redactive.co.uk

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editor@theactuary.com

Have your say online

More comments are posted online about news stories published on *www.theactuary.com*.

Against the tide

I've missed the deadline, I'm afraid. But only because my hard copy of *The Actuary* turned up in my office today – postal services to the colonies remain a bit slow at times. Perhaps the delivery plane was up against headwinds, not entirely unlike the subject of puzzle 615 (*The Actuary*, March, bit.ly/1Fv2NXw) being up against the tide:

"A ship is battling against a strong tide to get to safety. It uses 6 gallons of fuel every hour and sails at 17 mph in still conditions. The ship is 24 miles from safety and the flow against it is 8 mph. The ship has 16 gallons of fuel remaining.

How much will there be when it reaches the shore?"

When I read the puzzle, I thought the answer is probably zero. That is, the net forward speed is 9 knots* and the ship needs to cover 24 miles. That is 2 hours 40 minutes and burning 6 gallons of fuel per hour means 16 remaining gallons would be used up exactly in 2 hours 40 minutes.

But then I thought that the answer cannot be determined from the information provided. Tidal flows are not constant – the height of the tide rises and falls in a pattern very similar to a sine wave. In most locations on the earth, there are two tides a day. When the tide is turning, the tidal flow is nil, then it picks up speed to be at its maximum roughly halfway between the tidal peak or trough, then slows again to be nil at the next turn. Local geographical features can alter this. The puzzle does not tell us anything about how a tidal rate of currently 8 knots* will change over the next 2 hours 40 minutes. The salt in my blood tells me it won't remain constant!

So I conclude that the fuel remaining when the ship reaches shore will be a positive non-zero quantity – the captain would slow the ship to preserve fuel until the tidal flow slowed to approach zero (or reverse) and then bring the ship in with fuel to spare. Simple.

*Knots – I know the question setter said mph but when it comes to nautical measures, 1 minute of latitude is 1 nautical mile (usually simply referred to as 1 mile). A speed of 1 mile per hour is 1 knot. A land statute mile is not the same as a nautical mile.

David McNeice 24 March

Intergenerational fairness

Icki Iqbal points out that he was not the source of the confusion between standard of living and retired standard of living. The criticism in my earlier letter cannot, therefore, be directed at him, and I withdraw it unreservedly as to him.

I am still troubled by the approach set out in his original letter (*The Actuary*, November 2014 bit.ly/15DKZLK) and by his recent statement that "[it is] so self-evident as to be axiomatic that each generation has to pay its own way. If it doesn't, it will bequeath a terrible burden on its successors." As to private plans this is clearly so, but in the case of public plans it is not.

In a public plan each generation does not have to "pay its own way": it can pass the parcel to the next generations. Indeed, if it does not do so, it is unreasonably burdening the current generation and benefiting those coming later.

Pre-funding a public plan such as US Social Security, as is often suggested by the extreme right wing, would be a prime example.

Funding at a level lower than is needed to support benefits over the long term can obviously lead to a Detroit-style disaster. Right now in Detroit, it has led to an uninformed decision to switch to a defined contribution plan, triggering an unnecessary termination of the defined benefit plan.

This termination will have all the effects that would arise in an insolvent private plan; in a public plan this need not be, though probably some cutback of benefits cannot be avoided in this instance.

Brian A Jones 9 April

MORE LETTERS ONLINE
More letters are available online at **www.theactuary.com/opinion**

The editor welcomes readers' letters but reserves the right to edit them for publication. Please email **editor@theactuary.com**. The deadline for receiving letters for the July issue is 17 June 2015.

GETTY

Cancer challenge

I was pleased to read the article *Politics needs actuaries* (*The Actuary*, April, bit.ly/1JkRILp).

I would like to encourage actuaries to volunteer as Cancer Campaigns Ambassadors for Cancer Research UK, like myself.

These voluntary roles involve liaising with your local MP to improve political action on cancer. According to Cancer Research UK, one in two people born after 1960 in the UK will be diagnosed with some form of cancer during their lifetime, so actuaries might like to contribute personally to the political debate on such a large issue.

For more information, see bit.ly/1Al71R7.

Actuaries are, of course, well skilled in valuing cancer risks to price products or reserve adequately. However, we may be able to influence the risks themselves in a positive way for society. We could do this by becoming Cancer Campaigns ambassadors while at the same time honing our soft skills.

In the run-up to the UK general election, I had the opportunity to engage with candidates from six different political parties, and four of these signed up to the charity's Cross Cancer Out Campaign. This campaign seeks to improve early diagnosis and access to the best treatments.

Earlier diagnosis could improve UK survival rates to be in line with those enjoyed in some other EU countries, while also reducing the cost of cancer treatment.

Sue Spencer 19 May

Frozen out

The state pension, once sufficient contributions have been made to qualify, belongs to the pensioner and not to the government. To deny the minority 560,000 pensioners living abroad any annual uprating is theft, pure and simple.

This minority represents just 4% of the total pensioner population and this is blatant discrimination. It has been established that the countries they have retired to are not involved in choosing in which countries resident pensioners' benefit increases are frozen but they use the excuse of a reciprocal agreement in clause 20 of the Pensions Act to impose this freezing policy.

This is contrary to not just the Charter of the Commonwealth but the code of conduct of members of parliament with respect to discrimination.

These pensioners are treated worse than a criminal in jail who will get their indexation.

George Morley 16 April

Eat your hat out

Alan Frost referred to Liberal Democrat MPs in his letter (*The Actuary*, May, bit.ly/1HgLjv3).

I would add one brief comment: There was no need for Paddy Ashdown to eat his hat. The exit poll was indeed wrong because it failed to predict an overall majority for the Conservatives.

Anthony Pepper 16 May

Nick Salter is the president of the Institute and Faculty of Actuaries

NICK SALTER

Passing the torch

▸ **Nick Salter** comes to the end of his presidential year and reflects on how many people are involved in making a difference

"Have you enjoyed your time as president?" As my term moves towards its end this month, this question really makes me stop and think about what we've accomplished in the past year, and whether I've achieved the things I had hoped when preparing my presidential address 12 months ago.

What I was aware of then, and what this past year has reinforced for me, is that the role of president isn't just a one-off post that you enter into with a set of goals that are ticked off as you go through the year (...brilliant, that's diversity done then, tick).

It's more like a relay race, where each of us passes the baton onto the next with the overall aim of completing the race by team effort, rather than through one individual. Each president comes with their own ideas and we place these on the starting line, hoping that those who hold the post after us are able to help see them through to fruition.

However, when I think of the journey that we at the IFoA are on, it's more like carrying the Olympic torch for a time as it makes its way around the world. This gives everyone who volunteers the opportunity to carry the torch and to contribute in a small way to something monumental.

Being one of these Olympic volunteers is a way for people with a love of sport to participate in a great event. I am no athlete, but you don't have to be to carry the torch. The level of volunteer engagement that we benefit from at the IFoA in all areas shows how much our members care about the profession and the furthering of actuarial science.

Moving on

Since I have been on the presidential team, we have moved from David Hare's theme of relevance to my theme of diversity and are now moving on to Fiona Morrison's (of which she will tell you more in the next issue) – each of us passing the torch onto the next.

I'm also delighted that Colin Wilson has been elected to pick up the torch from Fiona in a year's time. I look forward to seeing the continuing flow of great talent take up the reins in the future.

Another question that I have been asked is: "How is the next president selected?". This is simple – council members are elected by the entire qualified membership of the IFoA, and it is then up to council to select the next president. That person would usually come from within council (and therefore be an elected member), but it also has the ability to co-opt an individual who is not currently on council if there is a particular need.

I'm pleased to see that we have also elected four Honorary Fellows this year: Thomas Béhar, Karel Goossens, Andrew D Smith, and Dave Pelletier. We now have over 100 Honorary Fellows from all over the world who are leaders in their fields. They range from business to academia to government, and other public bodies – a diversified lot – all going some way to take actuarial science forward.

> "The level of volunteer engagement that we benefit from at the IFoA shows how much our members care about the profession"

So what have I accomplished? My colleague's question made me worry that the answer might be: 'Not much'. So I decided to write down what we have done in my leg of the relay race.

When I reach the end of my term we should have a diversity action plan to take forward, which is very encouraging. We've had continued success with the Certified Actuarial Analyst (CAA) qualification in the UK, and many emerging markets around the world. A huge endorsement for the CAA has been received from the World Bank too, suggesting we are helping to fill a gap in the market around the globe.

It seems we are becoming more diverse in a number of ways. Our student and member numbers are growing around the world, and the gender balance both for qualified and student members continues to become more, well, balanced. Actuaries are being recognised in a number of non-traditional areas, such as banking, and receiving significant praise from industry leaders too.

During the past year we have also carried on David's theme of ensuring we become more relevant – updating our education strategy; creating the CAA in response to business needs; and updating the qualification hierarchy, which sees the 'associate' designation as something to achieve in itself. As president, it's been great to play a part in carrying on what others have started.

So have I enjoyed it? I'm glad to say that, yes, I have. It has been a challenge, but the support from those around me has meant the pressures of having to be 'presidential' have been fun, and I think we have achieved many things too. As I hand the torch over to Fiona to carry forward, I know that it will be in good hands.

CHRIS O'BRIEN & BOB CHADWICK

Disclosure – don't alarm older members

▸ **Chris O'Brien** (*above*) and **Bob Chadwick** explain why actuaries should give their clients more information to pass to members

Under the heading of 'public interest', what do pension scheme actuaries think of the statutory funding disclosure requirements for defined benefit (DB) schemes? We think they could do better.

In the annual Summary Funding Statement, members firstly have to be told about the ongoing funding position and any recovery plan in place. It is right for the disclosure to highlight the employer's commitment to contribute so that the scheme can meet its obligations. But we also need to say what happens if the scheme is actually wound up.

Disclosure should answer the question uppermost in a member's mind: "What will happen to me, personally. To *my* benefits?". Remember the conclusion of the sessional paper of Cowling et al (2011): for disclosing funding information to members, we should focus on the (current and expected future) solvency position, which should use a "matching framework". For example, this may involve a discount rate based on gilts or swaps or could use the wind-up basis as being similar to matching.

The statutory wind-up/solvency disclosure normally takes the form: "In the event of the scheme having to be wound up, as at the valuation date it is estimated that the assets would provide X% of the benefits accrued to date" – the range of coverage is typically between 50% and 80%. Any member, particularly a current pensioner, reading such a statement is entitled to be worried: "What? I could lose 20%-50% of my pension?"

Sharing information

But this statutory disclosure pre-dates a number of major developments: principally, the Pensions Act 1995 now overrides scheme-specific wind-up rules, and the Pension Protection Fund (PPF) usually underpins DB benefits. So, we appeal to scheme actuaries to give their trustee or sponsor clients some more useful information to pass on to members. It is the actuary after all who writes the annual funding statements.

How this should best be done depends on whether or not the scheme is fully funded on a PPF basis. If it is not, then the disclosure statements can be accompanied by a reminder to members of their entitlements under the PPF – not individual calculations, just a summary to the effect that: "Pensions in payment (if you're over age 65) would not be reduced, while for all members below that age (pensioners, deferreds and actives) benefits would be reduced to 90% and there would be a maximum pension of about £26,000; revaluation would still apply up to state pension age and only the pension earned after April 1997 would be increased; your spouse would receive 50% of your pension on death." (Yes, we know that's a simple version – you can work out your own wording).

But if a scheme is funded above the PPF level – which should become increasingly true for the majority of schemes now closed to new members and future accrual and with journey plans in place – then extra information can be added, along the lines of: "You will receive the Pension Protection Fund benefits already described as a minimum and the trustees would be able to secure increases of about y% on pre-1997 benefits".

> "The important thing about adding some sentences about the PPF, and funding above that level, is that it reminds members, particularly older ones, not to panic"

Here the actuary would have to do a few more sums, but only on a scheme-wide basis, we're not advocating disclosing individual member amounts.

The important thing about adding some sentences about the PPF, and funding above that level, is that it reminds members, particularly older pensioners, not to panic. The bald statement about 60%ish "solvency" is really quite frightening.

Ideally we would like to see changes to the statutory disclosure rules but, failing that, we urge scheme actuaries to consider how they can communicate scheme financing using a matching framework and set out the wind-up position in a way that takes account of the PPF. So, what's not to like?

***Chris O'Brien** is a senior associate at Nottingham University Business School's Centre of Risk, Banking and Financial Services.*
***Bob Chadwick** is mostly retired after a career in insurance and consulting but is now a trustee of two pension schemes.*

Upfront

Opinion
CEO's comment

Derek Cribb wishes IFoA students luck as they wait to embark on a journey full of opportunity

Passport to career success

Derek Cribb is the chief executive of the Institute and Faculty of Actuaries

It's one of two times in the year when many of our student members around the world find themselves waiting nervously for their exam results. I remember that feeling from my own professional training – and it's not a pleasant one. So I wanted to use this column to wish those of you who have recently taken IFoA exams the very best of luck with your results.

As our exams are recognised around the world, they truly provide a passport that can take you wherever you want to go in your career. I would encourage you to look beyond your immediate horizons: be that in terms of practice area, industry or geographic region.

One competitive advantage that an actuarial education gives you is an understanding of risk: use that not exclusively to minimise your career risk but to find your optimum balance of risk and reward. There is a world of opportunity out there, and the best of these opportunities may take you outside traditional actuarial career choices.

It is vital that our exams reflect the diverse areas in which actuaries work and the increasingly broad skillset demanded of modern actuaries. We are therefore in the process of undertaking a strategic review of our qualification process, to ensure that the material covered continues to be relevant in today's business environment.

Last year, 31,559 individual exams were sat by candidates in 141 exam centres in 74 countries. The logistics involved are mind-boggling. The IFoA's dedicated registry team, alongside an army of volunteers, work very hard to make sure that the IFoA's written and online exams take place without a hitch. This partnership is crucial to the smooth running of the exams, helping to make the student experience as seamless as possible.

Good luck to all of you out there waiting for exam results. I hope to welcome you to the actuarial profession as a Certified Actuarial Analyst, Associate or Fellow of the IFoA in due course. In the meantime, know that your commitment and dedication, and the skills you are acquiring, will provide strong foundations on which you will build a successful and long-lasting career.

> Learn more about the CAA qualification: **bit.ly/1kY9qVD**

> Keep up to date on the latest exam news and updates at **bit.ly/1AYCgwq**

IFoA elects four new Honorary Fellows

IFoA voting members have elected four outstanding individuals as Honorary Fellows.

● **Thomas Béhar** is president of Institut des Actuaires in France, where he has played a key role in the development of standards and guidance and the creation of new qualifications. He has undertaken a number of committee positions with the International Actuarial Association (IAA) and Actuarial Association of Europe (AAE) (formerly Groupe Consultatif). He is currently group chief actuary at insurer CNP and a member of its executive committee.

● **Karel Goossens** is currently general manager of the Institute of Actuaries in Belgium (IA|BE). Former positions include chairman of IA|BE, chairman of the AAE and chair of other AAE committees and groups. Through these, he has played an important part in discussions with EIOPA and the European Commission on matters relating to Solvency II. His professional positions have included appointed actuary roles and he was latterly a director at Towers Watson.

● **Dave Pelletier** is the first chair of the Actuarial Standards Committee of the IAA and a past president of the Canadian Institute of Actuaries. He is a leading figure in the development of actuarial standards and has actively promoted the role of international model standards. Through this, he has been an adviser to South Korea's Financial Supervisory Service. Latterly, he was CEO of RGA Life Reinsurance Company of Canada, where he still holds a board position.

● **Andrew D Smith** has been an active volunteer with the IFoA for many years, serving on a range of IFoA working parties, presenting at conferences and events worldwide and producing numerous research papers. Many of these papers have won prizes and his research has been used extensively in industry and by other actuarial associations around the world. He is currently a partner at Deloitte.

We are delighted to welcome our new Honorary Fellows. Béhar, Goossens, Pelletier and Smith are all expected to be installed at the IFoA's AGM on 29 June in London.

> We have over 100 Honorary Fellows. Find out more or make a nomination at **bit.ly/15DgPI5**

> Full biographies at **bit.ly/1MpCdAV**

2015 general election: what it means for IFoA

The IFoA's policy team has been working with members to explore the issues that will be pertinent to the actuarial profession over the new parliamentary term. We have been preparing a series of policy outputs to engage with policy-makers in those debates where actuaries' experience and expertise can add unique value.

This immediate post-election period is a key opportunity, as the newly appointed ministers think about the issues on which they might focus.

Ahead of the election we went through the main parties' manifestos to see how they related to the IFoA's key policy priorities – ageing population, the future of investment policy, regulatory policy, and resource and environment. Unsurprisingly, they had a lot to say. Please find the extracts online at **bit.ly/1INp18u**.

As we continue to develop our policy, much of which will be cross-practice, we really want to hear members' views on what key topics will, or should, be addressed by ministers and what messages the IFoA should be considering. We have created a discussion on the IFoA's LinkedIn page for you to share your views with us (**http://linkd.in/1F45PSk**).

The outputs we produce reflect the IFoA's position as a non-lobbying organisation that seeks to inform the debate in the public interest. These outputs will be based on the findings of IFoA working parties and, where appropriate, on commissioned research through the IFoA's Research and Thought Leadership Committee.

Here are two examples of issues we think will be important.

In the face of an ageing population, policy-makers face a number of challenges as they determine how best to respond to the changing societal dynamic shaped by a growing proportion of older people. Actuarial expertise can be used to examine the possible economic, health, intergenerational and resource challenges of demographic change.

The IFoA believes that longevity risk is significant and challenging to explain to individuals and mitigate at the individual level. The shift to defined contribution pensions and the new pensions freedoms mean it is important that individuals are helped to understand the significance of this risk and to mitigate it.

Environmental and resource constraints are having an ever-increasing impact on the economy, society and business. The insurance industry is going to be significantly affected by climate change, as some risks become greater and harder to calculate while others reduce. There is also the potential for significant losses on assets and investments under insurance and pension fund management.

The IFoA believes it is important that insurance firms and fund managers explore the implications of the scenarios of most concern, including extreme cases, even if the probability is low, to help us understand what could happen in the future and how we might influence it.

> To find out more about our work around the election, email **policy@actuaries.org.uk**

IFoA announces 2015 president-elect

We are pleased to announce that Colin Wilson, deputy government actuary, has been elected as the next president-elect of the IFoA. He will take up his position in June 2015, when Fiona Morrison becomes president.

Current president Nick Salter said: "I am delighted to announce that Colin Wilson has been elected to serve as president. Colin has been an active volunteer since qualifying 19 years ago, and brings an unparalleled diversity of experience across different practice areas."

Derek Cribb, IFoA chief executive, said: "I look forward to working with Colin to promote his theme of collaboration, as the IFoA continues to rise to the challenges and opportunities facing the profession both in the UK and internationally."

Colin Wilson said: "I am truly honoured that my fellow Council members have elected me to the presidential team. I am committed to building on the foundations laid by my predecessors and to expanding the range of actuarial work.

"I believe that a profession such as ours must ensure that it has a voice that others want to hear and must continue to develop its expertise to avoid being left behind in a changing world. We will achieve this by embracing the value of collaboration – within the profession between different practice areas, with other actuarial bodies for the benefit of the global profession, and with other professions to address problems that require a variety of skills."

Fiona Morrison, current president-elect said: "Colin brings a wealth of knowledge and experience that will be invaluable. I look forward to working with Colin to promote actuaries as we lead the IFoA into the next stage of the profession's development."

MONICA ALLANACH LECTURE

Monica Allanach, throughout her lifetime, supported and influenced many actuaries, particularly women, through her commitment and passion for her profession.

Monica was a trailblazer and sought to change the status quo while inspiring others to do the same.

To recognise her achievement and those who are like her, the IFoA and Prudential UK and Europe invited nominations to be put forward for a lecture in her name; this lecture will take place on **15 July** at Staple Inn Hall, London.

More details, including how to register for the lecture, will be announced in due course.

Reminder: CPD reporting year closes 30 June

As we approach the end of the 2014/15 continuing professional development (CPD) reporting year, we would like to remind members in categories 2-6 to ensure that their online CPD records are updated by 31 July for all CPD activities completed between 1 July 2014 and 30 June 2015. You may be asked to provide evidence if you are selected for monitoring.

Here is a summary of CPD requirements.

CPD checklist

Category 2: fully regulated Fellows and Associates
- At least 15 hours of CPD.
- Five hours must be obtained at external events.
- Stage 2 or 3 of professional skills training (PST) as relevant.

Category 3: partially regulated Fellows and Associates
- Must comply with the CPD requirements of your primary regulator.
- Must also complete either Stage 2 or 3 of PST as relevant.

Category 4: Certified Actuarial Analyst
- At least 15 hours of CPD.
- Five hours must be obtained at external events.
- Two hours must contribute to your understanding of ethical behaviours in relation to your role.

Category 5: student member
- No technical skills requirement.
- Must complete Stage 1, 2 or 3 of PST as relevant.

Category 6: student actuarial analyst
- No technical skills requirement.
- Must complete stage 1 PST by the end of your first CPD year.

Remember, PST activities count towards your overall requirement.

Professional skills training

Stage 2: professional skills course
Members are offered this course as a face-to-face event or online course. More information can be found at **bit.ly/1INo5RH**

Stage 3: professionalism for experienced members
There are a series of short video clips available for free via the IFoA website at **bit.ly/1JqF4HF**

Recording CPD – how to get it right
- Record a learning outcome for all private study.
- Ensure that the dates of activities and hours gained are correctly recorded.
- Don't group activities run by the same provider together as one entry – log each activity or event separately.

If you are still looking to make up your hours, why not visit our archive of recorded material at **bit.ly/1GOVDdf**

Sir Philip Mawer, professor Carol Jagger, Nick Salter, Dr Peter England, professor Karel Van Hulle

Annual awards dinner celebrates excellence

The IFoA Annual Awards Dinner to honour Europe-based prize winners took place at Staple Inn Hall on 26 March. Hosted by president Nick Salter, the dinner is now in its second year and celebrates success and excellence in academic achievement and leading research with prizes, awards and medals overseen by the Awards Committee. Suzanne Vaughan, Council member, commented: "This was my first opportunity to attend an evening event like this at Staple Inn Hall and I was impressed. It was clear the guests from my table felt the same."

This year, our prize-winners and their guests were joined by four of the six Honorary Fellows elected in 2014, Dr Peter England, professor Carol Jagger, Sir Philip Mawer and professor Karel Van Hulle. Sir Philip also delivered the after-dinner speech, which was both entertaining and inspiring.

We were also delighted to be joined by the winners of the prestigious Sir Joseph Burn prize and the Charles M Stern award. The Burn prize is awarded to UK students showing special merit in completing the examinations and becoming eligible to transfer to the class of Fellow and was presented to Adam Gayton and Thomas Pickup. Alice Kaye and Mark Lee were both able to attend and accept the Charles M Stern award, which is awarded to students outside the UK showing special merit in completing the examination and becoming eligible to transfer to the class of Fellow. Alice said: "I had a wonderful time tonight; it is a real honour to be able to celebrate with the other prize-winners."

The IFoA has a number of prizes available – many of these are thanks to the generosity of past and present members. Other awards are similarly the result of the generosity of the wider actuarial community. These include prizes from the International Underwriting Association, Towers Watson and the Worshipful Company of Actuaries. Martin Miles, Master of the Worshipful Company, said: "I had an excellent evening at the awards dinner – Sir Philip was an engaging speaker. This is a great event to present the Worshipful Company of Actuaries sponsored prizes."

Other prizes awarded on the night were the Brian Hey prize, which went to the Towards the Optimal Reserving Process Working Party, and the Peter Clark prize for best paper, which was awarded to the IFoA Extreme Events Working Party.

Members are reminded that they have the ability to nominate a paper for the Peter Clark prize; details can be found on the IFoA website (**www.actuaries.org.uk**). The closing date for nominations is 12 June 2015.

Actuarial Teachers' and Researchers' Conference

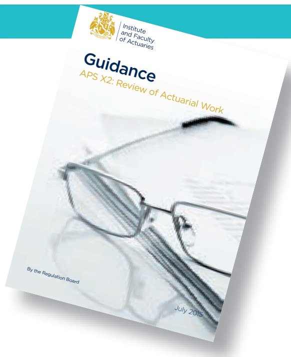
The annual Actuarial Teachers' and Researchers' Conference will take place at University College Dublin from 13-14 July.

Further information and a call for presentations will be issued shortly.

Meanwhile, please see the IFoA website for more details: **bit.ly/1DrhLLV**

If you would like to know what the conference is all about, see details of the 2014 event at the University of Edinburgh at **bit.ly/1aeV96N**

New requirements for work review: APS X2



On 1 July, the IFoA's new requirements in relation to work review will come into force for all members.

The new Actuarial Profession Standard (APS) X2: Review of Actuarial Work is a truly cross-practice standard and will apply to all members responsible for actuarial work, regardless of where that work is being carried out or the member's geographic location.

The IFoA has also produced guidance to help members understand the APS and how to apply the requirements.

Key requirements

The APS requires members to:

- Consider whether to apply work review to actuarial work for which they are responsible; and
- Give particular consideration to whether it would be appropriate and proportionate for such work review to be in the form of independent peer review.

Where it is deemed appropriate and proportionate to apply work review and/or independent peer review to the actuarial work, members should apply that review to the work. APS X2 therefore introduces a presumption that it will be applied in those circumstances. Members must exercise their professional judgement in determining the most appropriate and proportionate form of review to apply in the particular circumstances.

The APS sets out a range of different factors to take into account when making that judgement.

Key terms

The term 'work review' has a wide definition and is intended to cover a broad spectrum of different types of processes that involve having work considered by at least one other individual.

'Independent peer review' is a particular type of work review that involves the review being undertaken by someone not otherwise involved in the work in question (someone 'independent') and who would have had the appropriate experience and expertise to take responsibility for the work themselves (a 'peer').

'Actuarial work', in this context, is also broadly defined.

Other requirements

Members must ensure that they are in a position to justify the approach which they have taken to the application of work review, if reasonably called upon to do so. The APS is not prescriptive in terms of how members meet this requirement and does not specifically require record keeping, although this may be good practice in certain cases.

APS X2 also includes certain requirements about the work review itself, including a requirement to ensure that everybody involved has appropriate experience and expertise and that they have a clear understanding of their role.

Work review must also be undertaken at a time such as to be capable of influencing the conclusions and output of the work.

Withdrawal of APS P2

The existing APS P2, which imposes requirements in relation to compliance review for certain reserved scheme actuary work, will be withdrawn on 1 July.

The shift for scheme actuaries will therefore be from a rules-based requirement for simple compliance review to a principles-based requirement.

This is intended to ensure that good-quality, proportionate review processes will be applied where appropriate.

Specific guidance for scheme actuaries on the transition from APS P2 to APS X2 is available.

> For further information, contact the IFoA's regulation team at **regulation@actuaries.org.uk**

ASTIN, AFIR/ERM and IACA Colloquia

The 2015 ASTIN, AFIR/ERM and IACA Colloquia of the International Actuarial Association (IAA) will be held in Sydney from 23- 27 August.

This conference is a joint collaboration between three sections of the IAA: Actuarial Studies in Non-Life Insurance (ASTIN), the Actuarial Approach for Financial Risks/Enterprise Risk Management (AFIR/ERM) and the International Association of Consulting Actuaries (IACA).

The theme of the conference, Innovation and Invention, recognises the historic and ongoing contribution of ASTIN, AFIR/ERM and IACA to actuarial thought and practice. Registration is now open until 14 August. AFIR will join the IFoA Risk Conference in 2016 from 31 May to 2 June.

> Visit **bit.ly/1HbxIca** to book your place

> For more information on the conference, visit the IAA's colloquia website: **bit.ly/1FuzQXH**

EVENTS

RESERVING SEMINAR
18 June
London
Ideal for anyone involved in general insurance reserving, attendees will receive updates on key reserving issues within the UK market, from uncertainty to PPOs, and hear from the general insurance working parties. Delegates are invited to provide their thoughts on the evolving role of the reserving actuary, the changing reserving process and whistle-blowing and professionalism considerations. A view from the regulators on reserving strength in a challenging business environment will also be provided. Book at **bit.ly/1G8U1PQ**

HEALTH AND CARE HOT TOPICS
18 June
London
The Health and Care Board and its committees are delighted to host a networking event that will showcase a series of short research papers, while providing time for debate. Presentations will cover new product development, implications of predictive biomarkers in dementia treatment, and risk evaluation. Book now at **bit.ly/1RcHfUK**

THOUGHT LEADERSHIP LECTURE
22 June
Royal Institution of Great Britain, London
Dr Andrew Sentance CBE, senior economic adviser to PwC, will explore sustainable business in the 21st century. Sentance is a business economist who also served on the Bank of England Monetary Policy Committee. He is a professor of practice in sustainable business at University of Warwick Business School. For the first time the lecture will be live-streamed to members worldwide. Find out more on this and how to book at **bit.ly/1lgrsRW**

PENSIONS CONFERENCE
24-26 June
Glasgow
The premier conference for all those working within the pensions sector offers a wide range of topics, including economics, de-risking, the world economy and how to see into the future. Take part in a *Question Time*-format plenary and discuss 101 uses of an actuary. Choose from a range of plenaries and workshops alongside professional skills and masterclass continuing professional development opportunities. One-day tickets are available. Book now at **bit.ly/1HORbOp**

IFoA AGM
Save the date: 29 June
Staple Inn Hall, London

If you have any newsworthy items for these pages please email **social@theactuary.com**

Uncharted waters

By Marian Elliott

The Argonauts Club is for actuaries working outside traditional fields and is now in its 60th year, which is a true testimony both to the quality of the dining and of the length of time that actuaries have been venturing forth. The drive to bring in new members over recent years has paid off, providing a vibrant club and dinners.

The Argonauts has a rich heritage going back to the time of Frank Redington and George Ross-Goobey. The first dinner was charged at £1 per head and showed a surplus of £1.10s. There is an extremely impressive list of speakers and officers – the club has had its own grace written by a former Queen's chaplin, and, alongside the actuarial illuminati, it has heard from MPs, chief executives, artists and poets.

It also serves a strong institutional role connecting actuaries – often the only ones in their firms – with each other as well as sharing the developments of the IFoA.

The Argonauts meet three times a year. We begin with drinks at 6.30pm, dinner at 7pm and two speakers at around 9pm – one actuarial, one non-actuarial, for around 20 minutes each. The atmosphere at the dinners is relaxed and engaging – recent speakers have included an RAF fighter pilot, the chair of the Isaac Newton Institute, rhino-costumed ultra marathon runners and a professional poker player.

Our February dinner featured two female speakers. The first was Michelle Cracknell, chair of The Pensions Advisory Service (TPAS), who spoke to diners of her experiences in dealing with members of the public and the way people interpret pensions-related communication. This generated a lively discussion around the new pension flexibilities and the way that TPAS will respond to the challenges and opportunities these bring.

The second speaker, Polly McMaster, chief executive of fashion company Fold, stirred things up with her talk, which addressed whether what women wear in the workplace is important. This extended to a discussion around workplace communication in general, first impressions and whether it was a coincidence that almost all the female actuaries in attendance were wearing black suits.

Our dinners are mostly held in Livery halls with an annual excursion to the Ivy, and members are therefore assured a very high-quality dinner to go along with the convivial company and interesting speakers. If you work outside the areas of life or pensions actuarial work and are interested in the Argonauts, contact me at **marian.elliott12@gmail.com** or request to join the LinkedIn group.

Don't mind running it for the kids

By Charles Cowling

This year, Kenny Tindall and I, from JLT, teamed up with Paul Glynn and Sam Loveday of Partnership Assurance to run in the London marathon and raise money for the Brathay Trust – a charity supporting vulnerable and disadvantaged children.

Setting out early on the Sunday morning I joined thousands of people making their way to Greenwich Park for the start of this great event. Trains that would normally be quite empty were thronged with happy excited faces, all wondering whether months of hard training would end in triumph or disaster.

The weather was kind. It was cool and the threatened rain did not materialise. But as we hung around for ages at the start, body and muscles slowly began to seize up as the cold inactivity started to take its toll. Then, at last, with shouts and screams and much excitement we were off – or at least we were moving, as it would take me nearly 15 minutes to get to the starting line.

It was then 26-and-a-half miles of noise and rich London colour, with loud music, live bands and hoards of people, young and old, lining the streets. There were crazy fancy-dress costumes everywhere – I was still overtaking telephone boxes, strawberries, rhinos and costumed superheroes at mile 20.

Yes, those last few miles hurt, but we were swept along by the noise and great party atmosphere. Running around the Cutty Sark, through Canary Wharf and over Tower Bridge was great fun, but those last few miles along the Victoria Embankment being cheered on by complete strangers, past Big Ben and the Houses of Parliament and then finally sweeping round past Buckingham Palace and finishing down The Mall were magic.

Emotions were high at the finish. We had achieved our goals. Best of all, millions had been raised for charity. Our team could be justly proud of a fabulous total of over £15,000, which will go a long way to support the great people at Brathay – and a big thank you is owed to our many supporters. It was an amazing day.

Save the date

NORTH WEST ACTUARIAL SOCIETY

ANNUAL DINNER – THURSDAY 18 JUNE

GUEST OF HONOUR:
NICK SALTER, PRESIDENT OF THE INSTITUTE AND FACULTY OF ACTUARIES

We are pleased to announce that this year's annual dinner will be held at:
The Albert Square Chop House
Memorial Hall, Albert Square,
Manchester, M2 5PF

A drinks reception will start from 6.30pm and dinner will be at 7pm

The dress code is smart

The price is £20 per person for NWAS members, which includes arrival drink, a three-course meal and accompanying wine. A private bar will be available.

To be added to the NWAS mailing list for invitations, please go to *eepurl.com/bdfj2X* and sign up.

An invitation to dine

By Tim Birse

The Gallio Club was founded in 1903 for junior actuaries who did not aspire to membership of the senior Actuaries Club. As time passed, of course, those junior actuaries became senior actuaries in their own right, and the younger actuaries founded the Fellowship Club in 1924 and the 59 Club in (surprisingly) 1959.

For many years, membership was by invitation, and they were slow in coming. The original eight members added two to their number at the first dinner and more at the second, but those 11 dined monthly for almost two years before electing a 12th.

Gallio Club still meets on the evenings of sessional research events, normally six times a year through the winter and spring. On behalf of the Institute and Faculty, Gallio invites the speakers and authors of the sessional meeting papers to dine with them; this enables the topic of the meeting to be continued much less formally over dinner, or, indeed, in many cases not continued at all.

The seven-course menu, with six different wines, of a dinner held in 1916 is unlikely to be repeated. The club dines more modestly, but nonetheless well, at The Bleeding Heart Restaurant, five minutes' walk from Staple Inn. The tradition of a closed membership has long vanished and Gallio is pleased to invite any actuary to join. If interested, contact the secretary at **tim.birse@btinternet.com**.

Sounding a horn for good works

Mansion House, the official home of the Lord Mayor of London, and one of the city's most iconic buildings, was the setting for the Worshipful Company of Actuaries' Annual Banquet in April. Over 200 actuaries and guests enjoyed dinner with Lord Mayor, Alan Yarrow, in the Egyptian Hall.

Master actuary Martin Miles welcomed Nick Salter, president of the Institute and Faculty of Actuaries, and the masters of the Grocers, Needlemakers and Educators livery companies as well as Gordon Arthur, recently appointed as high sheriff of Leicestershire. The latter spoke most interestingly about the reburial of Richard III, who this year was moved a few hundred yards from a car park to Leicester Cathedral. The historical significance of this was eloquently explained by Arthur who, with his wife, had been fully immersed in the whole affair for many months.

Miles spoke passionately about the work being undertaken by the Company of Actuaries Charitable Trust (CACT) in the field of mathematics education. He focused particularly on CACT's newest project of assisting schools with strong mathematics departments to take their skills and enthusiasm into the community through a range of outreach programmes, so that it is not just those lucky enough to be in the good schools that have their talents nurtured and extended.

After port and brandy, the evening was soon over. A lasting memory, however, was that of two trumpeters from the Militaire Orchestra at opposite ends of the balcony outplaying each other in the *Post Horn Gallop*. What a great end to a marvellous evening.

Obituary: David Hager

By Kevin Wesbroom

More than 100 colleagues, clients, family and friends attended a memorial service at Hertford College, Oxford, on 17 April, to celebrate the life of David Hager, who died in January at the age of 64 after a harsh battle with brain cancer.

David gained a double first in engineering and economics from Hertford and then qualified as an actuary in near-record time – just two years. After short spells in investment banking and insurance, he joined the consulting actuaries Bacon & Woodrow in 1975 and remained there for all his working life. He became an equity partner of the firm in just five years, followed by a spell as managing partner in the 1990s, one of the most profitable periods of the firm's existence.

David was one of the UK's leading pension fund investment consultants, having pioneered the development of investment performance measurement, and the author of a number of definitive books and papers. He held strong views on a range of investment subjects – soft commissions, active versus passive management, equities versus bonds to name a few – and supported his clients through many periods of substantial change in the pensions industry. He was a fearsome negotiator on behalf of his clients and firm alike.

David was most definitely a high flyer – quite literally, since flying was his passion in life. He held a Commercial Pilot's Licence and an Air Transport Pilot's Licence, and liked nothing better than offering to fly a client to their meeting.

Tributes were paid to his professionalism, his ability to convey complex subjects in a straightforward way, his cheeky grin and his excellent dry wit. He was an inspiration to the people who worked with him, and an excellent advertisement for the actuarial profession.

His untimely death deprived clients of his insights and expertise, and colleagues of his backing and support for their continued development. He will be sorely missed.

We would be delighted to hear from you if you have any newsworthy items for these pages. Please contact Yvonne Wan at **social@theactuary.com**

TUESDAY 9 JUNE	PROGRAMME
The nature of longevity risk Sacha Dhamani Staple Inn Hall High Holborn London WC1V 9QJ 5.30pm	There have been a number of papers produced discussing how to model longevity risk, but it has been years since a paper has specifically considered the fundamental nature of longevity risk. The International Actuarial Association breakdown of longevity risk (trend, level, catastrophe and volatility) is still perceived to be the standard definition used, despite many practitioners considering these factors insufficient as a foundation for modelling longevity risk. While they continue to provide a common language for professionals to discuss longevity risk, it is time for a revised conceptual framework that can provide a stronger foundation to take into account how different types of provider are exposed to longevity risk, and the differences in their approach to its management. Sacha Dhamani's paper and presentation is intended to trigger a debate in this area by proposing such a framework. Refreshments will be served from 5.30pm and the lecture will start promptly at 6pm. There is no need to register in advance for this meeting, and non-members are welcome. There will also be live tweeting available via **#SIASJun15** during the talk – please do get involved with any comments and questions for the speakers.
THURSDAY 18 JUNE	**SOCIAL**
Bowling 2015 London Palace Superbowl, First Floor, Elephant & Castle Shopping Centre, London SE1 6TE 6.30pm	Exams are over, so let the good times roll with the SIAS annual bowling tournament. Get your bowling balls ready to strike out the competition and claim the title of 'SIAS Bowling Champions 2015'. Teams of three people can enter to compete. If you can't make up a trio, we can assign you to a team. Prizes will be awarded to the first, second and third-placed teams and the best team name. Don't worry if you are lacking the skills, there is even a prize for last place. Tickets are now available, priced at £15 for SIAS members and £20 for non-SIAS members, and include food and a drink. Places are limited and will be offered on a first-come, first-served basis. Please visit sias.org.uk to reserve your place. For further information, please email **social@sias.org.uk**.
TUESDAY 7 JULY	**PROGRAMME**
The truth, the whole truth and nothing but the truth: Under-disclosure and over-disclosure in insurance applications Jonathan Hughes & Andrew Doran Staple Inn Hall High Holborn London WC1V 9QJ 5.30pm	Based on survey data from 15,000 people representative of the British population, we have quantified the differences between what people say about their health generally, and what they say on application forms. Which conditions are most consistently disclosed? Which are most under-disclosed? What sort of lives are prone to under- or indeed over-disclose health conditions? How representative are insurance applicants of the British population? How could we design a better process for getting the information we need to underwrite? Refreshments will be served from 5.30pm and the lecture will start promptly at 6pm. There is no need to register in advance for this meeting and non-members are welcome. There will also be live tweeting available via **#SIASJul15** during the talk – please do get involved with any comments and questions for the speakers.
FRIDAY 17 JULY	**SOCIAL**
Social: SIAS boat party Westminster Pier 6.45pm	The summer event of the year is fast approaching – the SIAS boat party. We invite you aboard to take a journey 'around the world' in just one night. From Mexican sombreros to geisha girls, please join us for an evening of drinks and dancing as we sail down the Thames. Further details and tickets will be available on 22 June.

MORE EVENTS ONLINE
For details of events, visit **www.sias.org.uk**

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Check out the SIAS Facebook page for photos from the latest social events

SAM KESTEVEN

The consumers' champion

Ros Altmann talks to Richard Purcell about understanding consumers' concerns, and her priorities as the UK government's newly appointed pensions minister

Ros Altmann first rose to prominence campaigning for the interests of a group of pensioners facing an uncertain retirement owing to failures in funding requirements at the time. Thanks to her unique ability to both grasp the issues and see through the eyes of the consumer, she has gone on to become one of the country's most recognised advocates on issues ranging from consumer finance through to pensions and care. Her varied career has also taken her from academia, to business and advising governments, and now to pensions minister.

It's Election Day when I catch up with Altmann at the Institute and Faculty of Actuaries' Health and Care conference in Southampton. She had just come off stage after speaking on later-life care, during which she set out

“Commission has sullied the word ‘advice’, and has made people think it should be free. Really we need to redefine advice and give it a new name”

the need for the industry to create a blend of solutions, including savings and insurance. She also called for more incentives to save for care needs, and proposed “family care plans” as one solution, recognising not only that families could cross-subsidise those that need this support but also that it is about the impact on the wider family too.

We discuss Altmann’s route to becoming a consumer champion. In her usual self-assured and straightforward manner she explains that she didn’t intentionally go into pensions. After doing a degree at Harvard she returned to the UK to do a PhD at the London School of Economics, analysing the family expenditure survey, noting that “the income of pensioners had not been well studied at that stage”. This helped her establish a real interest in labour economics and policy. She looked at continuing her work in academia, but following an interesting six-month internship as a company analyst at Prudential, she decided to stay on in the corporate world. She says: “The currency restrictions had been lifted as part of the ‘Big Bang’ measures in the early 1980s. It meant the equity markets were taking off and it was an exciting time to be working in international equities.”

Eventually, Altmann moved on to Chase, running their international equities department, followed by spells at Rothschild and Natwest. It was while expecting her youngest child, however, that she decided it was time to take a break from the City and spend more time with her family. When she later made the decision to ease back into work, Altmann opted for a few consulting projects, including one performing an independent audit of a small company portfolio valuation. This experience on an independent review proved valuable for her next step.

The Downing Street years

It was 1999, and two years into the New Labour government, when Altmann was put forward by an old colleague, Paul Myners, as a potential candidate to work on the *Myners Review* for then chancellor Gordon Brown. The review was to look at why institutional investors were not diversifying into different asset classes such as private equity, on which Altmann had written a number of papers. It was while working in Downing Street that she got closer to issues within the pensions sector.

She was asked by BBC’s *Panorama* to meet with the workers of Allied Steel and Wire, whose pensions had been decimated owing to market conditions plus the minimum funding requirement not working effectively. It was fully funded according to the government’s formula, but was only sufficient to pay retired members, not those still working. It meant the existing workforce risked losing everything. “No one was taking it seriously,” she said. “I saw face-to-face the members who had thought their pensions were safe, and who had no other choice but to invest their pensions in the scheme.” This spurred her into taking on the campaign, and the result of this work eventually helped form the Pension Protection Fund (PPF). However, as more and more schemes failed and the PPF refused to assist, she helped the pensioners launch appeals to the Parliamentary Ombudsman and, later, a High Court Appeal after the initial rejection by the government to protect the pensions of these failed schemes. Eventually, in 2008, the government accepted the decision of the Court of Appeal and has since compensated 165,000 scheme members.

It was around the start of this campaign in the early 2000s that Altmann decided to leave Downing Street, concluding: “Originally, I thought the government didn’t understand the issues, so being inside could help change that. But it was becoming clear the government wasn’t serious about changing things.”

She worked on a number of projects, including the campaign to protect policyholders of failed insurance company Equitable Life. This was followed by the post of director-general for insurance and lifestyle group, Saga, between 2010 and 2013, before returning to government.

This time, under a Conservative-led administration, she took on the role of business champion for older workers in 2014. “I’ve long talked about the importance of working later, and there has been a lot of support from the media and companies. It has benefits for both the employer and employee. There is a real skills shortage, so working longer benefits the employer. But for the employee it can mean greater income, health benefits and a better work-life balance as people look to ease their way into retirement.”

Importance of advice

On the government’s recent pension freedoms, Altmann is positive. “I welcome any changes that give consumers more choice,” she says. On Pension Wise, the government’s new service to help consumers navigate their way through their new-found freedoms, she says: “If only we had Pension Wise years ago, we would have had less people locking into annuities offering poor value.” However, she acknowledges that the guidance scheme is not the same as advice: “Pension Wise will point consumers to advice if they think they need more help, although I think there is a general lack of understanding of what financial advice means. Commission has sullied the word ‘advice’, and it has made people think it should be free. Really we need to redefine advice, and give it a new name.” She believes the new guidance service will

SAM KESTEVEN

features@theactuary.com

"By investing in customer care and engagement, the financial services industry will create better long-term businesses"

help people see what they get for free, and what they might want to pay for advice. On the topic of protection needs, I ask what she would say to those who believe there is even less motivation for consumers to seek advice in this area. Altmann says: "Auto-enrolment has worked for pensions, and I think we need to add financial education into this process to get people to think about their wider financial needs, such as protection. We should also consider incentivising employers to pay for advice too."

Consumer engagement

As actuaries are heavily involved with pensions and insurance, I ask Altmann what more we should be doing as a profession. "I think it's important to really understand the consumer and how they work," she says.

Reflecting on the meeting with members of a failed pension scheme that had brought the issues to life for her made me wonder if we, as a profession, take enough time to meet with pension scheme members and customers. In terms of developing new financial solutions, she says: "One size does not fit all – which has been a problem with annuities. Instead, we need a more flexible approach, moving away from products themselves and more to solutions and services." Altmann points to the importance of the family unit that she mentioned in her earlier speech and how we could create retirement and care solutions built around a family.

Before she gets ready to return to the unfolding events of election day, I ask about her priorities should she be appointed as a minister. "If I am asked to take on the role of minister for consumer protection, then I want to kickstart financial education, and improve fairness and transparency," she says. She remains critical of financial firms for often hiding away details like charges.

Altmann concludes: "The interests of industry are bound up with the best interests of consumers. So by investing in customer care and engagement, the financial services industry will create better long-term businesses."

As election day unfolds, it becomes clear from the exit polls that the results are not what most people expected. With their slim majority, the Conservatives of course have more freedom to appoint ministers than in any coalition.

In light of this, I speak with Altmann again a couple of days after the election. She confirms that David Cameron has just offered her the role of minister of state for pensions. She comments: "I will do my utmost to make pensions work better for people. Both state and private pensions have been radically overhauled in the recent past, but there is more to do to settle the final details and make sure that people can plan properly for their retirement." Ⓐ

SAM KESTEVEN


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A roadworthy model

The new regulatory framework requires firms who develop their own internal capital models to have these validated. **William Diffey** and **Apollos Dan** look at the key challenges, and suggest the best route for a good test run

Model validation and quality control are key issues for companies seeking either Solvency II regulatory approval or business acceptance of their internal capital models. Internal model validation should aim to provide management with the necessary understanding of the internal model Solvency Capital Requirement (SCR) and provide an assessment of the model's fitness for purpose. Validation provides independent challenge to the model and assists internal management and regulators alike in appraising it. This involves assessing the scope, inputs, outputs and methods used. Validation processes should be embedded, with continuously updateable validation reports produced for management and regulators where required.

Validation reports do not have a prescribed format, and may differ from one company to the next. However, the key theme of any validation report is to present the company's model and demonstrate that it has been independently challenged and thoroughly tested. It should give a validation opinion on the model that is supported and substantiated by test results and other supporting evidence.

A number of key questions being increasingly asked by firms include:

- What is the precise division of responsibilities between first and second 'lines of defence' within the organisation?
- How can good second-line validation be resourced, given expense constraints?
- Can external validation be a substitute for internal validation, or alternatively be used to complement internal validation processes?

Validation is an iterative process repeated at least once each year, and involves challenging the model across multiple dimensions:
Theoretical – verify that mathematical, actuarial, financial and business concepts supporting the inner model assumptions and methodologies are appropriate and correctly implemented.
Applied – ensure that inputs, computations, outputs and first-line testing are satisfactory.
Embeddedness – verify that governance and documentation of the model are appropriate. Also that management and key stakeholders have the relevant training to understand the model and its results, especially understanding the limitations.

Good validation requirements

A good validation should be independent, thorough and challenging. In the European context, it requires clear understanding of Solvency II regulation, together with practical insurance business experience and technical actuarial knowledge, as well as good communication and other soft skills. Understanding regulators' expectations is key to any validation exercise.

Validation applies quantitative and qualitative methods to assess a number of aspects of the internal model, as illustrated in *Figure 1*.

- Quality of inputs – internal and external data, balance sheets.
- Appropriateness of methodological choices – commonly accepted approaches, simplifications, best practice, innovations and expert judgment.
- Consistency with other processes and models – technical provisions, pricing and underwriting, planning, investment.
- Soundness and sensitivity of outputs – for SCR, Own Risk and Solvency Assessment (ORSA), risk appetite and metrics, capital allocation.
- Appropriateness of model structure and design – purpose, coverage, building blocks, dependencies, flexibility, IT tools.

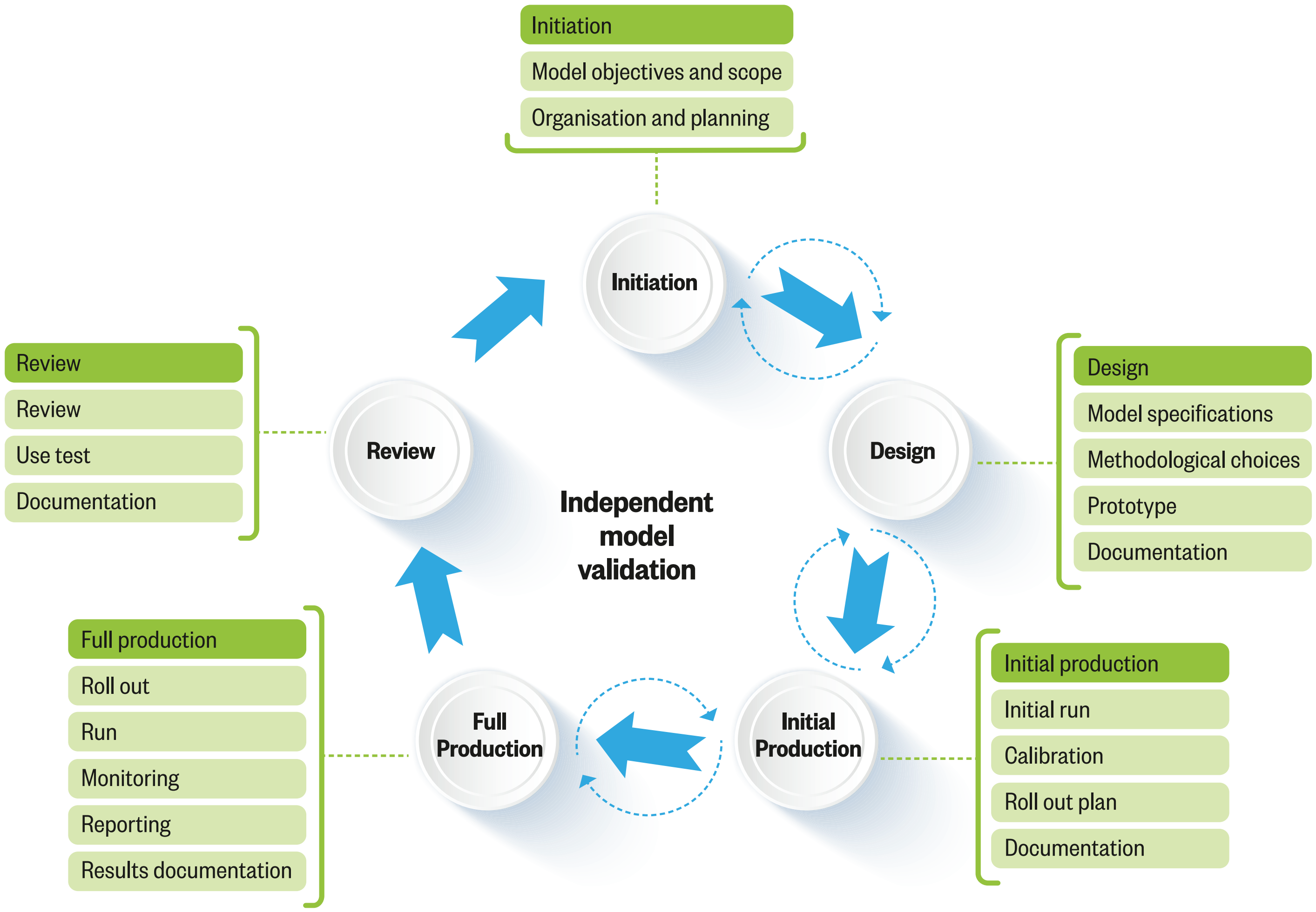


Figure 1: Internal model implementation from a validation perspective

- Mastering of model environment – reporting, documentation, governance, training.

The key areas of assessment are highlighted in *Table 1* on page 24.

Quality control

A parallel can be made between insurance internal model validation and quality control processes in the motor industry. This reveals common gaps in model validation practice in typical insurers. It also brings the model validation and optimisation processes closer to quality and process management in manufacturing and operational/IT industries. The following list is not exhaustive.

Model scope and design

Automobile production starts with a design encompassing artistic/aesthetic concepts, sophisticated mathematics and engineering. Prototype manufacture is required to undergo extensive testing before launch and mass production.

An internal model goes through design and initial build phases, for example, parallel or proxy modelling. In these, its theoretical foundations and practical application are tested before deployment.

Flexibility and use

A relatively flexible car make/model can be used to transport some light-to-medium-weight loads with some minor adjustments. However, it cannot exceed its maximum agreed tolerances.

Likewise, the internal model can be made flexible for multiple purposes, and defining the limits on this flexibility is a key feature of model governance frameworks. Some of the adjustments might be fairly easy to do, while some others might need significant re-calibration. For example, the calibration of an internal model designed to be used for calculating regulatory capital will focus on the tails. However, if the use of that model is to be extended to, say, pricing, it might need some adjustments because pricing generally focuses on the expected loss.

Regular validation

While a car make and model remains in circulation, it undergoes regular full or partial tests. Some are mandated by legal requirement, for example, the MOT in the UK. Others are mandated by the manufacturers themselves to demonstrate the quality of their product. Some tests are mandated by the drivers themselves.

An internal model undergoes an initial pre-launch validation, followed by post-launch regular periodic or ad hoc specific validation exercises. Some aspects of the internal model validation are mandatory, for example, the Solvency II directive asks for specific validation tests. Management and the wider user group of the model can, however, ask for additional validation tests to be performed, to reinforce the model's soundness and fitness for purpose.

Scalability and infrastructure

A car, regardless of build quality, needs a good road infrastructure to meet optimum performance standards.

Likewise, an internal model needs an appropriate IT infrastructure to house it and run it in a controlled environment to perform well. Most models run a high number of simulations and are run many times for different reasons. This requires appropriate computing power, such as cloud-based solutions, which should be made available for the model to run smoothly.

Robustness

Motoring risks are carefully controlled. Robust and reliable cars, with defined risk tolerances and appropriate quality control, give extra assurance to the user.

Likewise, companies with robust risk management frameworks and an appropriate, accurate and reliable internal model can better control their risks and capital management. They derive a competitive advantage from so doing.

Validation is a key aspect of the Solvency II internal model approval process with regulators, to ensure quality and get companies to a starting

Table 1: Key areas of internal model assessment

Area of assesment	Routine	Granular level
Purposes	**Strategy**	Intended uses
		Scope (coverage)
		Model input and output requirements
		Surroundings (regulatory framework business reasons)
	Specifications	Risk categories
		Risk measures
		Risk factors
		Validation criteria
Inputs	**Data and information**	Data collection and treatment
		Collection of necessary external data and model outputs
Calculation engine	**Methodology**	Structural design
		Methodological choices
		Modelling and estimation processes
Results	**Performance**	Model outputs
		Range of applicability
		Soundness
Documentation and governance	**Documentation**	Design, implementation and results documentation quality
		External vendor model documentation
		Databases and codes maintenance
		Model usage policies
		Arching and versioning
	Model governance	Detailed governance structure and signoffs collection processes

point where they can obtain genuine business benefit from their investment in these models. It also provides management with a deeper understanding of the model. Validation is mainly about challenging the model. However, value can be added through suggesting areas for model optimisation and enhancement.

Validation is about methodically turning every building block of the internal model, and challenging its theoretical and practical foundations. It is also about challenging its use within the regulatory context and within the wider ERM framework. A

WILLIAM DIFFEY is director of the GI business practice for SunGard, and leads SunGard's global GI services practice

APOLLOS DAN is senior consultant at SunGard and Risk Dynamics with 20 years' experience. He specialises in model validation and ERM

features@theactuary.com

LUCKY FOR SOME?

Darryl Boulton picks out some of the common examination pitfalls, and offers tips on maximising the best outcome for students

My first actuarial job was in a large life office with many students sitting exams. To make results day more exciting, I ran a little competition. You had to draw six names out of a hat and the person who collected the most passes was the winner. What got people's attention though was the book I ran on who was going to win the competition.

I needed to assess the chances of each individual passing their exams, which required a reasonable amount of research and judgment. After a couple of days I nervously took a phone call from the chief actuary, fully expecting to be berated for not focusing all my efforts on product development. Happily though he was merely checking the latest odds. Even better, thanks to one chap unexpectedly passing both exams he sat, the winner was a 25/1 outsider no-one had backed. Happy days.

But how much luck is involved in passing the exams?

Preparation

My advice for the later subjects is to go into the exam believing you can score 100%, come out thinking you have scored 75% or more, and you might scrape through with 50% or so, depending on how harshly the exam is marked. What you know is all too often not reflected by what you write.

Preparation is obviously key. You are very much trusting to luck if you prepare insufficiently well and enter the exam hoping a particular topic does not come up.

Did you sit a mock exam? And if so, did you do it under exam conditions? ActEd reports that an astonishingly high proportion of students do not attempt mock exams under timed exam conditions. Mocks are a golden opportunity to expose topics you thought you knew but actually are a little weak on, not to mention a useful way of getting used to the conditions you will face on exam day.

Bad habits

So you prepare well, get to the exam venue in good time, what can go wrong? Well, are you 'exam smart'?

Take, for example, the following question: 'Explain why the running yield from property investments tends to be greater than that from equity investments.'

A number of students will begin their answer along the following lines. 'The running yield from property investments tends to be greater than that from equity investments for a number of reasons...' 20 words, score so far – zero! You have merely repeated the question back to the examiner and made a bland comment that reveals nothing of your knowledge. If you do this on every question you waste quite a lot of time. So answer the question directly, don't waste time repeating it.

The marking process

How much luck is involved in the marking process? The honest answer is that it will depend partly on the subject, but there is much less involved than students believe.

Every script is double-blind marked, so independently marked by two actuaries who will have no knowledge of the scores awarded by the other marker. The lead examiner will then do extensive analysis to ensure scores are standardised and that all anomalies are investigated. Third, and sometimes even fourth, marking will be applied to borderline scripts. The later subjects require more judgment from the examiners when awarding marks. They also see a greater bunching of marks. The best candidates will pass, the worst will fail. You may perhaps be unlucky if you are in the middle, but it is clear that the better you prepare, the less luck you will need.

There has been much criticism of CA3 in the pages of this magazine, indeed it has been likened to a lottery. Owing to the very nature of this subject it can produce very different marks from different examiners and perhaps has the largest degree of luck involved in the marking process. However, it is often students' (lack of) preparation that gives them a similar chance of passing as of winning the lottery.

There are some naturals at communication and they pass easily, but too many students do not prepare thoroughly for this exam and can have no complaints at the low pass rate.

Marking CA3 will never be an exact science and, yes, some students may be luckier than others. However, the examiners work very hard to provide consistent and fair analysis.

Best of luck to everyone waiting for the all-important pass or fail. However, should results not go your way, then the chances are you will find the reason by looking in the mirror. A

DARRYL BOULTON is an independent actuarial consultant

features@theactuary.com

An ethical question

Peter Crowley explains why interest rate derivative mis-selling is a continuing problem

Interest rate derivative or 'swap' mis-selling continues to make the news, both in the UK and abroad – a quick Google search gives many examples. Despite a redress programme from the Financial Conduct Authority, the controversy continues – replacing a swap with a smaller, or shorter term, variant appears to continue to cause resentment. But what is the problem with these products?

In essence, banks heavily sold them with a great focus on the cash flow effects (interest rate risks), but ignoring the market risk. The capital position was only described as a break cost if a client wanted to exit the contract in unfavourable circumstances. The fact that the derivative could or might be used to assess a break in the loan covenant was not discussed in the sale process. The market risk extracted from the client was used by the bank to book a profit.

Products were designed to increase capital value (and also risk) in the event of a recession (and falls in base rate). When the market risk crystallised, the loans that the swaps were sold to 'protect' rendered the overall package unsafe to the bank. The banks were then under pressure to recall the loans. The gap between technical (legal) insolvency for the borrower and inadequacy as a banking loan (plus derivative) covenant is quite wide – this was addressed by using units such as RBS's 'Global Recovery Group', which imposed substantial charges and restrictions. The derivatives in the books meant that it was practically impossible to refinance, so the borrowers were totally at the banks' mercy. Crystallisation of credit risk was cited as the reason.

Not-so-simple measures

Much has been made of products sold that were 'too complicated'– but every product can be separated out into its component interest rate floors and caps. Each of these can be considered separately in the light of various risks and benefits described under Basel II. The book *Risk Management and Shareholder Value in Banking* by Resti and Seroni gives good descriptions of the four key risks: interest

rate risk, market risk, credit risk and operational risk – from both borrowers' and lenders' points of view.

Apparently, the former FSA agreed a maximum upfront profit of 0.2% of the loan per year – but such a simple measure disguises the risks of the product being sold. Around 90% of the products sold were 'simple' swaps – but, counter-intuitively, swaps can be more risky than 'complicated' products, owing to their higher volatility.

Details of the agreement between banks and the regulator regarding the redress process were not made public until the end of 2014. Much was made of whether 'the customer expressed a desire for interest rate protection'. Bearing in mind that the derivatives were sold to appear as part of the underwriting process of variable rate loans, (for which the risk was interest rate rises), and borrowers would be keen to appear prudent in a loan underwriting process, eliciting such an interest from a borrower cannot have been difficult. Emails, slides, and anecdotal evidence suggest that this was done.

Far from helping to manage interest rate changes, the derivatives sold made those risks unmanageable. When the recession, already priced into the forward curve, crystallised at the end of 2008, businesses, and, of course, the banks themselves, sustained substantial damage.

The 'swap for a swap' redress agreement has effectively legitimised derivative sales (and their financial cousins – fixed-rate loans with forward-curve-based break costs) through the back door. A continued selling of loan finance with risks deliberately concealed cannot be either ethical or for the long-term general economic good, irrespective of the legal determinations when an increasing number of cases come to court.

Clearly, there are good counter-arguments to this, and they include consideration of the qualities of gilts, debentures, and peer-to-peer funders, most of whose loans are at fixed rates. Mine is a single view, and I welcome disagreement and contributions to a debate that actuaries can considerably inform. Ⓐ

PETER CROWLEY is an independent actuary. His views represent neither those of the profession nor the profession's Banking Member Interest Group

Paul Harwood considers enterprise risk management and discusses how to optimise the second generation of this method and make the right choices

The evolution of ERM

Enterprise risk management (ERM) has become increasingly important to the running of firms over the past decade. It has been supported by regulators and other governance authorities, yet few practitioners appear convinced that ERM has added value.

Notwithstanding the assurances, attestations and certifications, do boards and managers feel they are running better businesses as a result? Given the resources, authority and access that has been afforded the risk management function, stakeholders should by now be feeling comforted by a well-embedded risk management process. Boards and managers have never had so much knowledge at their fingertips.

The IFoA's annual Risk and Investment Conference has never formally and thoroughly addressed the question of the value added by ERM. Under the surface, there are glimpses from those who question it, as commonly practised. In reflecting on these conferences, I concluded that the first generation of ERM has established firm foundations that can now be built on.

I suggest that second-generation ERM should consider a specific business plan first, and only then address the management decisions that ensure this is met in a range of varying circumstances. This allows a rehearsal of management decisions – 'When will we act? How effective can our intervention be?' – and an understanding of the plan's sensitivity. As time passes, the environment and the decisions can be tracked for their impact on the results.

The scrutiny of possible management decisions allows for their refinement in advance and an understanding of the extent to which risks can be managed. The tracking demonstrates whether management action is making a practical difference.

In summary, second-generation ERM is about 'better decision making' (BDM ERM) which adds value when its users, primarily boards and managers, are confident that they are overseeing, or making, quality decisions. BDM ERM connects risks and actions more directly than hitherto. It is a continual process.

The business plan

The anchor for BDM ERM is the business plan, the board's required outcomes on specified assumptions, which will be achieved because management makes good decisions. This plan reflects decisions already made (the business model, the strategy), decisions that are largely already made given the business's culture and organisation (how do we handle project X?), and decisions yet to be made (do we launch into a new market?).

The BDM ERM business plan may not be the standard profit and loss and solvency projections that regulators require, but should set out the outcomes that the board is commissioning its chief executive to deliver. Doubtless, the impact of many of the decisions will be sales/expense/profit related, but there should also be room for qualitative outcomes, for balance sheet outcomes, for outcomes that don't arise evenly.

Testing quality

How do you test, at plan stage, the quality of decisions already fully or partially made? Achieving an outcome depends on what managers decide and the prevailing environment. By considering how outcomes might differ from those planned, each accountable manager can focus on the outcome's sensitivity and sensitivity drivers: the causes, contingent management action and possible changes in the environment can be better understood. The manager can reverse engineer action plans to understand the impact on the outcomes and therefore gain a deeper understanding of the likely results.

How do you test new decisions? The expected impact of a new decision will either already be part of the plan, or part of the process of making the decision. The risk manager can work with the accountable manager to flex not only the assumption set but also the decision set, to understand the sensitivity of the decision and the factors that need to be managed to deliver the required outcome. Indeed, the *McKinsey Quarterly* in 2013 reported two interesting results on executive decision making. The first suggested that it was six times more effective when an alternative was considered alongside management's preferred decision. The second suggested that confirmation and overconfidence biases drive poor decision making, and that these biases can be addressed by assessing downside risk and stress testing (as per BDM ERM).

The risk manager's role in BDM ERM is crucial. In addition to working with individual managers with business plan accountability, the role includes the collation of the threats to the plan overall and the identification and challenge of weaknesses that span individual business plan areas.

As a result, the risk manager can assert to the board, for director challenge, the circumstances in which managers are confident that they will achieve the plan, and when a different outcome will be achieved.

Once the BDM ERM plan has been agreed by the board, the risk manager tracks the progress of the plan and the key parameters. Hence, the business always knows the extent to which the plan will be met (or the extent to which the plan does not match the factors that actually drive performance). It should then be clear whether performance arises from quality decision making or is independent of management action.

The BDM ERM risk manager is the guardian of the decision-making process and is responsible for broadcasting the expected consequences of decisions made.

The risk manager will be expected to know if the plan will be met. The analysis of this is likely to entail projection deficiencies, estimation errors, random positive and negative impacts.

Criticisms of BDM ERM

"This is simply a representation of existing ERM: good ERM systems do this already."
BDM ERM does rely on many elements of first-generation ERM: this is a strength. Where it differs is that it views risk exclusively through the lens of business plan outcomes. This approach anchors risk discussions to real things, and drives challenge and accountability, not just by the board and management, but by the risk manager, who now has to understand the plan will be met, or know why it will not.

"Some risks would not feature on the business plan."
This is an interesting point. If a risk would not affect the plan and has no impact on the business's outcomes, should it be considered at all? The obvious risks here are identified black swans, those that no one saw but that would be catastrophic. These should be covered in the assumption set: the board should see the impact of, say, a liquidity crisis on businesses outcomes.

ERM to date has generated information in volume. BDM ERM distils this information by focusing it through the lens of the business plan to establish the sensitivity of outcomes. As the plan is effected, the outcomes and assumptions are tracked, post decision. Thus, we will understand whether the decisions made supported the outcome or were irrelevant to it.

BDM ERM is a tool for non-executive directors to be assured that their business is managed to deliver the plan commissioned by the board. It also helps managers to review existing, and consider new, decisions to ensure outcomes. In both cases, the value added by BDM ERM should be evident. Ⓐ

PAUL HARWOOD is a consulting actuary specialising in strategy and risk management. He is writing a paper on the IFoA's Risk and Investment Conferences over the past five years and ERM evolution

GETTY

CO_2 risk
– how do we measure and manage it?

We have reached a turning point in taking account of carbon risk, says **Lauren Smart**, and if managed properly, this could have positive results for pension funds and insurers

The year 2015 may go down in history as the turning point in the management of carbon risk by pension funds, insurers and banks. By the United Nations Climate Change Conference in Paris in December, we expect to see a coalition of investors commit to decarbonising at least \$100bn of institutional equity investment as part of the Portfolio Decarbonisation Coalition.

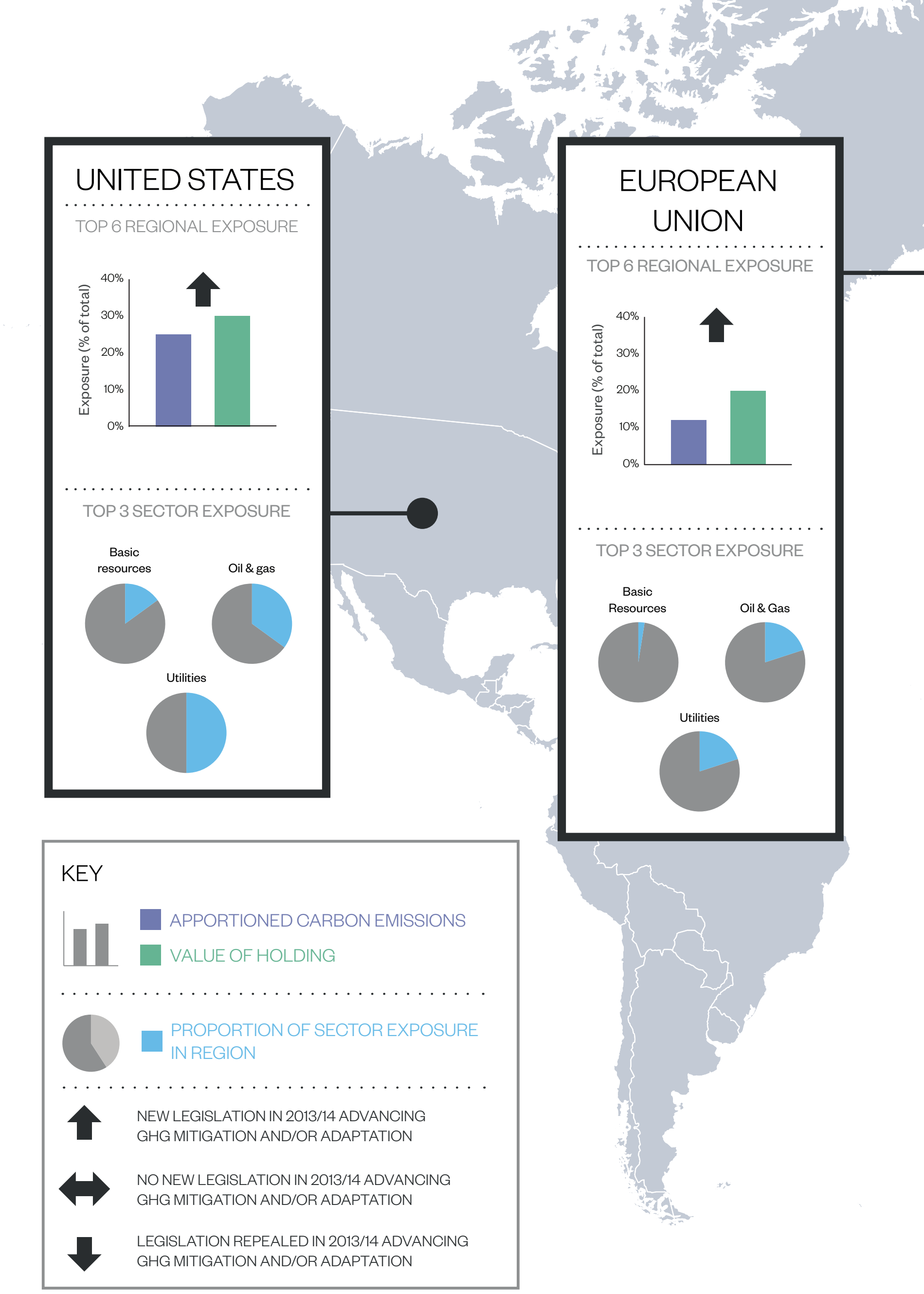
Decarbonisation can be achieved by reallocating capital from carbon-intensive firms in each sector into more carbon-efficient companies. This could have positive effects on returns not only for pension funds but also for insurers, banks and other financial institutions, provided they are aware of how to measure and manage carbon risk.

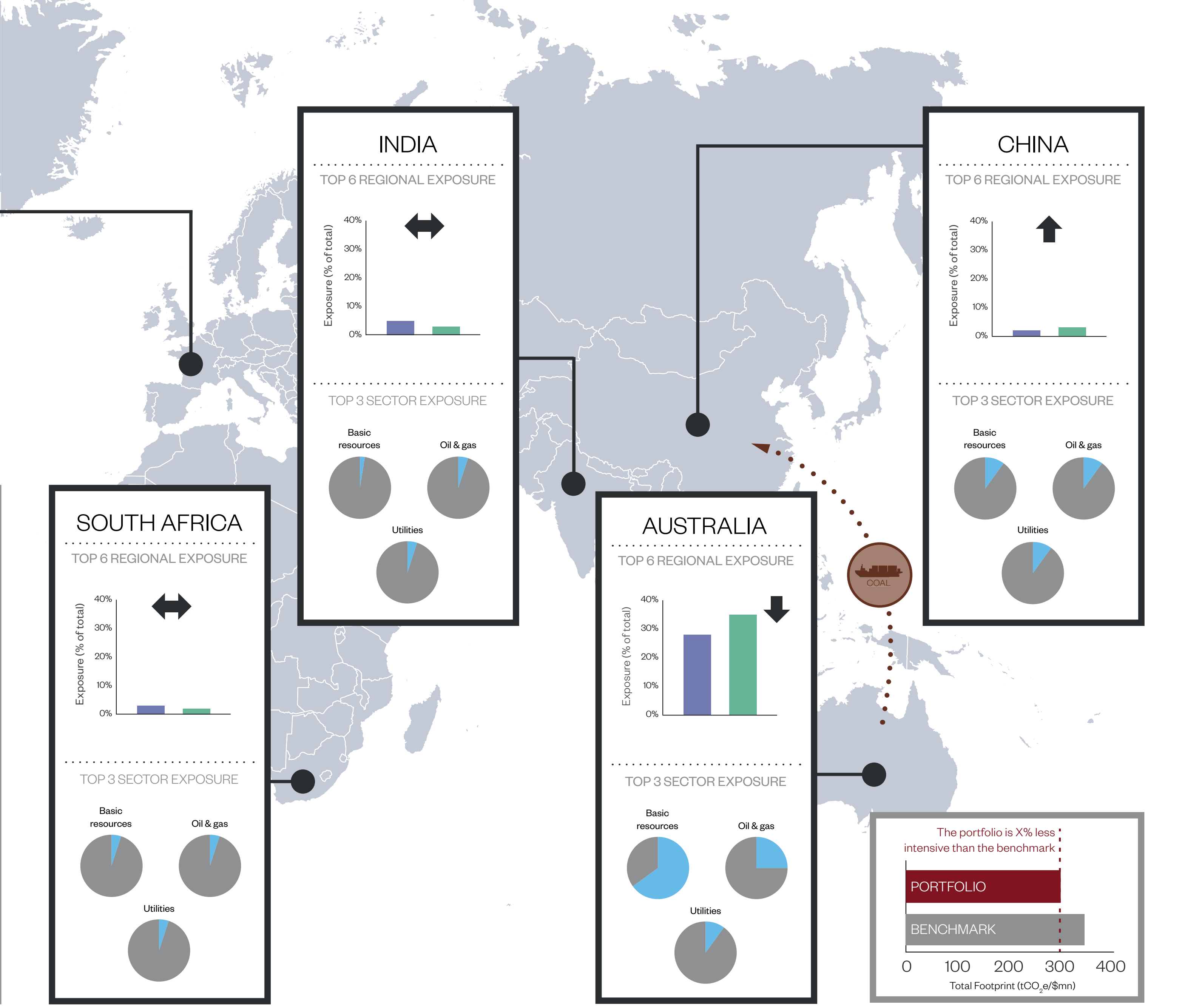
A mandate to act

Carbon was once considered a nebulous risk factor, difficult to integrate into financial analysis, if even relevant to investors at all. So why are mammoths of the pension industry now committing to carbon risk reduction?

It started in 2005 with a report by law firm Freshfields entitled *A legal framework for the integration of environmental, social and governance issues into institutional investment*. It was commissioned by the United Nations Environment Programme Finance Initiative in response to a belief that investors were legally prevented from taking account of environmental, social and governance (ESG) issues. The report argued, given the connection between such issues and financial value, integration into the investment process is "clearly permissible and arguably required".

Subsequent studies have built on this, pointing out that to ignore the weight of scientific evidence gathered by the UN's Intergovernmental Panel on Climate Change, and the actions of the political leaders and policymakers to strengthen climate legislation, would be irresponsible and a clear breach of fiduciary responsibility. In a speech in 2014, the UN climate chief Christiana Figueres said the financial industry would be "blatantly in breach





of their fiduciary duty" if they failed to accelerate the greening of their portfolios. "Investment decisions need to reflect the clear scientific evidence, and fiduciary responsibility needs to grasp the intergenerational reality: namely that unchecked climate change has the potential to impact and eventually devastate the lives, livelihoods and savings of many, now and well into the future."

In the UK, 2014 guidance on fiduciary duty published by the Law Commission is catalysing action by recommending that where trustees think ESG issues are financially material they should take them into account in investment decision making.

Measuring carbon exposure

So what are pension funds doing? The first step has been quantifying the carbon exposure of investment portfolios and disclosing it to members. In September 2014, the UN-backed Principles for Responsible Investment launched the Montreal Pledge. It aims to attract $3tn of commitment by investors to measure and publicly disclose the carbon footprint of their listed equity portfolios in time for the Paris climate conference. It currently has 40 signatories, including: the US pension giant CalSTRS; France's ERAFP; Alliance Trust and the Environment Agency Pension Fund in the UK; Nordea in Norway; PFZW in the Netherlands and Australia's Local Government Super Fund.

Carbon footprinting enables investors to quantify the carbon content of a portfolio by allocating the carbon emissions of a company to a portfolio on an equity ownership basis. For example, if the fund owns 1% of Shell, then 1% of Shell's carbon emissions can be attributed to the fund. This provides a quantified assessment of the tonnes of carbon the fund is exposed to and this can be expressed per million pounds of investment to give a carbon intensity metric. It is useful to compare this to an appropriate benchmark, to determine whether the fund is more or less exposed to carbon risk than average.

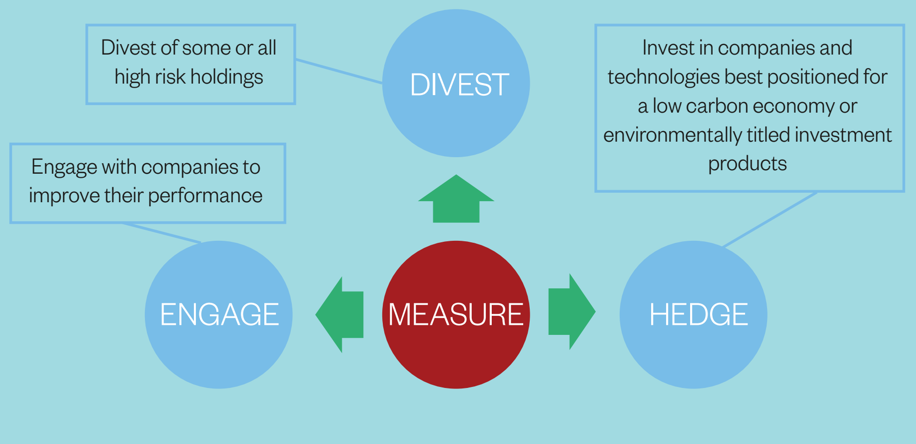
Traditional portfolio analysis enables investors to see if the reason a portfolio has a low carbon footprint is because it is underweight in

WHAT IS CARBON RISK?

Financial institutions such as pension funds and insurers are exposed to risks through the climate change impacts of the companies they invest in. These could affect the profitability of portfolio firms, reducing returns. The risks come from tougher legislation to control carbon emissions, which could greatly increase costs, for instance by requiring firms to pay for emissions allowances or carbon taxes, or forcing them to invest in low-carbon technology. Companies also face physical carbon risks such as flooding and other extreme weather events, which could disrupt business activities and are predicted to become more frequent and severe owing to climate change. Firms in highly carbon intensive sectors such as fossil fuels are at risk of reputational damage owing to negative media coverage.

features@theactuary.com

The three options when reducing carbon risks in investment portfolios



carbon intensive sectors and/or is owing to picking companies that are more carbon efficient than others within their sector. Active managers should be able to identify these firms and this would show in the carbon footprint analysis of their portfolios. Pension funds can then use the information to identify holdings, managers or regions that present significant carbon risk and engage with the company or their investment manager to reduce that risk.

Ideally, disclosure of a carbon footprint should be accompanied by a carbon risk management strategy. When considering how to reduce carbon risks in investment portfolios, there are broadly three options: divest, engage or hedge (*see above*). One simple option to reduce the carbon footprint of a portfolio is to sell high-carbon assets. This is, however, a hotly debated topic. The 2012 release of the *Unburnable Carbon* report by the Carbon Tracker Initiative sowed the seeds for the 'divestment movement'. The acclaimed report argued valuations of fossil fuel companies are based on their fossil fuel reserves. However, if all these reserves were burnt, it would lead to carbon emissions that would far exceed the scientifically agreed limits required to prevent catastrophic levels of global warming.

It has been estimated that up to $20tn of fossil fuel reserves will need to remain in the ground becoming "stranded assets". This suggests fossil fuel companies are overvalued and present a financial risk to investors. Campaign groups have called for pension funds, university endowments and banks to divest these firms.

Climate change is not the only driver weighing on the ability of fossil fuel firms to sustain their valuations. Decreasing renewable energy technology costs and increasing environmental regulation continue to put pressure on the fossil fuel industry's plans to exploit new reserves. The divestment movement has gained traction, initially amongst university endowment funds such as Stanford University and the University of Glasgow, but increasingly amongst mainstream investors such as the Local Government Super Fund in Australia and KLP in Norway.

While divestment can easily achieve significant portfolio decarbonisation, many investors argue it is not the right strategy. Some are doubtful asset stranding will occur if governments fail to regulate carbon, and others are not comfortable with the volatility in returns that could result from broad divestment from whole sectors. Many investors feel fossil fuel companies have an important role to play in the transition to a low-carbon economy by financing renewable energy.

A positive outcome of the divestment campaigns is that many pension funds are now having to re-evaluate the effectiveness of their carbon management strategy. This is leading them to conduct a robust and transparent portfolio carbon footprint assessment to provide the supporting evidence base.

Getting engaged

Engagement with company management offers pension funds and their investment managers the opportunity to understand and influence the long-term strategies of firms. Questions could include asking companies for better disclosure of carbon emissions and plans for moving to less emissions-intensive energy systems. It is important to know how fossil fuel companies plan to structure capital expenditure on new exploration projects, how transparently they are factoring carbon costs into future operations and what that cost is. Investors can then analyse how each company is preparing for a transition to a low-carbon economy. This highlights the need for active managers to be truly active in their consideration of carbon risk.

Hedging carbon risk involves identifying companies that are better placed to benefit from a transition to a low-carbon economy. This could be by selecting firms within a sector that are more efficient than their peers so more likely to be resilient to increasing carbon costs, or it could involve identifying companies, projects or investment themes that will benefit in a more carbon constrained economy. Investors can both reduce the carbon exposure of their portfolios and invest in the replacement technologies of the future. Examples of carbon hedges include investment in renewables, infrastructure for low-carbon transport, energy efficient property or even in farmland and forestry.

Another approach to carbon hedging is through investing in carbon optimised funds. These enhanced passive funds work by holding all sectors in the fund at the same weight as the benchmark, but overweighting companies within sectors that are more carbon efficient than their peers and underweighting those that are less so. This technique offers both stability and a reduction in carbon risk relative to the benchmark of up to 50% without having to apply any exclusions. This is particularly appealing for those pension funds that invest heavily in passive funds and cannot divest or engage.

Implications for actuaries

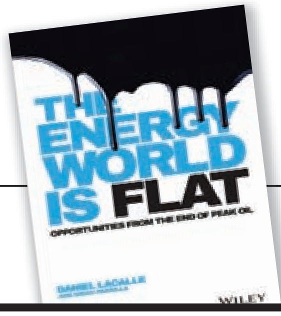
While there have been great strides by the larger pension funds globally towards measuring and managing carbon risk, there is still much to do. Few smaller pension funds are following suit, and there are still many investment managers and pension advisors who do not understand the importance of the issue. However, the Montreal Pledge, the Portfolio Decarbonisation Coalition and the UK Law Commission have created significant momentum, and, with the larger pension funds leading the way, there is little excuse for others not to act.

One UK pension scheme has asked its actuary to consider how the scheme's management of carbon risk might have financial benefits in the actuarial valuation process. It will not be the last. As the chief executive of the Swedish National Pension Fund, AP4, put it when asked what the biggest risk of its decarbonisation strategy was: "The biggest risk is doing nothing." Ⓐ

LAUREN SMART is executive director of Trucost's global financial institutions business and heads the firm's business development

BOOK REVIEW

The Energy World is Flat by Daniel Lacalle and Diego Parrilla



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ISBN-10: 1118868005
RRP: £24.99

If you are concerned about the impact of fossil fuels on the environment, or believe that the supply rate of fossil fuels (or at least oil) has reached its peak, you may get too angry with the early part of the book to read the rest… but you should.

The authors have taken some of the core ideas from Thomas L. Friedman's *The World is Flat*, applied them to the energy markets and used them to highlight some guiding principles for an investor in these markets. The principles easily lend themselves to other resources and, in fact, are relevant to anyone more interested in investing in the wider economy. The book structure is simple: a scene-setting beginning; a middle, setting out 10 'flatteners'; and an end, setting out those investment principles.

At the heart of the 'flat' concept is the idea that geographical or temporal differences in availability and cost of energy, as well as differences in the relative price of energy sources, are being flattened by evolving mechanisms for transfer from peak to trough. Unfortunately, these ideas are also where the book's content contradicts its title. However, *The Energy World is not Flat but is Tending to Flatness in the Long Run* is not quite as snappy, and the poetic licence can be forgiven as we drill into the ideas. For example:

- Geopolitics causes short-term fluctuations in prices as producing states tussle with consuming states over energy security; meanwhile, producers look to diversify their markets and consumers look to diversify their supply.
- There are a lot more natural resources and reserves than we have grown to believe. This has led to over-investment on the supply side, which, over time, will push energy prices down globally. This is accelerated by new technologies and other approaches to substitution or demand displacement.
- However, governments have been distorting the picture by stimulating investment in production as well as demand both for hydrocarbon-based and alternative energy. They then overlay further distortions through regulation and mandates. At best, these are necessary where the markets are ignoring externalities; at worst, the interventions themselves ignore other externalities or unintended consequences.
- Middle men add value. So while global pricing may be flattened through the financial markets, the price of a barrel of oil is less relevant if you cannot access oil: hence pipelines and tankers. Similarly, the price impact of temporal peaks and troughs can be addressed partially through financial instruments, but if you sell a future that you cannot roll, or close, out, you are faced with a delivery problem in the real world: hence storage.

> "Geographical differences in availability and cost of energy are being flattened by evolving mechanisms for transfer from peak to trough"

And this brings us to a lesson that is not at all specific to energy and its markets: that the behaviour of the real economy and investing in it are very different propositions from the financial instruments derived from them. Worse still, the gap is being exacerbated by monetary policy in most western economies. As I was reminded at the recent Sessional Research Event on sustainability and the financial system, the more actuaries who engage with the real economy on behalf of our clients, the fewer externalities will be ignored in the allocation of financial capital.

So what of the investment principles that all these insights support? Well the author works for a hedge fund so suggests some strategies that are only for the brave or well-capitalised, but the key points are of interest to us all: be sceptical of financial valuations without understanding performance drivers; look for scarcity and bottlenecks in the supply chain as well as companies that service the energy sector; buy into new investment by companies that invest well; avoid debt.

In all, this was an easy read by an author on the inside of the energy sector, made the more entertaining because it challenged several of the views that I have formed over the years.

● **Tony Brooke-Taylor** is internal audit director for Aviva's general insurance business

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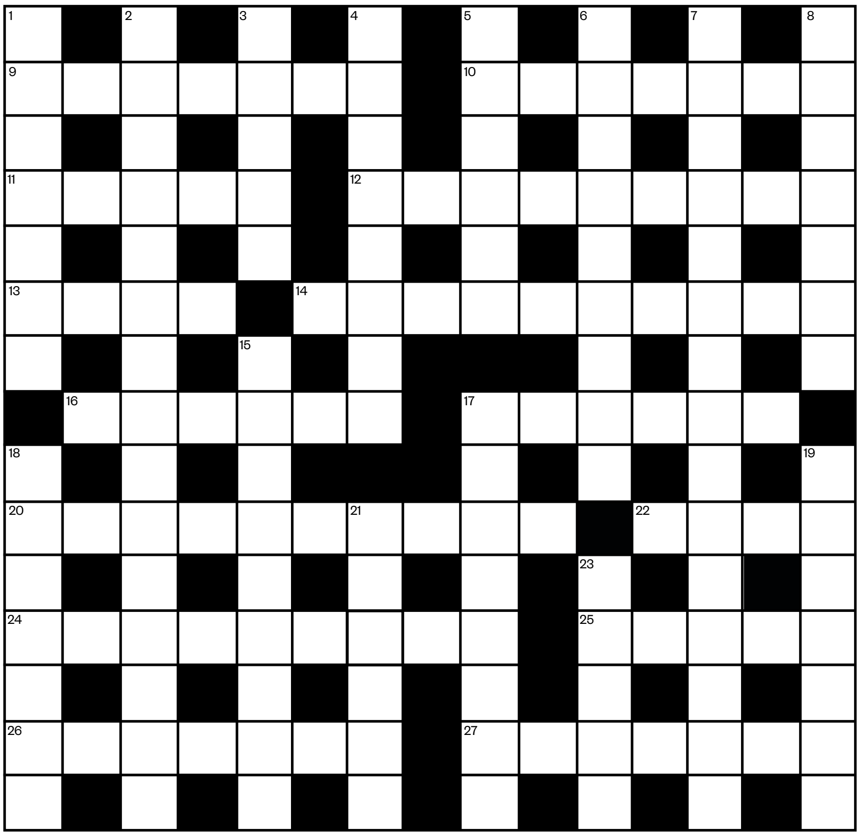
For a chance to win a £25 Amazon voucher, please email your crossword solution to: puzzles@theactuary.com by Wednesday 17 June

OVERHEAD LINES

Decipher the clues in this crossword to find that many have something in common, but beware of being blinded by the theme



Across

9 Thrown out, gent returned with maiden from aboad (7)
10 Mixture in some measure used to construct enamel angels (7)
11 Violet looking a bit pale seeing Cilla injured (5)
12 See 13
13 24s work distressed Dame of Andorra (1,3,9)
14 Make out creature in front of Polo? (10)
16 Mynah muddles Latin words of praise (6)
17 Latest attempt with impressive result? (6)
20 24 for example, with smitten star, Monroe (10)
22 Untie gundog to show (4)
24 Bookseller taking communist oath, finally (4,5)
25 Good man hosts shelter from bad weather (5)
26 Ice cones melted without oxygen in experimental study (7)
27 Explosive event leading to de-regulation (3,4)

Down

1 McCartney recording initially gives heavenly impression (7)
2 Novel Queen with evil sounding proposition of atomic process in 27 (15)
3 Singer produces loud note in church (5)
4 Spanish waiter served after premed inset at College (8)
5 In the thick of things, both ends twisted after dull turn (6)
6 Instrument measuring pain when goal blundered by some distance (9)
7 Detachment from leaders of Dad's Army to co-ordinate film (12,3)
8 Comments made about Groucho's radio announcement (7)
15 Inchon aid organised from Asian location (9)
17 Classic in Thebes with Hydra has taken away torment (3,5)
18 Rough accommodation for river swimmer (7)
19 Frank stamps on outgoing package? (7)
21 Reactive element drove into Guyana backwards? On the contrary! (6)
23 Native herb produced after Oregano tailed off (5)

Mensa
The High IQ Society

HAVE YOU GOT WHAT IT TAKES?
For information on IQ testing in your area, visit www.mensa.org.uk

PRIZE PUZZLE BROUGHT TO YOU BY MILLIMAN

For a chance to win a £25 Amazon voucher, email your solution to puzzle 623 to: puzzles@theactuary.com by Wednesday 17 June

Tracking time
Mensa puzzle 627

A train covers its outward journey at 98 mph. It returns, over exactly the same distance, at 73.5 mph.

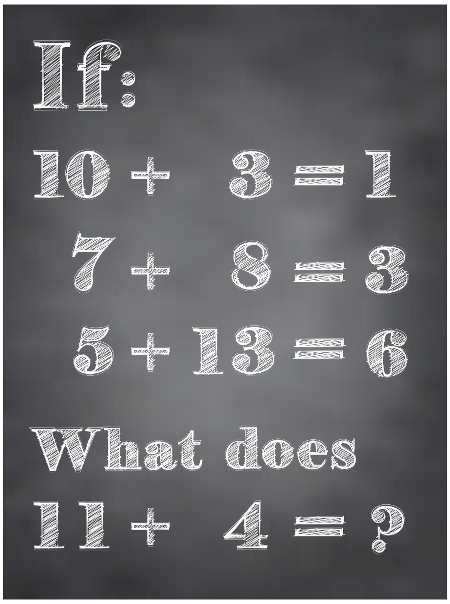
What is the train's average speed over the entire journey?

TERMS AND CONDITIONS The prize will be awarded for the first correct entry drawn at random from those received before the closing date. The winner's name will be announced in the next edition. Please note, the puzzle editor's decision is final and no correspondence will be entered into. We reserve the right to feature the winner's name in *The Actuary*. Your details will not be passed to any third party in connection with this draw.

Doing the rounds
Mensa puzzle 628

What letter should replace the question mark?

Adding values
Mensa puzzle 629



Bridge puzzle 53
Gone slamming

♠ AJ104
♥ AKQ
♦ K105
♣ Q32

	N	
W		E
	S	

♠ Q9
♥ 3
♦ A8742
♣ AJ1064

Bidding

S	N
1♦ (1)	1♠
2♣	2♥ (2)
2♠ (3)	4♦
5♦	6♦ (4)

Love all; dealer south

(1) Applying the Rule of 20 (no of HCPs + no of cards in two longest suits to equal 20 or more)

(2) Fourth Suit Forcing asking for some more information.

(3) Could bid 3♣ to show 5-5, but prefers to show some spade support.

(4) Arguably 6NT is better.

Things are not very promising. It looks as though you need a 3-2 diamond break and the club finesse to work – about a 1 in 3 chance. West leads a heart and you win and decide to lead K♦. East follows with Q♦.

Plan the play.

Bridge puzzle provided by David Lampert

Strip teaser
Mensa puzzle 630

What number is missing in this sequence?

16	17	51	56	392	401	401	?	4424	66360

These puzzles are sponsored by: Milliman

SHUTTERSTOCK

puzzles@theactuary.com

SOLUTIONS FOR MAY 2015

Pedal power
Mensa puzzle 623

A cyclist rides from one town to another. On the first day, she covers one quarter of the total distance. The next day she covers one third of what is left. The following day she covers one quarter of the remainder and on the fourth day half of the remaining distance. The cyclist now has 25 miles left.

How many miles has she travelled?

ANSWER 108.3333

Congratulations to Abbie Phillips of Mercer

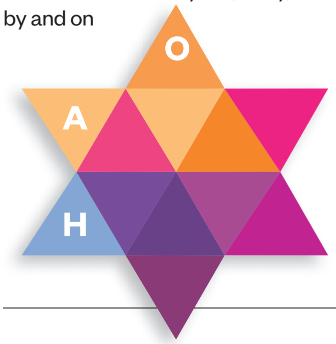
Starry eyed
Mensa puzzle 625

Use the letters given to complete the star so that two five-letter words, one four-letter word and two words of two letters can be read.

What are the words?

A B B E N O T Y Y

ANSWER Abbot, hyena, obey, by and on



Forming attachments
Mensa puzzle 626

Place three bits together to give a word.

What is the nine letter word?

ANSWER Harmonica

9	2	7	3
6	4	2	7
4	3	6	9
7	1	4	2
5	?	0	8

Testing times
Mensa puzzle 624

What number should replace the question mark in the grid?

ANSWER Four. On each row the two outer numbers are multiplied to get the centre.

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

Congratulations to this month's winner – Michael Hooton

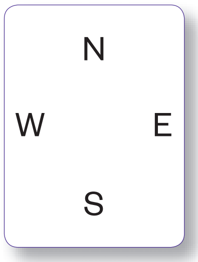
Bridge puzzle 52
No entry

A bit pushy, you, as South, end up in **6♥**.

1. West leads a trump. How do you give yourself the best chance of making the contract?

2. How do you play if West leads a diamond?

♠ AK432
♥ 763
♦ 54
♣ K52



♠ 105
♥ AKQJ109
♦ A2
♣ A43

1. You have 11 tricks "on top", but two losers in the minors, and the only way to a twelfth is by setting up a length winner in spades. The defence has six so you will need these to break, at worst, 4-2 – so assume they do. You would ideally set up the fifth by ruffing two spades and entering Dummy for a discard on the fifth spade – but this requires two entries to Dummy outside of Spades, and you only have one.
The way round the problem is to draw trumps, then duck a spade (having drawn trumps). You now win the return in hand (or with ♠A), cross to Dummy with ♠A if not already there and cash ♠K, throwing a loser. If spades have broken 3-3, simply discard your other loser. If they are 4-2, ruff a spade, re-enter Dummy with ♣K and discard your other loser on the fifth spade. By ducking initially, you only needed one ruff and two entries.

2. If West leads a diamond, you can no longer afford to duck a spade because you will lose two quick tricks (a spade and a diamond). While it might be tempting to play the same way and duck a spade, hoping for a club return, effectively bluffing that you hold a second round diamond control, you can assume that if West has led from a diamond honour the defence will almost certainly be able to communicate this on the first trick.
Therefore, you have to play for a 3-3 spade break. If they are 4-2, the contract cannot be made.

Bridge puzzle provided by David Lampert

student@theactuary.com

Student

As if an exam wasn't enough to test her nerves, **Jessica Elkin** deals with superstitions, shocks and spiders before and after the event

THE WRITING'S ON THE WALL

So, there I was. It was the morning of my final exam in April, and I was standing in my kitchen, eyes narrowed, focusing hard on what I could read in half an hour that would drastically improve my chances of passing. Don't laugh – it's worked before.

In my state of zen-like contemplation I unthinkingly reached into the back pocket of my jeans, and felt something decidedly odd in there that I pulled out to take a look at.

I jumped. My focus immediately collapsed like the shoddy house of cards it was, and I dropped it, squealing in the sort of way you never want to hear played back to you. It was a spider. Not a small one. Quite stocky, hairy, still 'juicy'. Dead as a doornail. Flat as a pancake.

My uncomfortable thoughts went as follows. 'Is that a spider? No, it can't be. They're not that wet. Maybe it's a raisin. No, it's a spider! Look at those legs curled around. How did it get in there? These jeans are tight. There isn't room for sidling spiders. It would have to have crawled into the jeans before I put them on, and when I pulled them on I must have squashed the spider with the pressure of my derrière.'

Not enough curds and whey

I've had many unfortunate spider incidences in my life, including the time I found one squashed into my pillow one morning. But this one was especially unwelcome. The implications of having an unwieldy bottom did not escape me.

"Why, today, is this happening?" I asked myself, mixing my exam-related stress with overwrought shuddering disgust. Surely it was a bad omen. I wrung my hands, which would obviously never feel clean again.

A preferable thought then presented itself. Maybe it's some sort of pre-emptive karma in return for a favourable exam paper. I've already had the bad karma, so that the good karma can show up where it's most needed.

I'll take a moment to emphasise that I usually consider myself a rational being and not a shaman. But during exams, all bets are off. A rabbit's foot is lucky; failing to respond to a chain letter is unlucky; black cats are both. If you see *The Ring* then you will die. See one magpie, immediately cast around for another to counteract the first; else greet him and ask after his wife.

It's not so different from a lucky mascot, is it? Or a lucky pair of socks. Except that my mascot is a rear that is dangerous to small creatures everywhere. If only Miss Muffett had been so gifted. Not enough curds and whey, I guess.

Seeing results

These mad thoughts occur not only during exams but before results. Part of me feels that until I actually know whether I've passed or failed, the result is still changeable. So the end of this month will see a lot of finger-crossing and sacrilegious praying even though the marks will have been set already. Short of bribing incorruptible examiners, my ability to affect the future is zero. And I don't have the required stealth or wealth to bribe anyway.

As results get closer, students will likely be divided into two camps: those who are desperate to know their results, and those who are trying not to think about it. Anyone you mention it to will either agree that waiting is a pain, or scowl and tell you off for mentioning it. Either way, it's not the most fun we've ever had with our clothes on.

Time will pass as it always does, and both anxiety and consolation are, most likely, futile. The good news is that there is nothing we can do, and it is, therefore, pointless to worry. Perhaps better to concentrate instead on the next SIAS event or – however outrageous this may be – on the next set of exams. Whatever works for you, I suppose.

Me? I'll continue to cross my fingers. And if I fail then at least I'll know to sew up the pockets of my jeans next time.

PHIL WRIGGLESWORTH

VICKY RANDHAWA

ACTUARY OF THE FUTURE

Employer and area of work
Punter Southall, Pensions.

How would your best friend describe you?
Easy-going, animated and comical.

What motivates you?
Daydreaming of a life without exams, sitting on a beach in August feeling guilt-free, and spending Easter doing nothing but eating chocolate.

What would be your personal motto?
Laughter is the best medicine.

Name five dream companions to be stuck on a desert island with?
Jack Whitehall, David Blaine, Cristiano Ronaldo, Beyoncé and David Attenborough to tell bedtime stories. I'd become an awesome magician and dancer with mad football skills, and have a laugh until the inevitable happened. Having a good time – living it out as long as possible.

What's your most 'actuarial' habit?
Not giving a straight answer when someone asks me what an actuary is.

Favourite Excel function?
DATEDIF.

How do you relax away from the office?
I'm addicted to eating out, so you'd probably find me in a restaurant. If not, I'll either be planning a holiday, being on holiday, or watching football/endless series on Netflix in bed.

What is the funniest thing that has happened to you recently?
I saw George Weasley (Ollie Phelps) of *Harry Potter* fame out last Saturday night. We became one night BFFs and shared black sambucas and a dance.

Alternative career choice?
I'd like to run my own bar and/or hostel in another country.

What song best describes your work ethic?
9 to 5 the remix – *9 to 5,6,7,8*. A Dolly and Steps mashup. You know it'd be a hit.

Greatest risk you have ever taken?
Using Tinder to find someone decent.

If you could go back in history, who would you like to meet?
Sylvia Plath and Alan Turing.

If there was a movie produced about your life, who would play you, and why?
This one was hard so I asked around. Apparently it'd be Emma Stone because she's funny and doesn't take herself too seriously. Obviously she'd need some major time in make up.

If you could be anyone else, who would it be?
Errrmm... Jamie Dornan's wife?

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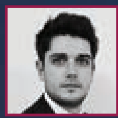
Director
+44 (0) 207 337 8826
william@hfg.co.uk



Ben Hickey
Consultant
+44 (0) 207 337 8859
ben@hfg.co.uk

David Curran
Consultant
+44 (0) 207 337 1201
david@hfg.co.uk

General insurance roles

Pricing Analyst — £45 - £65k basic, South East England

A leading UK General Insurance company are looking to grow their Commercial and Personal Lines teams. With a need for commercially savvy Pricing Analysts you will be able to be a strong communicator and interact well across the business. It's an exciting time as they continue to grow so if you want to find out more please get in touch.
For more information please contact: david@hfg.co.uk REF: DC0501

Risk and Capital Actuary — £60 - £80k basic, South Midlands

Reporting directly to the CRO, this role will be vital in the development of the Risk and Capital Framework for a dominant UK Insurance company. There will be the requirement to work with the Actuarial, Finance and Underwriting teams along with interacting and advising the current Board.
For more information please contact: david@hfg.co.uk REF:DC0502

Head of Pricing — £110 - £135k basic, London

Leading Lloyd's syndicate is looking for a Head of Pricing. The role will report to the chief actuary whilst leading a team of four and working closely day to day with the underwriters. Previous pricing experience is not essential although very beneficial.
For more information please contact: william@hfg.co.uk REF: WG0501

Actuarial Manager — £105 - £130k basic, London

A Lloyd's syndicate is looking for a qualified Actuary to work across pricing, reserving and capital whilst leading a team of three underneath them. This person will run the Actuarial team and work closely with the risk department and the underwriters on a daily basis. The role will suit someone who is looking for a new challenge and enjoys working in a fast paced environment with a strong team.
For more information please contact: william@hfg.co.uk REF: WG0502

Capital Analyst — £40 - 50k basic, London

A Lloyd's Syndicate is looking to hire a Capital Analyst. The role reports directly into the head of capital and asks as a number two. This role is a great opportunity for someone to take the next step in their career and get higher exposure and responsibility in their current role. The successful candidate will have some modelling experience in a similar role.
For more information please contact: ben@hfg.co.uk REF:BH0501

Reserving Actuary — £70 - 75k basic, London

A global insurer is hiring into their reserving team and looking to acquire a nearly/newly qualified actuary. This is a good platform for any student looking to secure a qualified actuarial salary. The successful candidate is likely to have a strong reserving background with at least 3/4years experience.
For more information please contact: ben@hfg.co.uk REF: BH0502

Consulting Analyst — £50 - £60k basic, West London

A medium sized specialist consulting firm are expanding their GI practice and hiring across the board. The actuarial function is a particular focus point due to the consistent flow of business being won. This is a great opportunity for student actuaries currently in house looking to move into a client facing role. The successful candidate can come from all GI backgrounds.
For more information please contact: ben@hfg.co.uk REF: BH0503

Actuarial Graduate — £25k basic, London

A Lloyd's Syndicate is currently recruiting for a Graduate Actuary to join their team. This is a brilliant opportunity for someone to start their actuarial career and join a study programme. Successful candidate will have a degree in Maths or related subject from a reputable university
For more information please contact: ben@hfg.co.uk REF: BH0404

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Appointments

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Abby Tempest
Life Actuarial Perm
+44 (0) 207 337 8810
abby@hfg.co.uk

George Bird
Life Actuarial Interim
+44 (0) 207 337 8806
georgeb@hfg.co.uk

Erin O'Donnell
Risk Management
+44 (0) 207 337 1202
erin@hfg.co.uk

Rupa Pithiya
Actuarial / S2 Interim
+44 (0) 207 337 1200
rupa@hfg.co.uk

Life insurance roles

Pricing Actuary

£55 - £65k basic, London

Our client is looking for a Pricing Actuary to join their Retail Pricing Team in London. The role reports into the Chief Pricing officer and ensures that the retail price is competitive, meets quotas and maximises potential.
To apply for the position you must be a nearly/newly qualified actuary with experience working in Pricing within Life Insurance.
For more information about this role please contact: abby@hfg.co.uk
REF: AT0501

Consulting Actuary

£70 - £120k basic, London / Edinburgh

A leading consulting firm are looking to grow their finance transformation and solvency II teams with the addition of managers and senior managers. They are looking for a consulting Actuary who is a good communicator, technically strong and who enjoys project based work. Candidates with Capital Management and M&A experience are particularly desirable.
For more information please contact: erin@hfg.co.uk REF: EO0501

Economic Capital Actuary

£50 - £70k basic, London

An opportunity for a technically strong Actuary with previous experience in asset Liability modelling has become available. You will be joining the Capital Management department of a London based Life Insurer. The ideal candidate will be nearly/newly qualified, have obtained the CERA qualification and have previous experience in capital.
For more information please contact: erin@hfg.co.uk REF: EO0502

Actuarial Systems Developer

£450 - £650 / day, 6 months London

A leading life insurer based in the heart of the city are looking for an Actuarial Systems Developer to join their team. The ideal candidate will have extensive exposure across actuarial systems and software. In addition, knowledge of the Solvency II directive and the reporting process under framework will be of benefit.
For more information please contact: georgeb@hfg.co.uk REF: GBI0501

Actuarial Advisor

£550 - £650 / day, 6 months Northern England

A market-leading composite insurer is looking for a part-qualified actuary to join their life insurance team. The ideal candidate will have economic capital exposure, knowledge of the end-to-end reporting lifecycle and exposure of the Solvency II directive. Good progression through the actuarial exams will also be of benefit.
For more information please contact: georgeb@hfg.co.uk REF: GBI0502

Senior Actuarial Technician

£450 - £650 / day, 6 months, West Midlands

A FTSE 250 life insurer is looking for a Senior Actuarial Technician to join their life actuarial department. The role will involve working across the various reporting models of the business, and ensuring the reporting process is compliant with the Solvency II regulatory framework in the run up to the deadline.
For more information please contact: georgeb@hfg.co.uk REF: GBI0503

Pricing Contractors

£800 - £1000 / day, 6 months London

A highly renowned insurer is looking for a pricing contractor for maternity cover. Working closely with the underwriters, you will be involved with working across all classes offering underwriting support as well as developing and enhancing existing rating models. To be considered, you must have a commercial lines pricing experience.
For more information please contact: rupa@hfg.co.uk REF: RP482

Capital Contractors

£700 - £900 / day, 6 months, London

This established insurer is looking for a contractor for an initial 6 month period (subject to extension) to work within their Actuarial team. You will be involved across the business predominantly within capital modelling and be involved in validation and parameterisation work. You will also be exposed to other teams and be expected to assist in ad-hoc risk, reserving and pricing work.
For more information please contact: rupa@hfg.co.uk REF: RP439

Reserving Contractor

£700 - £900 / day, 6 months, London

This leading insurer is looking for a contractor for an initial 6 month period subject to extension with reserving experience. You will be required to help backfill the day to day reserving work, as well as help the quarterly GAAP/ technical provisions under Solvency II and reserve risk parameters. In order to be successful you must have relevant GI Reserving and ResQ experience.
For more information please contact: rupa@hfg.co.uk REF: RP233

Solvency II Actuaries

£750 - £1200 / day, 6 months, London

This leading Insurer is looking to recruit a Solvency II Actuary with Internal Model and regulatory interpretation experience. To be successful you must have up to date Solvency II knowledge and know how to apply it practically to the business as well as experience in reviewing and challenging the model.
For more information please contact: rupa@hfg.co.uk REF: RP949

Risk roles

Operational Risk Analyst

£35 - £45k basic, London

An opportunity for an Operational Risk Analyst to join a large protection fund in a technical and analytical role. Working with the risk manager you will manage the business's insurance programme and deliver the existing framework and risk assurance programme. You will need previous experience of working in an Operational Risk role within Insurance and be confident liaising with senior stakeholders.
For more information please contact: abby@hfg.co.uk REF: AT0502

ERM Risk Manager

£70 - £90k basic, London

An opportunity to join a global Insurer as an ERM Risk Manager. Working with the Head of Risk you will have previous ERM experience as well as exposure to Insurance risk and proven Internal model validation experience. Lloyd's experience is preferable but not essential. Candidates from both Actuarial and Non-Actuarial backgrounds will be considered.
For more information please contact: erin@hfg.co.uk REF: EO0503

Progressing my career with LV=

An interview with Patrick, Reporting Development Manager at LV=

Why did you choose LV= for your Actuarial career?

"It was, and still is, a growing company and I knew that this would open up new opportunities for me. I think of it as a 'small-big' company – it's big enough to benefit from scale and diversification, but small enough for you to really make a difference."

How has LV= helped you develop your career?

"I've had the opportunity to perform a range of roles, both through natural progression and career development. There has been a lot of professional support including a formal CPD program and external guest speakers. Through the support from LV= I have grown from a technical expert into a leader."

What are you looking forward to over the next year?

"Solvency II has been a long time coming, and yet it seems like there is still a lot to do. I look forward to seeing that through and adding value in the 'new world'."

What is your long-term career plan?

"To realise my potential, even though I keep setting the bar higher! I want to become a Senior Leader at LV= and continue to enjoy my work."

To find out more and apply please visit www.jobs.lv.com/actuarial or get in touch with Chelsea in our Resourcing team chelsea.bain@lv.com

ASSET MANAGEMENT, LDI SOLUTIONS
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- Providing support for senior specialists/advisers offering risk management solutions to DB pension schemes.
- Liaising internally with various specialist teams to provide high quality investment solutions i.e. with client directors, service associates, fund managers, quant analysts and dealers.
- Communicating directly with clients and investment consultants - communicating often fairly technical and sophisticated solutions and techniques into plain English.
- Drafting strategy proposals, providing ad-hoc and regular tailored reporting, assisting in new business pitch preparation, market data analysis and presentation.

The focus is on the management of liability interest rate and inflation risks within the LDI framework for more effective funding. Solutions regularly also extend to managing equity, credit, currency, longevity and other risks, typically implemented using a combination of physical and synthetic instruments.

Suitable candidates must have excellent communication skills, outstanding academics, and investment consultancy or asset management experience.

Contact **Parvinder Matharu**
Newton Recruitment
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e parvinder@newtonrecruitment.com
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DC INVESTMENT CONSULTANT
London
£ Excellent

A fantastic opportunity for a qualified (or part qualified) Actuary/CFA Charterholder who wishes to take the next leap in their career. In this role your responsibilities will include:

- Running and interpreting DC Investment strategy modelling.
- Identifying suitable investment structures to implement strategies, taking into account individual client's circumstances and preferences.
- Conducting investment manager research and formulating views on investment managers' capabilities.
- Assessing investment management agreements and insurance policies including negotiating terms with providers.
- Agreeing the basis of and overseeing transfers of assets between investment managers and providers.
- Maintaining up-to-date knowledge of market practice and legislation.
- Undertaking performance and risk assessment of portfolios.

Suitable candidates must have DC Pensions or Investment experience in order to be considered for this role.

Contact **Parvinder Matharu**
Newton Recruitment
t +44(0)1689 862937
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EXCLUSIVE - HEAD OF RESERVING
£ excellent package

NON-LIFE LOCATION UPON APPLICATION STAR2480

We are currently working on this exclusive opportunity for a qualified non-life actuary to join a leading insurer as Head of Reserving. Contact us now for more information regarding this fantastic role.

LONDON MARKET RESERVING ACTUARY
£ depends upon experience

NON-LIFE LONDON STAR2477

Unique opportunity for a qualified non-life actuary with London Market reserving experience and strong communication skills to take their career to the next level within a leading global reinsurer.

LONDON MARKET RESERVING AND CAPITAL
£ excellent + bonus + benefits

NON-LIFE LONDON STAR2462

Leading global reinsurer has a superb opportunity for a part-qualified or qualified non-life actuary with strong interpersonal skills to join its London Market business, with responsibility for reserving and exposure to capital modelling.

REINSURANCE PRICING AND CAPITAL
£ excellent package

NON-LIFE LONDON STAR2453

Leading reinsurer has an exciting opportunity for a high-flying part-qualified non-life actuary to get involved in pricing, capital and reserving for a number of lines of business.

CAPITAL AND RESERVING ACTUARY
up to £100k + excellent bonus + benefits

NON-LIFE LONDON STAR2523

Our client, an international insurance business, is looking to strengthen its London-based actuarial team with a high-calibre qualified non-life actuary with capital or reserving experience.

CAPITAL ACTUARY - NON-LIFE
up to £100k + bonus + benefits

NON-LIFE LONDON STAR2442

Leading London Market company seeks a qualified, non-life, capital actuary. You will be a team player with good interpersonal skills and a desire to be at the leading edge of capital modelling.

REINSURANCE PRICING ACTUARY
up to £120k + bonus + benefits

NON-LIFE LONDON STAR2358

Our client seeks a non-life reinsurance pricing actuary with specialty lines pricing experience. The successful candidate will be a creative thinker with strong communication skills who can work well independently and as part of a team.

CAPITAL MODELLING LEAD - NON-LIFE
£ highly competitive package

NON-LIFE SOUTH EAST STAR2476

Our client has an exciting opportunity for a qualified non-life actuary with capital experience to lead the development of its general insurance modelling capability.

PRICING AND RESERVING ACTUARY
up to £70k + generous benefits package

NON-LIFE LONDON STAR2522

Our client has a fantastic opportunity for a part-qualified or qualified actuary to join its non-life actuarial team. You will get involved in the quarterly reserving process, pricing analyses and the wider business planning process.

SENIOR MANAGER - CAPITAL OPTIMISATION
£ excellent + benefits

NON-LIFE LONDON STAR2460

Global financial services firm seeks a qualified non-life actuary with strong experience in capital management to work closely with M&A specialists on a wide range of strategic projects.

PRICING YOUR FUTURE
£ very attractive package

NON-LIFE LONDON STAR2501

We are working on an exciting role for a pricing actuary with experience of the London Market looking to make an ambitious step in their career. Please contact us for further information.

PRICING AND ANALYTICS
£ dependent upon experience

NON-LIFE HEALTH SOUTH COAST STAR2537

Working closely with your actuarial colleagues, in this role, you will provide insight and direction to the wider business based on the application of cutting-edge modelling and analytical techniques.

COMMERCIAL LINES PRICING
£ dependent upon experience

NON-LIFE SOUTH EAST STAR2540

We are working with a major insurer on a number of opportunities for part-qualified and qualified actuaries with existing general insurance experience as well as outstanding candidates from a life or pensions background.

NON-LIFE CAPITAL ANALYST
up to £40k + bonus + benefits

NON-LIFE LONDON STAR2534

Our client, a leading global reinsurer, seeks a part-qualified GI actuary to develop its internal model, ensuring that it continues to reflect the risk profile. Please contact us for further details.

STARVACANCIES

EXCLUSIVE - NON-LIFE PRICING
£ depends upon experience

NON-LIFE SOUTH EAST STAR2503

Our client is looking to recruit talented part-qualified and qualified actuaries with pricing experience to join its growing team. Please contact us for more information about these exclusive opportunities.

FULFIL YOUR POTENTIAL
£ highly competitive package

NON-LIFE LONDON STAR2500

Our client is offering a unique opportunity for an ambitious and forward-thinking capital modelling actuary to experience rapid career growth within an organisation that works with the best in the industry.

PRICING & RESERVING ACTUARY
up to £80k + bonus + benefits

NON-LIFE LONDON STAR2187

High calibre actuary sought to join a global leader in the non-life market. You will lead a team in the provision of technical pricing and reserving advice across the home and motor portfolio.


Antony Buxton FIA
MANAGING DIRECTOR


Louis Manson
MANAGING DIRECTOR


Joanne O'Connor
OPERATIONS DIRECTOR


Irene Paterson FFA
PARTNER


Lance Randles MBA
ASSOCIATE DIRECTOR

M +44 7766 414 560
E antony.buxton@staractuarial.com

M +44 7595 023 983
E louis.manson@staractuarial.com

M +44 7739 345 946
E joanne.oconnor@staractuarial.com

M +44 7545 424 206
E irene.paterson@staractuarial.com

M +44 7889 007 861
E lance.randles@staractuarial.com

ACTUARIAL POST RECRUITER OF THE YEAR 2012 • 2013 • 2014

HEAD OF ACTUARIAL - LIFE
£ excellent package
LIFE SOUTH EAST STAR2082

Leading insurer seeks qualified actuary with proven management capability. You will have excellent communication skills, the ability to work effectively with senior management and a strong team orientation.

EXCLUSIVE - CHIEF ACTUARY
£ excellent package
LIFE LOCATION UPON APPLICATION STAR2491

Leading global life insurer seeks qualified actuary with strong influencing skills and an entrepreneurial approach to take up the position of Chief Actuary responsible for reporting, pricing and capital.

EXCLUSIVE CONTRACTS
up to £1,000 per day
LIFE LONDON STAR2524

We are currently working on multiple 3-6 month contract roles with a leading client. Opportunities exist for part-qualified and qualified actuaries with reporting or modelling experience. Please contact us now for more information.

CAPITAL ACTUARY - LIFE
£ excellent + bonus + benefits
LIFE LONDON STAR2359

Major life company seeks a qualified actuary with strong technical skills to join its capital team. You will develop and maintain tools to assess, monitor and manage the capital position of the group.

LIFE ACTUARY - PRICING ANALYTICS
£ excellent + bonus + benefits
LIFE LONDON STAR2521

Seeking a part-qualified or qualified life actuary to make an impact within our client's pricing analytics team, providing insight into the market that will help to shape pricing decisions.

CAPITAL PLANNING ACTUARY - LIFE
£ excellent package, depending on experience
LIFE EDINBURGH STAR2479

Seeking a qualified life actuary to influence the development and implementation of the capital and investment initiatives that most efficiently utilise capital within the Group.

REPORTING ACTUARY - LIFE
£ excellent + bonus + benefits
LIFE LONDON STAR2520

Major life insurance company seeks a qualified life actuary to provide support in the delivery of reporting requirements and risk capital metrics, including relevant aspects of business planning and actuarial management information.

PRICING & PRODUCT DEVELOPMENT
£ competitive + bonus + benefits
LIFE LONDON STAR2401

An exciting role for a qualified life actuary with pricing and product development experience. You will have an analytical and strategic approach, together with strong management skills.

REPORTING ACTUARY - LIFE
£ excellent + bonus + benefits
LIFE SOUTH COAST STAR2424

Market-leading insurer seeks a qualified life actuary with reporting experience and a strong customer focus to take the lead in specifying, developing and implementing large scale process change.

PRICING ANALYST - LIFE
£ excellent + bonus + benefits
LIFE HEALTH LONDON STAR2519

Leading global insurer is seeking a part-qualified actuary with knowledge of the UK life and health market to support the development of new and existing protection products.

LIFETIME VALUE
£ dependent on experience
LIFE MIDLANDS STAR2527

A leading life business is working closely with Star Actuarial to grow its team. A wide range of opportunities for part-qualified and qualified actuaries to develop their skills in modelling, capital, systems, pricing, risk, and more.

MODELLING ANALYST - LIFE
£ excellent + bonus + benefits
LIFE LONDON STAR2505

International reinsurer seeks a talented part-qualified actuary to support a number of diverse workstreams within its modelling team. Please contact us for more details.

ALM ACTUARIES
£ excellent package
INVESTMENT LONDON STAR2541

Leading Asset Manager seeks part-qualified and qualified investment actuaries with strong ALM and communication skills to provide strategic advice to a wide range of clients. Please contact us for more information.

INVESTMENT PROPOSITION DEVELOPMENT
£ competitive + bonus + benefits
LIFE INVESTMENT SOUTH WEST STAR2451

Our client seeks candidates with a background in investment consultancy or asset management to support the future development of its investment proposition through investment research, strategy and analysis.

INVESTMENT IN INSURANCE
£ depends on experience + bonus + benefits
LIFE INVESTMENT LONDON STAR2367

A superb career opportunity for a professional with investment experience gained in an insurance context. Together with a leading team, you will build propositions, develop the business pipeline, and deliver on projects.

www.staractuarial.com

PENSIONS DIRECTOR
£ to attract the best
PENSIONS LOCATION UPON APPLICATION STAR2474

Leading firm seeks qualified actuary with proven business development experience to take up a leadership role within its pensions practice. Please contact us to take your pensions career to the next level.

ANNUITY PRICING
£ excellent + bonus + benefits
LIFE PENSIONS LONDON STAR2432

Leading financial services group has an exciting role for a part-qualified or qualified actuary to work as part of a new team in the development of its in-house pricing capability.

PARTNER LEVEL INVESTMENT
£ to attract the best
INVESTMENT LOCATION UPON APPLICATION STAR2429

Leading client seeks investment expert to take up leadership role within its growing practice. Please contact us for further information on this career-defining opportunity.


Peter Baker
ASSOCIATE DIRECTOR
M +44 7860 602 586
E peter.baker@staractuarial.com


Paul Cook
ASSOCIATE DIRECTOR
M +44 7740 285 139
E paul.cook@staractuarial.com


Jo Frankham
ASSOCIATE DIRECTOR
M +44 7950 419 115
E jo.frankham@staractuarial.com


Clare Roberts
SENIOR CONSULTANT
M +44 7714 490 922
E clare.roberts@staractuarial.com


Jan Sparks FIA
SENIOR CONSULTANT
M +44 7477 757 151
E jan.sparks@staractuarial.com

Oliver James Associates

GENERAL INSURANCE - UK

Reinsurance Pricing & Capital Actuary
London
Rachel Kelly
£150,000 + Bonus + Benefits

This newly created role for a senior actuary involves working on a wide range of strategic projects including capital optimisation, reinsurance pricing and Solvency II implementation. Strong communication skills and a commercial mind set are required.

Senior Reserving Actuary
London
Rachel Kelly
£130,000 + Bonus + Benefits

My client is looking for a technically minded actuary with significant post qualification experience to lead a range of reserving related projects. A strong understanding of Solvency II and experience of process automation are required for this high profile role.

Risk Capital Actuary
London
Sarah Robins
£70,000 + Bonus + Benefits

Leading multinational insurer is seeking a qualified or part qualified actuary to join their risk capital team. You will work with a number of key stakeholders and will have day-to-day interaction with senior managers within the organisation. You must have strong academics and be proficient in Excel.

London Market Pricing
London
Paul Francis
£140,000 + Bonus + Benefits

I am looking for qualified actuaries with previous commercial pricing experience to join a well-known Lloyd's Syndicate. You will work on end-to-end pricing for a diverse range of business classes. A key focus is pricing innovation and new software implementation.

Capital Modelling Consultants
London
Robert Gormley
£60,000 - £120,000 + Benefits

My client, a large consultancy, seeks various levels of capital consultants to work across multiple teams: consulting, corporate finance, tax and audit. A qualified or NNQ actuary with great communication skills is preferred. Broad role genuinely different to other practice firms.

Senior Actuarial Analyst
London
Ross Anderson
£60,000 + Bonus + Benefits

My client is looking to add a student actuary to their growing team in a mixed capital & reserving position. The vacancy reports directly to the chief actuary and offers unrivalled exposure in terms of the classes of business written and interaction with senior stakeholders.

CONTRACTS - GENERAL INSURANCE - UK

Capital Actuaries
UK Wide
Elise Ogden
£800 - £1,000/day

I have a number of clients who are seeking capital actuaries to assist with Solvency II related work. If you are interested in making a move in to contracting please contact me to discuss the opportunities on offer. Locations throughout the UK.

Systems Actuary
Greater London
Elise Ogden
£600 - £900/day

We are seeking an actuary with a strong background in coding/ systems development to build reserving models. You must have a very good grounding in reserving and recent coding experience. The client is prepared to wait three months for a start date.

LIFE INSURANCE - UK

Head of Risk
London (City)
Clare Nash
£160,000 + Package

My client seeks to appoint a qualified actuary to play a key role in growing their expanding risk function. You will be qualified with substantial post qualified experience. An attractive role for an individual with reporting / capital who wants to move into risk management. Further details upon request.

Head of ERM
Greater London
Richard Howard
£75,000 - £95,000 + Bonus + Benefits

My client is looking to recruit a talented Head of ERM. The role will be responsible for maintaining the ERM framework for the business and include oversight for a team of three. They are looking for a qualified actuary with significant experience in risk management.

Quotations Analyst
London - Edinburgh
Natalie Lightfoot
Up to £65,000 + Package

My client, a FTSE 100 business, are looking to grow their bulk purchase annuity team. You will have experience in individual annuities and/or bulk pricing at an insurer and detailed knowledge of DB schemes. This role is open to part qualified or NNQ students.

Chief Actuary
London
Natalie Lightfoot
Up to £160,000 + Package

Excellent opportunity to manage the entire actuarial function as a member of the executive leadership team. You will be pivotal in the development and growth of the actuarial department. This role requires strategic thinking and senior stakeholder engagement.

Actuarial Consultant
Edinburgh
Hugo Chambers
£80,000 + Car + Benefits

Excellent opportunity to join a prestigious consultancy based in Edinburgh. My client is seeking a qualified actuary with extensive consultancy experience within the life sector, with a focus on stochastic modelling techniques. Exceptional interpersonal skills are required.

Newly Qualified Pensions Actuary
Bristol
Hugo Chambers
£60,000 + Excellent Package

Unique opportunity for a newly qualified actuary based in Bristol. My client is a leading pensions, life and investments consultancy representing a large range of top-tier clients. As part of the Bristol office, you will gain exposure to a broad range of tasks with unrivalled autonomy within a comparatively small team.

CONTRACTS - LIFE INSURANCE - UK

Solvency II Actuaries
UK
Benjamin Moses
£800 - £1,000/day

Several of my clients are currently looking to bolster their Solvency II teams in order to meet the workload demands in 2015 & 2016. Qualified actuaries with extensive capital, risk and regulation knowledge should get in touch.

EV Project Actuary
London
Benjamin Moses
£800 - £9,00/day

I am currently working with one of the world's leading life insurers to help them establish a project team to implement EV into their business reporting structures. This is an exciting global project and one which requires part qualified actuaries with a variety of skills. Please contact me for me details on the project.

Oliver James Associates

ASIA

AVP, Product Optimization - Asia — Hong Kong
Hamza Mush — Up to HKD2 million

You will join this company's new senior regional team to drive product optimisation across 11 key Asian markets advising the business on bespoke capital-light and high margin product initiatives. Reporting directly into the Asia CMO you must possess high energy, a creative mindset and strong influencing skills.

Director - ALM — Hong Kong
Philip Chau — Up to HKD1.5 million

You will play a key role in supporting senior management on ALM and capital management strategy. Given that this is a critical role in the team, you will have the exposure to the senior management team in both local and group office across different functions such as actuarial, financial, investment and risk.

Regional FRM Lead – Asia — Hong Kong
Rhoda Rivera — Up to HKD1.2 million

Our regional client is seeking a commercial actuary with assets and liabilities risk management experience to join a dynamic and evolving life insurance business in Asia. You must have at least eight years' experience with a strong FRM background, excellent communication and key stakeholder management skills.

Senior Business Actuary – Asia Pacific — Singapore
Rhoda Rivera — Up to SGD 500,000

Highly reputable insurance business seeks a qualified senior actuary to join their regional senior management team. You will have 20+ years' life insurance industry exposure with commercial experience in product strategy, capital management and business propositions.

Catastrophe Analyst — Singapore
Wynlim Wong — Up to SGD 130,000

Top global insurer is seeking out an ambitious catastrophe modeller to pioneer their Asian team extension in Singapore; working on a spectrum of projects across APAC. Great communicator and independent worker needed. Direct insurance experience is mandatory.

Manager – Risk Management — Malaysia
Wynlim Wong — Up to MYR 96,000

A leading general insurer in Malaysia is seeking a well-rounded PQ actuary to assist the CRO in the development and management of the risk management frameworks. Reserving experience is needed. Capital modelling and risk management experience is beneficial.

EUROPE

Pricing Manager - Non-Life Insurance — Dublin
Jack Lynch — €80,000 - €130,000

Oliver James Associates are currently representing four global non-life insurance organisations, seeking to appoint actuarial pricing managers for their Dublin offices. Each of our clients offer strong career progression, salary and benefits packages.

Senior Product Actuary – Strategy - Life — Paris
Emérique Opou — €100,000 + Bonus

I am currently recruiting for an international life insurance company. You will be in charge of designing the product strategy and help implement it across all the entities of the group at an international level. A high level of commercial acumen is required.

Part to Nearly Qualified Actuaries — Dublin
Patrick McMahon — €40,000 - €75,000

If you have recently completed some exams and are now keen to look at a new challenge, please get in touch. We are working on a number of exciting opportunities at this level for part and nearly qualified actuaries across life and general insurance.

Prophet Modeller — Southern Germany
Natalie Bogner — €Competitive

A leading mutual insurance company in Germany is looking for a Prophet Modeller with strong Solvency II knowledge. The minimum requirement is two years' work experience in life insurance and fluency in German.

Actuarial & Risk Consulting — Zurich
Audrey Dadon — €Attractive

Our client is a thriving consultancy in Zurich and this is your opportunity to join them and share in their growth. We are looking for non-life actuaries with a broad skill set in reserving, pricing, Solvency II and risk management.

Senior Reinsurance Pricing — Zurich
Audrey Dadon — €Negotiable

Dynamic and thriving reinsurer looking to strengthen pricing team with experienced reinsurance actuaries. You will take on peer reviews, drive projects and coach junior actuaries in addition to pricing a broad range of European treaties.

General Insurance – UK

Paul Francis	0207 649 9469
Sarah Robins	0207 310 8552
Rachel Kelly	0207 310 8579
Ross Anderson	0207 649 9357
Robert Gormley	0207 310 8546

Contracts - G.I. - UK

Elise Ogden	0207 649 9355

Life Insurance - UK

Clare Nash	0207 649 9350
Richard Howard	0207 649 9356
Natalie Lightfoot	0207 310 8547
Hugo Chambers	0207 310 8642

Contracts - Life Insurance - UK/Europe

Benjamin Moses	0207 310 8793
Ani Pannell	0207 310 8572
Dermott Bradley	+353 144 75159

Asia

Gary Rushton	+852 5804 9223
Toby Weston	+852 5804 9042
Philip Chau	+852 5804 9287
Hamza Mush	+852 5804 9048
Rhoda Rivera	+852 5804 9225
Wynlim Wong	+852 5804 9090

France

Emérique Opou	+33 1 76 77 46 30
Agathe Ibazizen	+33 1 76 77 46 31
Audrey Arrighi	+33 1 76 77 46 02

Ireland

Patrick McMahon	+353 1 437 0625
Jack Lynch	+353 1 695 0001

Benelux

Niels van Nieuwkerk	+31 20 29 000 33
Frederik Mees ten Oever	+31 20 29 000 30

Germany

Emina Biscevic	+49 89 3803 8965
Natalie Bogner	+49 89 2109 3935

Italy

Alessio Montaruli	+39 02 3600 6810

Switzerland

Audrey Dadon	+41 43 508 0444

Please contact one of the team for further information on any of the opportunities above or visit www.ojassociates.com/jobs

General Contact Details:

E actuary@ojassociates.com
W www.ojassociates.com
@OJAssociates
oliver-james-associates