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The Actuary

www.the-actuary.org.uk
THE MAGAZINE FOR THE ACTUARIAL PROFESSION
April 2010

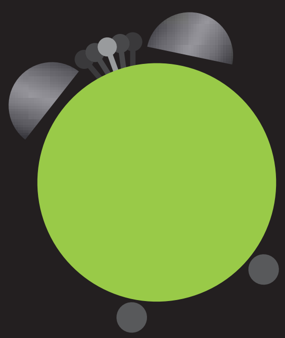
Joined-up thinking

Integrated funding and investment for pensions

Plus:

Longevity swaps Q&A

Solvency II economic capital



The Actuary

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Editorial

April 2010

Moving forward

It was back to the drawing board for the Joint Councils and, in February, they proposed a new merger package that includes a perhaps less contentious proposal for the name of the combined bodies, The Institute and Faculty of Actuaries. For some, losing the amusing MA FIA combination was a key concern and so the new proposal, which keeps the existing acronyms, should cause less upheaval.

Eligible members of both the Faculty and the Institute are invited to vote on the proposed merger on 25 May. Non-UK based members, though geographically distanced from the hub of the debate, are a significant proportion of those eligible to vote and your feedback is welcomed. As 'shareholders' in this profession we have a vested interest in this process and we are being presented with an opportunity to influence its direction. I hope that last year's experience has made us more willing to act and to endeavour to put the matter to rest at last.

Of particular note this time round, the Profession is inviting parties of 10 or more members to create an identified group to present their views on the merger to the membership and, as I understand it, the groups will be allocated a dedicated space on the Profession's website. Have your say — further information is available at *www.actuaries.org.uk/?a=167005*.

Continuing the spirit of providing a forum for readers and members to speak their minds, we are introducing a new page in the magazine where you will have the opportunity to get to know and to challenge members of Joint Councils. If you have a question you have always wanted to pose about the machinery of the Profession, please write in to *editor@the-actuary.org.uk*. President-elect Jane Curtis will be first on the podium in a forthcoming edition.

In the meantime, the wider actuarial world continues to turn and this issue contains articles on investment strategy, longevity and research.

Marjorie Ngwenya
Editor
editor@the-actuary.org.uk

ELECTION COVERAGE

The editorial team is keen to receive views and contributions related to the forthcoming UK general election. Contact *editor@the-actuary.org.uk* by 9 April.

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Writer of the month

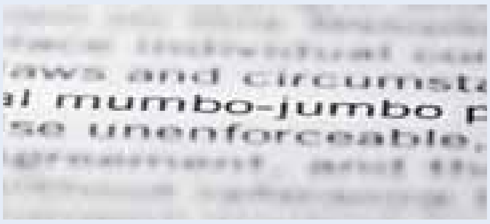
Stephen Bale is the editorial team's choice for April for his article on the protection gap, and receives a £50 book token courtesy of SIAS

Letters to the editor

In which actuaries discuss mumbo-jumbo, mergers and more

Letter of the month

Actuarial mumbo-jumbo



Further to your recent editorials on actuarial communication, I would like to share an experience of mine. I sat in on a training session recently and was dumbfounded by the introductory words of the speaker: "I am not here to tell you about actuarial mumbo-jumbo... actuaries are very intelligent people, but they have no common sense!"

Later, I realised there may be some bitter truth in this. Without doubt, life itself is so complicated and there are no easy hard and fast rules in tackling the many problems we come across as actuaries. However, as scary as the methods are, the manner of communicating the results to the non-actuarial audience is what creates the perception that it's all "actuarial mumbo-jumbo". In my practice, the skill that has required the greatest effort from me and which has received the most criticism from my boss has been my communication skills, and not the technical skills, which I thought were more important. Gradually, my perception is changing and every day I realise it's no use solving problems with the most grandiose and elaborate models if the results cannot be communicated to management and other colleagues.

Miller Kingsley
16 February 2010

The writer of the letter of the month receives a £25 Amazon voucher

Merger view: A simpler plan

It is sad that Councils are repeating last year's merger mistake, proposing too much at once. The only changes are the name, and bits of the draft governance document. Institute Council claims that unification requires a new Charter. Faculty Council claims that unification requires the Faculty to be wound up. Neither claim is true.

A much simpler unification plan is for the Institute, by a special bye-law or otherwise, to take in all Faculty members in their corresponding grades and arrange for some Scots to be on Council. And then for Faculty Council to relinquish its professional body activities to the Institute, but keep the Faculty in existence as a Scottish actuarial society, which would run sessional meetings, and might do more. Subscriptions would need to be adjusted appropriately.

Faculty members that did not like being in the Institute could resign, and should be allowed to stay in the Faculty; they might not be able to get practising certificates, but could still practise as actuaries (as any of us could without being in either body). Faculty members that were content to be only in the Institute could resign from the Faculty.

This is simple, and would need a two-thirds majority in an Institute vote and no formal vote in the Faculty, but to get members' agreement in principle would be very advisable. It would not be a takeover of the Faculty, but a return home for the successors of those who left the Institute in 1856. The Institute could change its bye-laws and the Faculty its Rules at leisure. Neither Charter requires any change. Members should be given the opportunity to say whether they prefer this simpler plan.

To read more and to comment on this plan, go to *http://adwsplan.wordpress.com/*

David Wilkie
9 February 2010

Merger view: Response to D. Wilkie

As David Wilkie has published his letter to you on his internet blog, I have the advantage of being able to disagree with him in the same edition of *The Actuary*, rather than awaiting its publication and disagreeing in the following edition.

I note David's careful use of the word 'unification' and not 'merger'. I also note that his plan calls for members to be given the opportunity to say whether they prefer his plan. I cannot see the fundamental difference between what he proposes and the 'learned body' option outlined to Faculty members and students in the survey carried out in 2008. That option was based on the only other viable suggestion put to Faculty Council at the time and came from David. Of those who responded to that survey (49% of the membership), only 3.7% favoured that option. Therefore, I would suggest that the Faculty membership has indicated it is not at all interested in such an option.

I note that David was one of the 10 Faculty members who requisitioned an SGM in spring 2008. The last resolution that was passed was, in essence, that Faculty Council should ascertain the settled will of the membership and take that option forward in negotiations with the Institute. As a member of Faculty Council, I have always kept this resolution at the back of my mind when deciding on such matters. As approximately two thirds of those Faculty members who respond tell the Faculty Council that they wish for a merger, how can I be doing other than my duty in pursuing such a course of action? David seems to want Faculty Council to break the democratically arrived-at resolve of the members in a resolution to which he was a party in drafting.

More worryingly, I note that David proposes that the Faculty relinquishes its professional body activities to the Institute, yet presumes that practising certificate holders only would have to transfer. David claims that other actuaries wishing to practise need not join the Institute. Under this scenario I do not understand how the Faculty could claim to be a professional body, yet abrogate its duty to regulate its membership in the way that all professional bodies are obliged, in the public interest, to do. The Faculty, under David's proposal, would have a duty to carry out regulatory activities of its membership, particularly those who have not transferred to the Institute but choose to practise. I doubt whether the Professional Oversight Board of the Financial Reporting Council would allow a reduced Faculty to abdicate its regulatory responsibilities in so cavalier a fashion as David proposes.

It is an unfortunate fact of modern professional life that there is a fixed-cost element to professional bodies regulating their members. It is essential to establish and monitor a system of regulation. David's plan appears to ignore this and assumes that a continuing Faculty would merely organise sessional meetings and other 'learned body' activities. It is either a learned society or a true professional body regulating its members. I would contend that all practising members would need to join the Institute to retain credibility as professionals subject to the regulation of a professional body.

What Faculty and Institute Councils are both recommending is a true merger that combines all members in a body with the heritage of both the Institute and the Faculty behind it. Pursuit of research and learning in Scotland is specifically provided for — financially and logistically — in the Scottish Board and its responsibilities. Faculty members, and the history of the Faculty itself, are better served by the merger than the alternative of a takeover of practising Faculty members and the Faculty's relegation to a local rump body in Scotland.

Alan Watson
16 March 2010

An uncertain future

Back in December 2008 I wrote to the Institute President to express my concerns about the direction in which the Profession was heading. He was not in a position to reassure me, though he was kind enough to try. However, in the wake of subsequent events, those concerns have not diminished.

Sir Isaac Newton once famously wrote: "If I have seen further, it is by standing on the shoulders of giants". By contrast, it would seem that few of the giants of our own profession stand tall enough for it to rise and view the landscape beyond the large hole in which, alongside the industry it serves, it now finds itself.

Who outside that hole really believes that our Profession is "passionate about identifying matters of public concern where our input and involvement can be of benefit to society", or that it "shapes the way the world operates"? What evidence do we offer them in support of either view?

It is time, perhaps, the Profession cut its backslapping rhetoric and focused on the widening gulf between its own vision and self-image and other peoples' reality. The fact is we are entering a period of great change, and it is one for which the Profession's present strategy and approach poorly equip it.

I've been sufficiently concerned by this state of affairs to have spent most of the last nine months writing a paper about it, *On the Role of the Actuary in a Changing World*. The Profession declined to publish it as a sessional meeting paper or in the BAJ/AAS. In the public interest, I would urge you to read what I have to say and form your own view. It is available through all main book retailers, and through my website *www.acturage.com*

I had hoped that the aftermath of the financial crisis might provide the Profession with the kind of stark reality check it evidently needs, but it soon became apparent that it had not. My paper is plan B. I hope that its subject matter might be more of interest to you than it has thus far been to the Profession. For without a marked change in attitude and direction, I fear the next crisis our profession fails to foresee may not be long in coming, and it might just damage our credibility beyond repair.

John Gordon
26 February 2009

Your letters

The editorial team welcomes readers' letters but reserves the right to edit them for publication. Please e-mail *actuaryletters@incisivemedia.com*

The deadline for receiving letters for the May issue is 14 April.

Demographically correct

There seems to be a very widespread misunderstanding about the actualities of the post-war baby boom, which has even crept into *The Actuary* through summarising David Willetts' new book. The common description of the boom as occurring in 1945-1965 is quite misleading.

The main part of the boom in births actually occurred from the late 1950s to the early 1970s. After the war, there was a brief period of catch-up, no doubt reflecting deferred births, but this soon fizzled out and the birth rate did not then rise significantly until well into the 1950s. This pattern may well have reflected the poor economic conditions of the period of post-war austerity, and the decline from the boom period, which occurred in the 1970s, may well also have been influenced by poor economic conditions, as well as by sociological changes.

The bottom line, however, is that the retirement of the main baby boom cohort will not get going seriously until the 2020s, and may extend as far ahead as 2040. While this is certainly not a negligible issue, there may be rather more time to address possible solutions and mitigations than most appreciate. Arguably, it might be constructive, if the existence of a problem is identified well in advance, even if through failure to examine the actual statistics. However, I am inclined to think that, since demography still presumably falls within the ambit of the actuarial profession's expertise, we may have an overriding interest in getting such things correct.

John Bishop
25 February 2010

Faculty president Ronnie Bowie reports back from the International Congress of Actuaries 2010 in Cape Town

Actuaries united in South Africa

The recent International Congress of Actuaries (ICA) was a showcase for all that is good in our profession. Irrespective of country, language, discipline or age, actuaries came together to learn and draw strength from one another. All enjoyed a camaraderie that was much enhanced by the excellent hospitality of our South African hosts. This is a momentous year for our colleagues in South Africa — and not just because of the ICA and the FIFA World Cup! This year will see the first successful students who have taken the South African Actuarial Qualification, a further sign of the growing maturing and independence of the actuarial profession in that country. We wish them every success.

The Congress offers an opportunity to learn of the progress made and challenges faced by other actuarial societies around the world. The large associations typically share our three goals of member support, public confidence and marketing our skills. The Congress also offered us all an opportunity to benchmark our progress in achieving these goals.

The Profession's constantly evolving education and examination system remains much admired for its breadth, depth and quality. We will be working towards being the second body (after the Society of Actuaries) to be granted the power to award the global Chartered Enterprise Risk Analysis (CERA) qualification within the next few months.

Like our overseas colleagues, we are increasingly using different media to reach our members: webinars, Facebook and targeted emails, as well as our well-established channels: conferences, seminars, *The Actuary* and so on. Our new website will offer our members new levels of accessibility to our material. Engagement with our members remains very strong despite the huge increase in membership numbers.

> **» The Congress offers an opportunity to learn of the progress made and challenges faced by other actuarial societies «**

There is much interest in our work with the Financial Reporting Council (FRC) in respect of standard setting and oversight. I am proud of the progress the Profession has made in the last two years in building a strong, mutually respectful relationship with the FRC. The importance of the 'public interest' and professional ethics has never been greater. It is encouraging that the Profession is widely seen to be very much on the front foot in these matters.

The 'actuarial brand' remains very strong in our core areas across the world, but we have much to do to expand its reach and to demonstrate that we have breadth as well as depth.

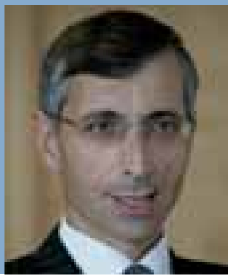
There are several strands to the work needed to achieve this expansion. First, we need to have an authoritative voice on these matters where we wish to be regarded as an expert. Our revitalised research effort will shortly begin to produce the sort of thought leadership pieces that will allow us to do this. Second, we have begun a project that, if the findings of the initial pilot are approved by the Joint Councils, will see the Profession investing heavily in making the actuarial skill-set and qualifications known to a much wider set of stakeholders in the risk management area. Where necessary, this may also involve creating some re-skilling opportunities so that we can provide the supply to meet the demand for actuaries that we hope to create.

This will be my last column as president of the Faculty of Actuaries. Notwithstanding the profile that the merger discussions have had, the vast majority of my time as president has been spent working on the initiatives described above or in meeting as many members of our great profession as possible. It has been a pleasure and privilege to have had this opportunity and I am grateful to all the Profession's members and staff for the support you have shown me.

EVENT INFORMATION

Marian Elliott provides her reflections on the ICA 2010 online at *www.the-actuary.org.uk/873829*

Allan Conway assesses the rise of developing countries in the wake of the global recession



Emerging markets: a safe haven

Following the worst economic crisis since the 1930s, emerging economies have generally come through it in stronger, rather than weaker shape, provoking a reappraisal by investors of their attitude towards emerging markets. Historically perceived as a higher-risk asset class, which was not without merit especially following currency and debt crises in the 1990s, institutions viewed allocation to the developing world as short-term and tactical, rather than strategic.

However, this picture has changed dramatically over the past 10 years, driven by strong economic fundamentals, a decoupling emerging world that is less reliant on its developed peers and the rise of super powers such as China and India. Moreover, in sharp contrast to the developed world facing a secular debt legacy following the credit crisis, I believe emerging markets today should be viewed in terms of a safe haven.

This view is primarily based on developing markets being increasingly less dependent on the developed economies for their growth — the so-called 'decoupling argument'. Historically, emerging markets would have suffered far more from a global recession, as they were largely dependent on exports. However, over the last 10 years emerging economies have strengthened and have moved up to growing 3-5% faster than the developed economies every single year — this improvement is also highly correlated with strong performance from emerging equity markets over this period. As a result, emerging markets' share of global GDP growth has been increasing over time and will account for 70-75% of global growth every year for the foreseeable future. This represents a major structural change and has been caused by the arrival of over 2.5 billion people in China and India starting to acquire wealth and disposable income. In a break from the past, domestic demand growth rather then export-led growth now drives emerging economies. China represents the first country in history to emerge to become a major world player with domestic demand as the primary driver. Previously, this type of development would be export-driven, for example, the UK, US and Japan. This is occurring as China's huge population is increasingly acquiring disposable income and therefore increasing consumption and domestic demand growth (retail sales growth in China is much stronger than in the US). Looking at emerging markets more broadly, more cars are sold in the top 16 emerging countries than in the US, Japan and developed Europe combined.

» In contrast to the developed world facing a secular debt legacy following the credit crisis, emerging markets today should be viewed in terms of a safe haven «

Trade between emerging economies is also increasingly important. China now accounts for a larger share of exports from emerging markets than the US, and China also exports more to emerging countries than it does to the whole of the G7. Overall, growth momentum in the emerging world is far less reliant on the developed world than in the past.

As a result of these trends, economic fundamentals in the emerging world are far stronger than for developed markets and this has only been reinforced by the recent global crisis. The recession from which we are recovering was caused by a credit crisis with inappropriate lending and borrowing and over-leverage which is very much a developed world problem. Household and mortgage debt to GDP is high in the developed world and generally low in emerging markets. In the banking sector, loan-to-deposit ratios in emerging markets are generally less than 100%. By and large, the emerging world is characterised by high saving ratios, low levels of debt and prudent lending policies. It is therefore not surprising that very few banks in emerging countries got into trouble and emerging markets generally do not have a recuperation period to go through in the wake of the credit crunch, unlike the developed world.

Government debt levels are also illustrative with government debt to GDP forecast to rise to 120% by 2014 (from around 80% in 2007) in the developed world. The resulting higher taxes and spending cuts will depress growth. By contrast, emerging countries did not have to increase their debt levels, as generally they did not have the same problems as the developed economies. On several other measures, such as current account and fiscal balances, the fundamentals are also stronger in emerging markets. In contrast, the fundamentals in the developed economies now resemble those of the weak, crisis-ridden emerging economies of the past.

As a result of these structural changes, supported by robust economic fundamentals, emerging markets today represent a safe haven, especially when considered alongside the debt-laden developed world. This is being reflected by institutions now regarding emerging markets in terms of a strategic, not a tactical, asset allocation.

Allan Conway is head of Emerging Markets Equities at Schroders, based in London

Merger vote set for 25 May 2010

On 24 February, the Joint Councils of the Faculty and the Institute formally agreed to put a vote on a merger between the Faculty and the Institute to eligible members. The Councils agreed the detail of the merger package and the timeframe for the vote.

Separate Special General Meetings of the Faculty of Actuaries in Scotland and the Institute of Actuaries will be held at 17.00 BST on Tuesday 25 May to vote on separate Resolutions to form the Institute and Faculty of Actuaries.

Members can view the case for a merger and the joint proposal to form the Institute and Faculty of Actuaries, which can be read at *www.actuarialmerger.com/our-way-forward*. These papers outline the details of the merger package, including the legal structure and governance, the proposed first Council, subscriptions and fees.

As part of our commitment to ensuring all members have access to any relevant merger-related communications, and that any merger-related communications are delivered in an appropriate, balanced and timely manner, groups of 10 or more members have been invited to create an identified group to present their views of the merger to the membership. These views can be found at *www.actuarialmerger.com/groups*

If you want to contribute to the online discussion on the merger, visit the forum at *www.actuarialforums.com*. You can request a reminder of your password or a copy of the activation e-mail via the forum or by sending an e-mail to *merger@actuaries.org.uk*. You can pose questions either by e-mail to the same e-mail address or on the forum. Further details about the merger are on the Profession's website.

New Profession website to improve access to information

Late April will see the relaunch of the Profession's website.

Over the last year, the Profession has been consulting with members to help deliver the website that members want. The new website will be more user-friendly, more accessible and will deliver the relevant information that members need.

Groupe Consultatif Summer School moves to Samos

The Groupe's Summer School this year is being hosted by the Hellenic Actuarial Society, and will be held on the island of Samos from 30 June–2 July. The theme is 'Enterprise risk management for actuaries'.

Full details, including registration, are available on the Summer School web page at *www.actuaries.org.gr/samos2010*. The closing date for registration is 10 May.

Practice area newsletters aim to help members stay in touch

The Profession has been working towards making its communications with members more targeted and, in the past year or so, has introduced practice area e-newsletters, which are circulated on a monthly/bi-monthly basis. These complement the monthly general e-newsletter and aim to bring you news that is relevant to your area of work.

Newsletters for all the practice areas — enterprise risk management, finance and investment, general insurance, health and care, life insurance and pensions — will be available on the Profession's website.

If you do not currently receive any of the newsletters direct by e-mail and would like to do so, please log on to the website and change your preferences to sign up to the relevant practice area community. To do this, go to Personal Information>Your Personal Profile>Person Classifications>Practice Area Communities and tick the relevant box(es). You may sign up to as many of the communities as you wish.

In addition, you can also change your preferences to sign up to one or more of the existing member interest groups. If the topic you are interested in does not currently feature and you would like to suggest a new group, please e-mail *migs@actuaries.org.uk*. Meanwhile, if you have any other ideas for member services that you think the Profession should be providing, please send an e-mail to *member_support@actuaries.org.uk*

CMI critical illness working paper adds insight on diagnosis rates

The Continuous Mortality Investigation (CMI) has published Working Paper 43: 'CMI critical illness diagnosis rates for accelerated business, 1999-2004'. This paper is available at *www.actuaries.org.uk/cmi_wp43*

CMI Working Paper 43 presents claim diagnosis rates for accelerated critical illness insurance, on a 'lives' basis, using data for claims settled in 1999 to 2004.

Four sets of rates are included in the paper: for males and females, and for non-smokers and smokers.

The derivation of these diagnosis rates builds on the CMI's previous work. This had progressed to 'adjusted' results, which properly match claims to exposure, but do so in terms of settled claims as opposed to diagnosed claims. The results in this paper are the first the CMI Critical Illness Committee has produced that relate to the date of diagnosis, when a critical illness claim is incurred.

The rates are not the only sets that could be derived from the data. Consequently, the Committee is making spreadsheets containing summarised data available to member offices, allowing practitioners to experiment with alternative approaches.

Furthermore, the Committee does not propose the adoption of these rates as a formal table. Instead, it intends to use the same methodology to produce diagnosis rates for 2003-2006 with the hope that this will lead to a formal table.

Are you up to required standards?

In 2009, the Board for Actuarial Standards (BAS) published its technical actuarial standards on Reporting Actuarial Information (TAS R) and Data (TAS D). Both standards are generic TASs and should be read in conjunction with the BAS Scope and Authority of Technical Standards. All the documents are available on the BAS website at *www.frc.org.uk/bas*.

TAS R applies to aggregate reports completed on or after 1 April 2010; TAS D applies to data used in the preparation of aggregate reports completed on or after 1 July 2010, and it is important that all actuaries are familiar with the requirements of the TASs in advance of the applicable dates. A number of other TASs are expected to be published in the coming months, and the Profession will keep members up to date with publications via its newsletters as well as in *The Actuary*. The Profession is also developing resource material to ensure members are aware of and understand the TASs and how they should be interpreted in practice. This will include a half-day seminar, which will provide an opportunity to learn about the TASs from the BAS and experienced practitioners who are familiar with the Standards. The seminar is expected to take place in early May. Details will be available on the Profession's website in due course.

If you have any issues or concerns about the applicability of TASs, e-mail *member_support@actuaries.org.uk*. Although we will not be able to respond to individual issues, this will inform the development of resource material to support members in using the TASs in practice.

Archie and the Actuaries' Code — part 2

In the second of a series of articles where Archie the actuary and his group of friends act as our worthy guides through the elements of the Actuaries' Code, exploring its relevance and importance, Archie is forced to consider what it means as an actuary to 'act with the highest standards of integrity'.

This series is written by the Professionalism Awareness Committee. The first article in the series appeared online in January (*www.the-actuary.org.uk/872861*) and part two can be found at *www.the-actuary.org.uk/873808*

Social inequalities and poor health impact on working life expectancy

At a joint meeting of the Profession and the International Longevity Centre UK on February 17 in Edinburgh, Professor Les Mayhew, of the Cass Business School, presented a paper arguing that, despite an acceptance that increasing life expectancy will mean people working longer, inequality and poor health will have a serious and detrimental effect on people's ability to work.

Professor Mayhew's report, *Increasing longevity and the economic value of healthy ageing and working longer*, identifies strong links between quality of life and health with working life expectancy. Those with the longest working life expectancy at the age of 50 have a higher standard of education, are home owners, married or co-habiting and are in reasonable health. However, poor health and caring responsibilities such as sick partners can have a negative impact on working life expectancy.

Professor Mayhew argued: "If a significant proportion of people are unable to work, it will do little to alleviate the problems we face. There may be a danger that healthy people of working age become a scarce commodity.

"We need to ensure that people stay healthy longer and it is important to investigate strategies to achieve this. Tackling societal inequality, long associated with poor health, is certainly an option, as are campaigns to improve public health. But this does not necessarily mean increased NHS spending. A complete cessation of smoking, for example, would yield a considerably higher increase in healthy life expectancy and economic benefits than a 50% increase in healthcare spending. If ill health presents a barrier to the extension of working life, it will also prevent a barrier to the economic benefits this extension would provide."

Forthcoming events

Volunteers sought for Pensions area groups

The Pensions Executive Committee is seeking new volunteers to join its groups on communications, CPD, consultations and research.

For more information, contact *martin.hewitt@actuaries.org.uk*

Current issues in pensions

31 March — This is designed to provide a topical view of developments in pensions, aimed at qualified actuaries. The seminar, to be held at the Royal College of Physicians, London, is organised by the CPD committee of the Pensions Practice Executive Committee.

For further information, visit *www.actuaries.org.uk/conf/ci_pensions*

A closer look at Solvency II

28 April — This multidisciplinary seminar at the Royal College of Physicians, London, will focus exclusively on Solvency II in the general insurance, health and care, and life practice areas. The aim of the day is to provide the latest thinking from a variety of leading practitioners and others involved in implementing the new regime, with a deliberate inclusion of a number of topics that have received less focus in the debate so far. It aims to focus on all three pillars of Solvency II, not just the pillar-one related items.

For further information, visit *www.actuaries.org.uk/conf/solvency2*

Institute sessional meetings

There will be no formal registration for these events. Tea will be served from 16.30, with meetings commencing at 17.00. Each meeting will be followed by a drinks reception. The meetings are:

Measurement and modelling of dependencies in economic capital

10 May — This event takes place at Staple Inn, London. For more information, visit *www.actuaries.org.uk/sessional/sm20100510*

Where are pension costs accounted for? What SSAP24 can tell us about accounting quality

24 May — This event takes place at the Hilton, Southampton. For more information, visit *www.actuaries.org.uk/sessional/sm20100524*

Events in brief

Current issues in general insurance (CIGI) — 10 May
For further information, visit *www.actuaries.org.uk/conf/cigi*

Current issues in life assurance (CILA) — 11 May
For further information, visit *www.actuaries.org.uk/conf/cila*

Professionalism events for experienced actuaries
For further information, visit *www.actuaries.org.uk/flyer/ProfessionalismEvents2010.pdf*

General insurance pricing seminar — 17 June
For further information, visit *www.actuaries.org.uk/conf/gi_pricing_seminar*

The Institute of Actuaries Biennial Dinner — 22 June
For further information, visit *www.actuaries.org.uk/events/biennial_dinner*

Reserving seminar — 28 June, Staple Inn, London
For further information, contact *claire.marsh@actuaries.org.uk*

Forthcoming conferences

Health and care conference 2010
12-14 May, Celtic Manor, Newport

The Health and care conference is aimed at all who work in the key areas of personal protection insurance: critical illness, income protection, private medical insurance and long-term care. The programme is designed to inform, provoke discussion and cover more than just technical actuarial work. The conference is open to all professionals who are interested in the health and care sector — not just qualified actuaries. For further information, visit *http://healthandcare.actuarialevents.com/*

Pensions conference 2010
9-11 June, Celtic Manor, Newport

The Pensions conference is one of the premier professional events for the UK's pensions actuaries. The programme includes a range of technical matters, softer skills and professionalism topics; it also covers many wider issues affecting pensions. The agenda is clearly focused on today's issues covering ideas and insights that will shape the future for pensions — all actuaries working in pensions should find plenty of food for thought. The successful hot topics session will return in 2010 and will include some of the industry's leading figures giving their take on issues of the day. For further information, visit *http://pensions.actuarialevents.com/*

Risk and investment conference 2010
13-15 June, Caledonian Hilton, Edinburgh

This conference will discuss what we have learnt from the recent events about risk management and whether we are doomed to repeat the mistakes of the past. The programme will also cover what new investment opportunities may arise from the resulting dislocated markets, and whether we can manage the accompanying new risks. For further information, visit *http://riskandinvestment.actuarialevents.com/*

UK Maths Trust Intermediate Challenge

The first round of the UK Maths Trust Intermediate Challenge took place last month, with over 254,700 entries from 3,133 institutions throughout the UK.

The Challenge is open to all school pupils in year 11 or lower in England and Wales, year 12 and lower in Northern Ireland and S4 and lower in Scotland, and is sponsored by the Profession.

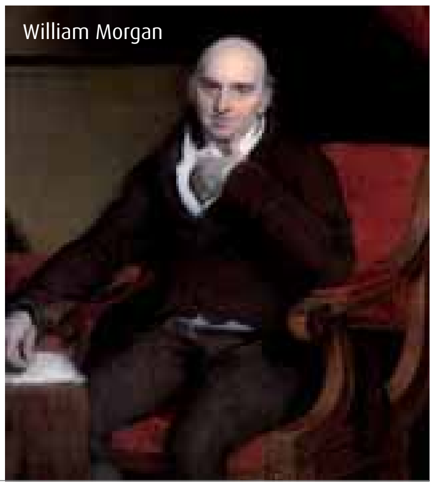
Each participant must answer 25 questions of increasing difficulty, with the questions designed to stimulate mathematical thinking beyond the school curriculum. The top 500 entrants in each of the three age groups are then invited to take part in full written examination papers.

Barbara Beebee, of the Profession, said: "A career as an actuary is rewarding, enjoyable and challenging, but it takes a high level of mathematical aptitude to make the grade. The Profession is delighted to be able to support the next generation of mathematicians and, hopefully, encourage some of them to consider an actuarial career."

Three-horse race to find William Morgan look-alike

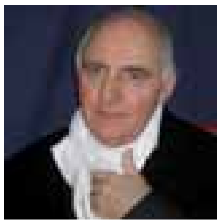
Earlier this year we asked you to send in look-alike photographs of William Morgan in the painting recently purchased by the Profession, commissioned by AC Vachell in 1900. Obviously you are all working very hard, as we only received three entries.

Two of the entries were of celebrity look-alikes — MP Vince Cable and former frontman of Culture Club-turned-DJ, Boy George — and one came in from Peter Dingwall, a member of the Profession's staff. Choosing the winner was an impossible task, and so we would like you to vote for your favourite at *www.the-actuary.org.uk* (see poll, bottom left of home page).



William Morgan

Clockwise from right: Staple Inn Hall's Peter Dingwall, George O'Dowd (Boy George) and deputy leader of the Liberal Democrats, Vince Cable



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Management Board takes action on research

Towards the end of 2009, the Management Board of the Profession agreed a range of initiatives on research activity for the coming year. A review has started to clearly define the objectives for research and to develop a long-term strategy (more on this in Ruth Loseby's feature on page 32 in this edition). The Management Board also decided that some immediate action was needed to stimulate the research environment to help reinvigorate external research and also support member-led research. The focus of these initiatives was on areas where there was a clear mandate from members so as not to prejudge the decisions on the long-term strategy. Three initiatives were agreed:

1. Targeted external research. In the member survey 2009, two areas stood out as being of importance to members: risk management and mortality/longevity/ morbidity. In 2010 there will be calls for funded proposals in these areas.

2. Boosting member-led research. Member-led research is still vigorously pursued in all practice areas through working parties, but the current economic climate has meant that the time of many volunteers is being squeezed. Some funds have been set aside to help projects that can show that some additional support (for instance, a paid researcher, enhanced administrative help) would help the project achieve its aims.

3. Thought leadership/speaking out. The 2009 survey showed that members want their Profession to speak out with authority and engage in thought leadership. This can sometimes need the commissioning of objective research and some funds have also been set aside to help in this area.

During 2010 members will hear more about the details of all these initiatives through the Profession's e-newsletters and website. The Research area is also trying to build a list of those who specifically wish to be informed when there are announcements of research projects (from both within and outside of the Profession). Please contact *ruth.loseby@actuaries.org.uk* or *maria.lyons@actuaries.org.uk* if you would like to join the list or would like to nominate someone else.

Institute awards Peter Clark Prize for Best Papers

Institute Council has announced that the following submissions have been awarded the Peter Clark Prize for Best Papers:

- *Modelling extreme market events* by R Frankland, A D Smith, T Wilkins, E Varnell, A Holtham, E Biffis, S Eshun and D Dullaway.

This paper was presented to the Institute of Actuaries on 3 November 2008 and to the Faculty of Actuaries on 19 January 2009. It was nominated by the Life Practice Executive Committee who felt that "…it met the criteria listed by the Prizes Committee. The working party had promulgated the paper at a number of regional society meetings and other practice area conferences as well as at Institute and Faculty Sessional Meetings." It was also nominated by the Yorkshire Actuarial Society, which said that it was: "A well-presented and well-received paper when given to the Society." Council endorsed these and the Prizes Committee's comments that it was topical, technically strong, robust, insightful and clear treatment of a subject whose importance will grow.

- *Disease management programmes for major depression: making the financial case* by J Buckle.

This paper was presented to the Institute of Actuaries on 1 June 2009 and was nominated by the Health and Care Practice Executive Committee, which stated: "The paper meets all the criteria listed for a prize; it was educational, with original ideas, well written and could certainly contribute to the debate on health costs. It was of interest to both actuaries and health economists."

Council endorsed these and the Prizes Committee's comments that it advances actuarial work into an area with much potential, was a well-handled model parameterised from medical literature, which is not easy to do, and produced a practical application of actuarial techniques from a relatively simple analysis. It was also noted that it was the work of one individual, whereas many of the papers of comparable quality put forward for prizes were the product of a working party with many contributing members.

In addition, the following paper was highly commended:

- *Actuarial aspects of internal models for Solvency II* by K A Morgan, D Brooks, R J Care, M B Chaplin, A M Kaufman, D N Roberts, J M E Skinner, D J K Huntington-Thresher, P J Tuley and D L Wong.

This paper was presented to the Institute of Actuaries on 23 February 2009 and was nominated by the Life Practice Executive Committee, which stated: "This was a very useful paper produced by a working party".

Faculty of Actuaries welcomes new fellows

Ronnie Bowie, president of the Faculty of Actuaries, welcomed new fellows to the Faculty at a ceremony on 22 February at Merchants' Hall, Edinburgh. The president was especially pleased to welcome new fellows who had travelled from South Africa, Dublin and the Isle of Man. With Ronnie Bowie are Ellen Bell, Ciaran Patrick Belton, Douglas Cameron Graham Burt, Simbarashe Chinyemba, Alan Chisholm, Jacob Matthew Clark, Andrew Alan Dury, John Campbell Evans, Susan Frame, Sheena Freestone, Shirley Ginsberg, Nicholas Edward Kinrade, Scott Manson, Hannah Mollart, Alison Nee, Mari-Lizette Pienaar, Catriona Robb, Alison Rutherford, Claire Shepherd, Damian Smith, Andrew Valentine, Stephen Walker, Johan Hendrik Wiid and Xiao Yu.

McKinsey prize presentation

Edd Collins received the McKinsey Prize for Communications from Robert Hails at the Institute sessional meeting on 22 February for his efforts in the September 2009 exams.

Board of Examiners' review leads to greater clarity on fail grades

Historically, examination fails have been graded FA, FB, FC and FD based on fixed marks below the pass mark (0-5%, 6-15%, 16-25% and 25%+ respectively). Where the pass mark is 55% or above, this tends to be reasonable but, as the pass mark reduces, there tends to be a bunching of fails in the FA and FB categories. In an extreme case, if the pass mark was to be very low it is likely to result in very few FD fails and, depending on the level of the examination, only a few FC fails. As a consequence, the Board of Examiners felt that the grading was not assisting candidates in the manner originally intended — namely to guide them as to how much extra work/knowledge is needed in order to reach the required standard.

The Board of Examiners and the Qualifications Executive Committee considered a number of alternatives to the current fixed mark bands. The September 2008 examination results were used to test which option gave the best information to candidates who fail and it was decided to replace the fixed mark bands with percentage ranges based on the pass mark for each examination. The impact of this was trialled on the September 2009 results and, after consideration, it has been agreed that the following grading will be used:

- FA: 95-99% of the pass mark
- FB: 80-94% of the pass mark
- FC: 60-79% of the pass mark
- FD: Less than 60% of the pass mark.

These grades will be used for all examinations except CT9 and the UK practice modules. They will appear on any examination results released after 1 July 2010.

The long arm of TPR nabs Nortel

The Pensions Regulator (TPR) is now engaged in a uniquely difficult task of seeking additional funding for the Nortel UK Pension Plan. The North American company went into a situation of creditor protection for its businesses last year which included a 'stay' on legal proceedings. It has subsequently received a claim, a Financial Support Directive (FSD) of £2.1bn from TPR seeking to support the pension scheme trustees.

In the Ontario Superior Court of Justice, Judge Geoff Morawetz has declared that the UK FSD process breaches the 'stay' and ordered that any outcome of it will be null and void in the Canadian insolvency process.

In the US Bankruptcy Court for the District of Delaware, Judge Kevin Gross has made an order against the trustees and the Pension Protection Fund (PPF) declaring that their participation in the regulator's proceedings (in respect of Nortel US entities involved in the Chapter 11 process) would breach the stay. The trustees and PPF have filed a leave to appeal.

TPR says it was surprised by the decisions of the US and Canadian courts at the end of February. "We have filed our motion for leave to appeal in Canada where the regulator is a party to the case. On the basis of the order made, we believe that The Pensions Regulator's Financial Support Direction process has been misinterpreted as a judicial process which creates a new claim."

The case may turn on special facts relating to Nortel, but will be closely watched by UK pension funds and their advisers for possible lessons and application in other troubled situations.

Rearranging those deckchairs

With defined benefit pension schemes perhaps fading gradually into history, the moves by some trustees to transfer risk to new insurance products continue to grow. Various surveys suggest 2009 was a good year for those promoting these arrangements. Hymans Robertson chipped in with data of £4.1bn in longevity swaps and £3.8bn on annuity buyouts during the year and the suggestion that £10bn might be seen in 2010. Mercer agreed but contrasted the scale of this market with the overall size of pension liabilities perhaps 100 times this.

In its comments, Aon pointed out that the buyout level was less than half the £8bn of transactions in 2008.

Access to capital has been an issue for some insurers of this business. With the recession bottoming out, perhaps now will be an opportunity for an increase of sales to troubled pension funds, particularly where asset returns in recent times may have stood them in good stead. There will certainly continue to be plenty of opportunity for actuaries to advise in this area — for both the buyers and the sellers.

Already this year, Paternoster, the specialist longevity insurer, has supplied its modelling and structuring ideas in the creation of a longevity hedge in relation to £3bn of pension liabilities of the BMW scheme. The transaction was actually written by Abbey Life, a subsidiary of Deutsche Bank, one of the owners of Paternoster, and then reinsured with a number of other insurers.

Charity begins with pensions?

Alexander Forbes has reported on the large scale of deficits faced by charities, which the company now estimates exceed £1 billion in total. Many are struggling to finance deficits on past pension liabilities and facing a recession where fundraising may be more of a battle than in the recent past. According to Alexander Forbes, the financial climate has presented a double whammy, affecting not only likely income but also the value of the investments backing their pension liabilities.

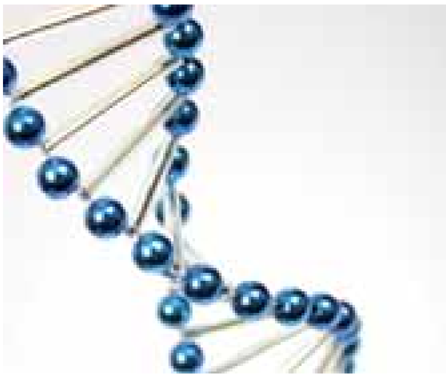
Accounting as a going concern, with future fundraising to meet their recovery plans, charities may look in a less difficult position than looking at the solvency position. Is it possible, perhaps, that well-known charities might be future candidates for Pension Protection Fund calls?

The ageing gene?

Newspapers love to tell us that they have 'found the gene for ……'. A range of absurd causes of laziness, criminality, sexuality, bad temper and so on are put forward.

The reality is that most of the time genetic research finds coding that is a useful marker for increased likelihood of a disease, behaviour and so on. In the news recently is a piece of research published in *Nature Genetics* by a long list of Dutch and British researchers. It suggests that there is a gene sequence which is linked to the lengths of telomeres, the tips of chromosomes which shorten as we become older. These are, in turn, linked to the way in which the diseases of ageing (heart decay, skin ageing, etc) catch up with us.

If so, this line of development could produce a marker in our DNA which tells physicians — or life insurance companies — what our propensity to age may be. Whether we have 'the gene for ageing' and whether or not we can somehow switch it off, this may be an important area for the insurance industry to apply a special focus.



Living somewhere undesirable

Insurers seem to be making increasing inroads into the market for annuities for people who are ill, have a poor lifestyle or even those who live somewhere where life expectancy is shorter.

According to analysis by Towers Watson, sales of 'enhanced annuities' rose to £1.79bn last year, an increase of 24% on 2008 and a market share of 16.9%, more than double that of 2001. On the other hand, Andy Sanders of Towers Watson pointed out that "for those lives that do not qualify for an enhancement, average expectations of life will continue to lengthen which needs to be reflected in lower levels of pension income offered."

ACA unveils pension manifesto in run-up to election

In the phoney battleground of a general election campaign, politicians are keen to flag up possible policy changes. Some appeal particularly to vocal special interest groups; others might be testing the water to see how they go down with the public.

The Conservatives naturally attack the changes to pension tax, including both the removal of advance corporation tax and the recent decision to curtail top rate tax relief on pension contributions. Advancing the argument that they should be reversed, they admit that government finances mean that they won't be doing so straight away.

On the other hand, they have loudly declared that the annuity rule requiring a pension to be bought at the age of 75 (or face some rather horrendous tax consequences) will go. Is this an opportunity for a new swathe of consumers to overlook some prudent financial planning and fail to insure themselves against living too long?

Labour has, not surprisingly, no new cards up its sleeve at the time of writing, as it has been in office for 12 years giving us mountains of new legislation. The Liberal Democrats have long championed abolishing higher rate relief on pension contributions and repeat that this year.

The parties offer various confusing commitments to link the state pension rate to earnings increases from a range of future dates.

What might actuaries campaign for?

One offering from the Association of Consulting Actuaries (ACA) is a six-point 'manifesto' of sorts.

- Establish an Independent Retirement Income Commission. This would write regular reports for government at an unspecified frequency.
- Allow 'Middle Way' schemes allowing capping to benefits in the event of higher costs. This is a long-standing idea from the ACA which has already been rejected by the current government.
- Allow automatic pension age increases in line with rising longevity as recommended by the Independent Retirement Income Commission. Although the ACA calls for 'protection' of accrued benefits, it seems to want such benefits potentially to be paid later rather than fully protected, as well as the Independent Commission to be told to do this rather than full independence.
- Allow earlier access to tax-free lump sums. Given pressures on tax revenue, this seems unlikely to be politically attractive right now.
- Relaxation of annuity rules. Not very clearly explained, this would be a charge for the Independent Commission to review.
- Allow occupational schemes to compel DC members to transfer out or DB members to have to take a deferred annuity elsewhere.

As a non-political contribution, the ACA's wish list is welcome as a contribution to the considerable debate which may take place over the coming weeks.

From the world of general insurance

Asbestos developments

The UK government has announced plans that will only compensate (through an ex-gratia payment of £5000) people with pleural plaques in England and Wales who had lodged a legal case prior to a Law Lords' decision in 2007 to bar compensation. The government is also setting up a working group to review the compensation system, especially in relation to mesothelioma claims, in an attempt to speed up the process, and is aiming to provide more research into asbestos-related diseases. The move is in contrast to the situation in Scotland where the Scottish Parliament has legislated to overturn the Law Lords' decision on pleural plaques. Ministers in the Northern Ireland Assembly are also considering overturning the ban on compensation for plaques sufferers under their jurisdiction. The Association of British Insurers has backed the package of measures, and has agreed to contribute £3m towards the research. However, some solicitors and union representatives have deplored the development.

Terrorism

President Obama announced in his budget package that he was proposing to cut subsidies to insurance companies, in relation to terrorism cover, by US$249m. This will result in higher deductibles and co-payments for terrorism insurers and the elimination of coverage for acts of domestic terrorism. The changes were said to reflect the robust state of the private market for such insurance, and the overall industry surplus, estimated at US$490bn. The President also indicated that he did not want to extend the Terrorism Risk Insurance Act further when it expires at the end of 2014. The proposals now go to Congress for approval, which is by no means guaranteed, and the insurance industry is likely to lobby against the plans.

Regulatory and legal developments

In his budget package for the 2011 fiscal year, President Obama announced proposals to "level the insurance playing field in the US". These proposals closely mirror the so-called Neal Bill, which was put forward in 2009 but met significant opposition from the insurance industry. In particular, foreign insurers would be denied any tax deduction surrounding reinsurance premiums paid to affiliated foreign reinsurers in respect of US risks insured, closing what many see as a tax loophole in the current regime. The plans were met with approval by major sectors of the US domestic insurance market, but dismay from international insurance and reinsurance representatives, especially those based in Bermuda.

Hector Sants, chief executive of the FSA, resigned in early February, and will leave the regulator in the summer after three years in the job. In view of the significant differences on the role of the FSA between the main political parties, and the imminence of the general election, some care will be needed in naming his successor. This gave rise to accusations that the FSA would be a 'lame duck' organisation for the next few months.

UK personal lines insurance

The latest edition of the AA British Insurance Premium Index (for the fourth quarter of 2009) shows a record-breaking 7% increase in rates for comprehensive motor cover, bringing the year-on-year

movement to 18.7%. This is said to reflect a combination of increased settlement costs, a higher number of personal injury claims and a depletion of the margins in claims reserves. Significant increases were also reported in the average premium for household business, with a 5.9% hike for buildings cover (making 10.5% year on year) and a 6.4% rise for contents (7.7% year on year). The rising cost of building repairs and an increase in the frequency of claims were blamed for these increases.

Global non-life reinsurance industry

AM Best, the credit rating agency, has maintained a "stable outlook" for the global non-life reinsurance industry for the fourth consecutive year. It states that the current outlook implies that the majority of 2010 reinsurer rating actions are likely to be affirmations, with only a modest number of anticipated adverse rating or outlook changes. It bases this on its view that the reinsurance segment maintains a strong capitalisation position overall and that it has weathered a financial storm in good standing. AM Best believes that 2010 is likely to be a positive operating year, subject to catastrophe experience.

Large losses

Earthquake in central Chile — 27 February

This was a massive quake of magnitude 8.8, which caused enormous damage to an area extending up to over 100 miles from its epicentre near Concepcion. In addition, over 700 deaths have already been reported and this figure is likely to increase, possibly substantially. The relatively low death toll compared with the magnitude of the quake is explained by a combination of three factors: the great depth of the quake below the earth, the relatively sparse population in much of the area and the good quality of the buildings, which were subject to an earthquake-proof building code in view of the high level of seismic

activity in the area. A tsunami resulted across the Pacific Ocean, and this caused some flooding on the island of Hokkaido in Japan, although damage from the tsunami was much less widespread than originally feared. Early estimates put economic damage at US$30bn and insured losses at US$3-8bn.

FOR MORE GENERAL INSURANCE NEWS

More news on the following items can be found on the website:

- Fall-out from the global financial crisis
- Solvency II
- Lloyd's
- FSCS predicts increase in PPI compensation claims
- Marine developments
- Warren Buffett
- Groupama
- HIH
- Sovereign Marine and General Insurance Company Ltd
- Climate change
- Large losses

Visit *www.the-actuary.org.uk/873801*

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Tuesday 13 April | Programme event

Does your hedge do what it says on the tin?

Staple Inn,
Holborn,
London
5:30pm for 6pm start

The extreme market volatility in recent years has highlighted the importance to life companies and other investors of hedging market risks. However, the resulting dislocations in derivative markets have also cast doubt over the ability of hedges to perform as expected during times when they are most needed.

The authors — Scott Eason, William Diffey, Ross Evans, Paul Fulcher and Tim Wilkins — will present a paper looking at the economic effectiveness of common hedging strategies during both benign and stressed market conditions, and the implications for financial reporting. There is no need to register in advance for this event. Refreshments will be available from 5:30pm for a 6pm start and, following the meeting, there will be a free drink and buffet at a nearby pub.

Tuesday 11 May | Programme event

Catastrophe risk modelling

Staple Inn,
Holborn,
London
5:30pm for 6pm start

Shane Latchman will present a paper that gives an overview of a catastrophe model, introducing its component modules — hazard, vulnerability and loss. He will look at the power law of the Gutenberg-Richter distribution that governs earthquake frequency and describe the role of a vulnerability function for estimating building damage. Following on will be a discussion of how 'ground up' losses from catastrophe events are manipulated to obtain the losses to an insurer. Concepts such as exceedance probability curves will be introduced, as well as the mathematical concept of convolution. Metrics associated with catastrophe modelling such as the concept of return periods and tail value at risk will also be discussed.

There is no need to register in advance for this event. Refreshments will be available from 5:30pm for a 6pm start. Following the meeting there will be a free drink and buffet at a nearby pub.

Thursday 13 May | Social event

Post-exam event

What better way to relax after the forthcoming exam sitting than by coming along to our exciting post-exam event?

Be sure to make a note in your diary, and keep a close eye on the SIAS website for further information as well.

For details of events, visit www.sias.org.uk

FASS members go head to head

The Faculty of Actuaries Student Society held a pub quiz in Frankenstein's bar on 28 January in Edinburgh.

More than 80 actuarial students turned up on the night, keen to show off their intellectual skills and win prizes. The quiz covered general knowledge, sport and music, while both picture and iPod rounds were also included to help keep everyone guessing.

The evening involved plenty of alcohol and finger food, and there was no shortage of friendly banter throughout the night. As one would expect, there was a good deal of inter-office rivalry, not to mention some questionable team names.

A football tournament will be the next event, followed by a night on the tiles, planned to coincide with the end of April exams. Details will be posted on the website at *www.FASS-online.org*

Review by Sheila Harney

FASS members enjoying the quiz

Second curling gold medal for Swedish actuary

Olympic curler and actuary, Anette Norberg, says weighing the risk of death and disease for Folksam Group gave her an advantage that resulted in her successfully defending her curling title at the Winter Olympic Games in February, beating the Canadian hosts in the final.

Anette, 43, was one of at least three financial services professionals competing for a podium spot at the games in Vancouver. She was the only member of her team who worked while training for the games. Yet the mother of two, who is based in Stockholm, wouldn't have it any other way. "I need the mix of curling and work," she said.

Anette Norberg (centre)

In curling, teams slide 19kg (42lb) polished granite stones down a 42m (138ft) ice sheet. Curlers guide the stones by brushing the ice with brooms with the objective being to get the stones as close to the target as possible.

Anette is captain of Sweden's four-member women's curling team and an actuary with Folksam, which insures half the people in Sweden. She had been practising five times a week, and physical training three times weekly, alongside her full-time role as department head of Folksam's life actuarial unit.

On the ice, Anette led the Swedish team to gold at the 2006 Olympics in Italy, but claims that competition has increased in the past four years and that it was much harder to get gold this time.

Wainwright Walk funds Worshipful wall

Liverymen and other actuaries are invited to join chief executive of the Scout Association, Derek Twine CBE, as he formally opens the new bouldering wall funded by the Worshipful Company of Actuaries from money raised by actuaries during the Wainwright Memorial Walk in September 2007.

The event will be at the Scout Association Headquarters at Gilwell Park in Chingford, London on 18 May at 17.30. After the opening, guests will be given a tour of the park and principal buildings, and a buffet supper will be served. The more athletic may arrive early at 16.00 and have a go on the bouldering wall and other climbing facilities.

Bookings for the event cost £42 per person and are available from Chris Ide on *chris@haresfield.org.uk*.

UK chief commissioner Wayne Bulpritt, left, and Chris Ide

Master's golfers welcome at Woking

The Worshipful Company of Actuaries' annual golf competition, for Liverymen and the Other Half Club, will take place at Woking Golf Club on Monday 7 June 2010. The master, Adrian Waddingham, is very keen to welcome other actuaries and their partners as participants.

The competition will be an 18-hole individual Stapleford competition, playing for the Worshipful Company of Actuaries Cup and other prizes.

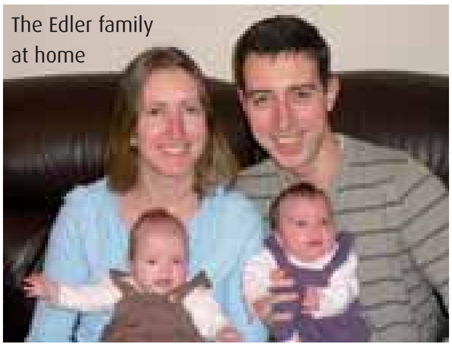
Tee-off will be from 14.45, and there will be a supper and prize-giving at 20.00 at which non-playing members will be most welcome. The cost will be £70 each for those playing golf and £28 each for those attending only the supper.

For further information, please contact court assistant Bill Smith on *billsmith100uk@yahoo.co.uk* or by phone on 07776 223 850.

Births

■ **Stephen** (Berkshire Hathaway) and **Clare Edler** (Chartis Insurance UK) are pleased to announce the recent birth of their twin daughters, Sophie Charlotte and Lydia Jane. They are also granddaughters to **Colin Czapiewski**.

■ **Vicki** and **Mark Smith** (both at Towers Watson) are delighted to announce the birth of their son, Joseph Joachim on 23 January 2010.



The Edler family at home

Deaths

■ **John Henry Prevett** died on 31 January 2010, aged 76. He became a fellow of the Institute in 1955. An obituary will appear in the May issue.

■ **Stanley Walter Thomas Leslie** died on 22 December 2009, at the age of 51. He became a fellow of the Institute in 1990.

■ **Lyndon John McMullen** died in June 2009, aged 53. He became a fellow of the Institute in 1982.

Obituary — Leonard Hall

Leonard Hall, who died on 20 January 2010 at the age of 92, gave unstintingly to the Profession. He was a council member for 20 years and served as honorary secretary and as chairman of the Board of Examiners, as well as chairing various committees. He was appointed vice president of the Institute in 1972.

Leonard was born in Grimsby in 1917, and gained an exhibition to St John's College, Cambridge, where he read mathematics. On graduation he joined the Clerical, Medical and General Life Assurance Society but the war soon interrupted his studies. He was called up to the RAF as a meteorologist. In 1942 he was torpedoed, and spent the rest of the war in Stalag Luft II, the prisoner-of-war camp for RAF officers and the site of the Great Escape.

On repatriation he returned to Clerical Medical and qualified as a fellow of the Institute in 1949. In 1950, he took responsibility for the large portfolio of stocks and shares, a role in which he was notably successful. He became one of the first honorary fellows of the Society of Investment Analysts (now the UK Society of Investment Professionals).

In 1975, Leonard became chief executive of Clerical Medical and his time was noted not only for his business acumen but also for his caring interest in people, and in particular for all those who worked with him. From 1977 to 1981 he was at first deputy chairman and then chairman of the Life Offices Association, where he worked hard to reduce the tensions between competing groupings within the insurance industry; his efforts led to the formation of the all-embracing Association of British Insurers. He retired from executive duties with Clerical Medical on his 65th birthday but remained on the board for another eight years.

On his retirement, the number of his appointments increased sharply and included being a governor of BUPA, advising pension funds, investment companies and even opera companies. He had helped in the formation of the Profession's Livery Company and was elected its sixth master in 1984.

Despite all this activity, Leonard had a wonderful partnership with Betty for 54 years and always had time for their three children and six grandchildren. In return, after Betty died in 2000, the family supported him lovingly, especially in more recent years when he sadly lost the use of his legs.

On news of his death, one tribute stated simply: "Leonard was one of the world's true gentlemen and a good friend to me". There are many who could say the same.

By Roger Corley

Obituary — Colin Cornwall

Colin Cornwall died on 15 October 2009 aged 82. A service of thanksgiving for his life was held at the Church of St. John the Evangelist in Redhill, Surrey, on 30 October 2009.

He was educated at Radley College where he won a scholarship to read mathematics at Trinity College, Cambridge. On graduating, Colin joined London Transport and embarked on the actuarial examinations. He qualified as a fellow of the Institute in 1955. From London Transport, his career in pensions took him to British Rail, Courtaulds and Associated Newspapers, the Daily Mail group. He was invited to become a member of the Occupational Pensions Board on its formation in 1973.

Colin served the Institute continuously in one capacity or another from 1964 until 1985. He was on Council for 15 years, and was vice president from 1974 to 1977. He served on numerous committees but will be best remembered for his work as chairman of the 1973 committee to review the education and training of actuaries. This was a major review that established the framework for the system now in force with, among other things, the addition of general insurance to the syllabus, attention to experience after qualification and close co-operation with the Faculty and universities.

Shortly after Colin retired, the Maxwell affair hit the headlines. Robert Maxwell, chairman of the Mirror Group, had misappropriated most of the assets of the Group's pension schemes, putting the members' benefits in jeopardy. A new independent chairman of trustees was required and Colin stepped forward. He spent the next three years in the public eye in single-minded pursuit of the pension schemes' assets. To the great relief of the scheme members, most of the assets were eventually recovered, which was a fitting climax to a career spent in the nurture of pension schemes.

Colin, his wife Enid and their four children were a close and happy family, and he will be sorely missed.

By Colin Stewart

PEOPLE NEWS

If you have any newsworthy items for these pages, e-mail Kelvin Chamunorwa at *social@the-actuary.org.uk*

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Joined-up thinking

Norbert Fullerton outlines the benefits for pension fund trustees of conducting an integrated investment strategy review and valuation

Norbert Fullerton is a senior investment consultant at Towers Watson. He also serves on the UK Actuarial Profession's Board of Examiners for pensions.

It was once fashionable for defined benefit (DB) pension scheme trustees to consider funding and investment solutions separately. Pension scheme trustees usually spent a lot of time with their actuary discussing assumptions and finalising a triennial valuation. After the valuation, they might review the scheme's investment strategy and, just maybe, alter their portfolio. Often, they realised that any changes to the investment strategy would have to be small, to avoid invalidating the valuation results and agreed funding plan. While there might be a desire to reduce investment risk, there was generally no appetite to re-open the funding debate. So, the sponsor and trustees shook hands and waited for three years to repeat this process.

Those days are now gone. Rising deficits, weakened company covenants and a more risky investment world have led trustees and sponsors to look for ways to manage the finances of their pension schemes more effectively.

Some sponsors have made tough decisions such as closing their DB pension schemes to new members and reviewing the design of future benefits. While this reduces future risks and costs, many realise that there is still a large 'legacy' built up that has to be carefully managed.

Many sponsors and pension scheme trustees say they have found an ideal solution. They now integrate their funding and investment decisions while at the same time taking account of the strength of the sponsor's covenant. This way, they say, all parties can better understand the risks facing the pension scheme and make holistic funding and investment decisions. In practice, this means that pension scheme trustees and sponsors should only agree to a funding plan with full knowledge of the amount of risk required to achieve it.

» Pension scheme trustees and sponsors should only agree to a funding plan with full knowledge of the amount of risk required to achieve it «

The power of integration

Pension scheme trustees and sponsors often have different views on how pension schemes should be invested and funded. What is important, however, is that both parties should agree to run their pension schemes with a long-term business plan, in a similar way to other big organisations.

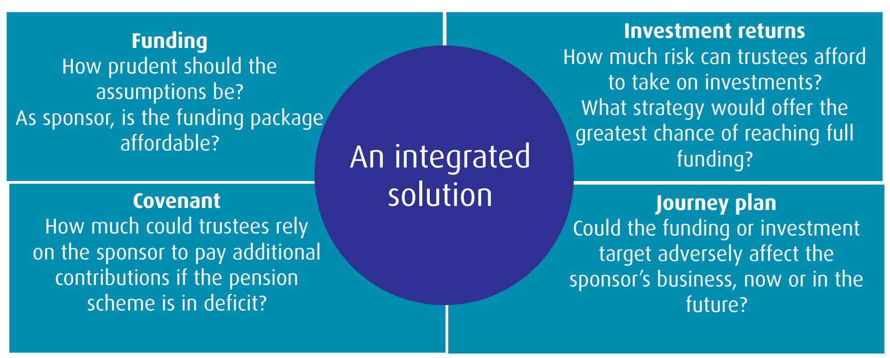
Applying an integrated approach provides a robust and informed framework, placing all parties in a strong position when negotiating a combined funding, investment and covenant package. Handling negotiations well is very important for any sponsor or trustee group because the outcome directly affects benefit security and the sponsor's cost of providing future pension benefits.

This approach also helps to develop a clear map or 'journey plan' of how the funding position and investment strategy might evolve over time.

Certainly, no one answer fits all when it comes to finding ways to reduce risks of rising deficits or sponsors' costs. However, this approach leads to greater clarity when choosing appropriate actions, including:

- **Investment** — for example, switching from growth to liability-matching assets, diversifying growth assets and using liability-driven investments or swaps to better hedge interest rates and inflation.
- **Funding** — set prudent funding targets and agree a robust deficit recovery plan that is reasonably affordable by the sponsor.
- **Covenant** — identify appropriate arrangements for improving the sponsor covenant, such as escrow accounts, parent company guarantees and so on.
- **Dynamic risk management** — avoid losses that could compromise the sponsor's business, or look for attractive opportunities to lock into good outcomes when the scheme is ahead of its journey plan.
- **Liability management** — such as changing future benefits, trivially commuting members' benefits or carrying out early retirement exercises.
- **Longevity risk management** — for example, purchasing annuities or using longevity swaps.

Figure 1 — Benefits of integrated funding and investment



» The journey plan should include a strategy for how to react if events turn out materially better or worse than expected «

Finding the right package

A DB pension scheme's deficit can be considered a debt due from the sponsor so pension scheme trustees should take account of the quality of the sponsor's covenant (the ability and willingness to support the scheme) when making funding and investment decisions. The Pensions Regulator's guidance also supports this principle.

Sponsors, on the other hand, have competing demands and constraints on their capital and cash flow. It is a high priority, therefore, for them to agree with DB pension scheme trustees a recovery plan, technical provisions and investment strategy that result in affordable contributions, both now and over time.

As shown in Figure 1, considering funding, investment and the covenant together enables trustees and sponsors to decide on:

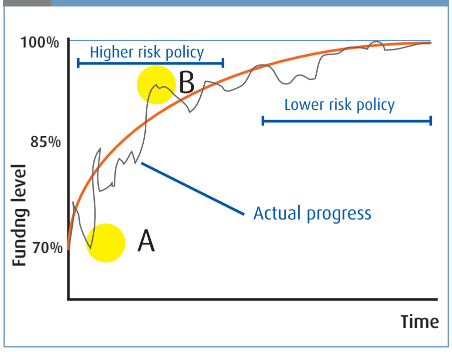
- The amount of investment risk they could take now and in the future
- The degree of prudence they should apply to their technical provisions
- A timeframe to recover any deficits
- The level of contributions that are affordable
- A suitable framework for designing a journey plan.

How could this work in practice?

First, pension scheme trustees and sponsors need to determine the level of funding they are ultimately targeting. With many DB pension schemes closed to new entrants and, in some cases, future accrual, many trustees and sponsors are targeting a point when their DB pension schemes will no longer need to rely on high investment returns or the sponsor's capital resources.

Having defined the funding target, a range of sponsor contributions and corresponding required investment returns could then be analysed. Stochastic models can provide all parties with a greater understanding of the potential variability of funding levels over time, the timescales needed to reach full funding, and the probability of significant increases to sponsor contributions in the future.

Figure 2 — Consider decisions along the journey plan and take action



Once pension scheme trustees and their sponsor agree a suitable package, they have begun a journey (see Figure 2). This journey should be monitored, with the parties regularly keeping track of how the pension scheme develops over time. This may include regular updates of the funding position, the level of risk in the investment portfolio, the strength of the company's covenant, and so on.

At a basic level, a journey plan involves setting the level of contributions and investment returns required at the outset to achieve the desired funding target. However, the journey plan should also include a strategy for how to react if events turn out materially better or worse than expected. If the pension scheme is ahead of the journey plan (point B), then there may be opportunities to choose from a range of de-risking solutions and still achieve the long-term objectives.

If the scheme falls behind the journey plan (point A), this raises a number of questions. For example, at what point would an increased pension scheme deficit have a detrimental impact on the sponsor's business and what protection might be needed to prevent this? At what point, if there were a deficit and the sponsor became insolvent, would the pension scheme trustees not be able to recover enough money after the sponsor pays its creditors?

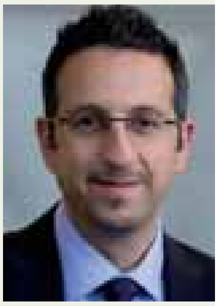
What next?

If you have an upcoming funding valuation, it would be worthwhile adopting an integrated approach to analysing funding, investment and covenant issues. Doing so will ensure you make informed decisions relating to the funding assumptions, investment strategy, a recovery plan, and the design of a journey plan; in other words, you will achieve the pension scheme's crucial objectives in an effective and efficient manner.

If you would like to comment on this article, please e-mail *editor@the-actuary.org.uk*

Complex fad or saviour?

Costas Yiasoumi provides an explanation of how longevity swaps work and the options available to pension schemes



Costas Yiasoumi is a managing director at Swiss Re and led Swiss Re's recent transaction with the Royal County of Berkshire Pension Fund

2009 will be remembered as the year longevity swaps arrived on the pensions stage. Three transactions covering £3.5bn in pension liabilities were completed by Credit Suisse, Rothesay Life and Swiss Re. Already this year, a £2.5bn case is reportedly close to announcement. However, a common view prevails that longevity swaps are complex and time-consuming to implement. This article helps to unravel some of the mystery.

In a nutshell, what is a longevity swap?

Think of it as a bulk annuity, but where regular premiums are payable by the pension plan to the insurer over, say, a 60-year period instead of a single upfront payment. In return, the insurer covers annual pension payments until the last member dies — these are the 'claims'. In practice, rather than the pension plan paying a premium to the insurer and the insurer paying the claims to the pension plan, only the net difference is exchanged.

So that's why it's called a 'swap'?

Yes. The pension plan has swapped its uncertain future pension payments (for example, the claims) for a defined schedule of annual premiums. The annual premiums reflect the insurer's best estimate of projected future pensions, plus a risk premium on top.

I thought swaps were derivatives, but you're calling them longevity insurance?

'Swap' refers to the underlying transfer of risk: fixed premiums paid in exchange for future uncertain claims. It does not refer to the form of contract. It can be written as an insurance policy issued by an insurance company. Longevity cover can also be provided via a derivative contract. The terminology is then different. Claims are called the 'floating leg' and premiums are called the 'fixed leg'. Derivatives typically carve out some of the longevity risk to avoid being reclassified as an insurance business — this is important because reclassification would have major legal and regulatory ramifications. This article deals with insurance for the sake of brevity but, at a high level, the features are similar for derivatives.

I have heard that you need to maintain a shadow payroll. Surely that brings complexity?

This is not true. The transaction Swiss Re undertook in December 2009 with the Royal County of Berkshire Pension Fund simply took the annual claims amount straight from the pension payroll, including the impact of future data changes.

Sometimes it is necessary to 'box off' the risk if, for example, it is being sold on by the insurer or bank or if it is written in derivative form. In that case it might be necessary to base payments on a shadow payroll built up from the original base member data rather than the actual pensions paid to members. This means that a gap may open up over time between the coverage provided by the longevity solution and the actual pensions paid by the plan.

Surely it cannot be that simple? What about annual indexation and contingent dependents?

Yes, it is that simple. Annual indexation can be dealt with by linking both the claims and the premiums to actual plan indexation. That means the cover automatically adjusts to reflect annual changes in pension amounts.

What about deferred pensioners?

There is little demand at present for deferred pensioner solutions. These would be more complex due to the range of options available to members (for instance, taking a transfer value). Pension plans are currently focusing their attention on pensions already in payment. We have, however, included deferred pensioners in a longevity insurance swap for an insured portfolio, so this option is possible.

I assume administration of a contract is a burden?

Administration can be as complex or as simple as a client prefers. At the complex end, deaths and data changes can be fully reconciled each month, with an exact monthly exchange of claims and premiums. At the simple end, you can do this reconciliation once a year, with a 'true-up' to reflect any over or under-payments during the previous scheme year.

Are longevity insurance policies secure?

These are long-dated solutions designed to transfer longevity risk. Longevity insurance is written by insurance companies who hold prudent reserves and capital to back their obligations and in the UK are regulated by the Financial Services Authority.

Tell me about collateral arrangements

These can bring complexity and frictional costs. Life insurance contracts do not typically involve the provision of any collateral. Instead, the industry has worked well for more than one hundred years on the basis that it is strictly regulated and well capitalised to meet the liabilities on the insurers' balance sheets.

Of the two longevity insurance transactions written last year, one was with collateral and one without. The third pension plan transaction in 2009 was derivative-based and included collateral, which is more common for derivatives.

Sometimes collateral is put in place because the insurer or bank intends to sell the risk on, for example, to gain access to capacity. Collateral may then be needed as part of that chain and should be evaluated in the context of the overall proposition.

I have heard that documentation can be lengthy

The longevity insurance policy for one of the 2009 transactions was only about 60 pages long. Another of last year's transactions was reportedly one-and-a-half inches thick. The more complex the approach, the longer the contract.

I assume longevity solutions are only for the bigger pension plans?

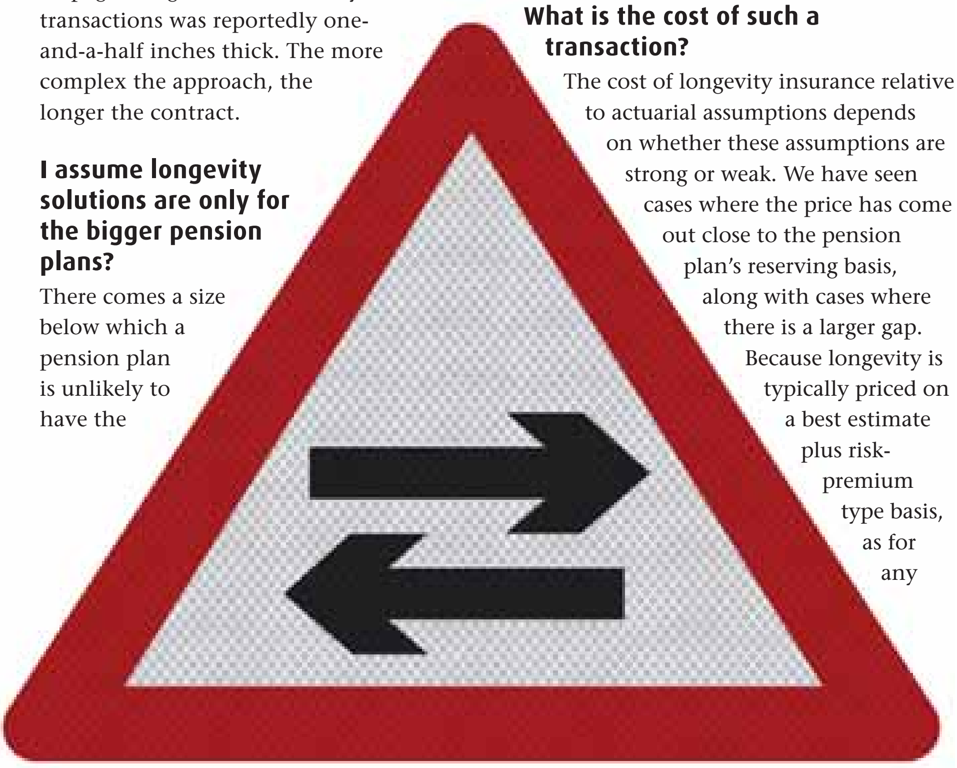
There comes a size below which a pension plan is unlikely to have the economies of scale to run-off in the long term. For any such scheme a bulk annuity goal is probably more appropriate. Where that cut-off lies would depend on circumstances but it is probably in the low hundreds of million pounds' worth of liabilities. That said, there have been some pension plans with pensions in payment as small as £100m or lower seeking longevity insurance quotations.

At the other end of the scale, are some pension plans too big to do much with?

We can see from the longevity transactions in 2009 that capacity exists. Even the largest pension plans can make inroads towards mitigating longevity exposure.

If I enter into a longevity swap, am I stuck with it? What if I want to do a bulk buyout in future?

This is a common question. The fact is that each of the three transactions in 2009 will, by definition, have dealt satisfactorily with this question. Each provider will have its own provisions to address this event.



What is the cost of such a transaction?

The cost of longevity insurance relative to actuarial assumptions depends on whether these assumptions are strong or weak. We have seen cases where the price has come out close to the pension plan's reserving basis, along with cases where there is a larger gap. Because longevity is typically priced on a best estimate plus risk-premium type basis, as for any insurance, there is a cost. Offset against this cost is the benefit of certainty.

Time is valuable nowadays. How long does it take to get this in place?

The strategic decision will require liaison between trustees, corporate sponsor and advisers. This can take as much time or as little as needed. Next comes provider pricing and selection. Assuming data is available, this might take two to three months.

Once a provider is selected, a period of exclusivity is usually agreed during which due diligence, contract negotiation and final pricing take place. This can take another two or three months, or more.

As with all projects, timescales can be accelerated or extended depending on the parties' ability and willingness to commit resources, the issues that crop up and how much certainty is required before the contract is executed.

I've heard about population index solutions. What are these?

These are derivatives whose pay-offs depend on how mortality in England and Wales develops in the future. These instruments are calibrated to the pension plan's mortality profile in order to provide protection. It is acknowledged that such solutions are not perfect because they entail 'basis risk'. In practice there has been little activity from pension plans in relation to population index products.

So, is longevity hedging the perfect solution we've been waiting for?

For many pension plans it is the right solution. However, for other pension plans bulk annuities might be better and, for others, retaining the risk may be preferred. This is for pension plans to decide with input from their advisers.

What longevity hedging brings is certainty to an uncertain risk. Pensioners currently in payment are less risky than deferred members and people in active employment, but you need to start somewhere. Longevity hedging is not about total risk elimination, it is about getting a pension plan's exposure down to an acceptable level.

The going rate

Derek Benstead argues that the current approach to deriving discount rates in pension scheme valuations is flawed

Derek Benstead is a scheme actuary. The opinions expressed in this article are his own and not those of his employer, First Actuarial

Trustees and employers are faced with a number of different valuation approaches when dealing with scheme funding and corporate accounting. To help them discern what any one valuation method is telling them and to get a handle on the method's dynamics, I direct their attention to the derivation of the discount rate.

A solvency valuation tells you what it would cost to provide the benefits by purchase of deferred and immediate annuities on the valuation date. A valuation that discounts the liabilities using gilt yields tells you how much you need in gilts to pay the benefits and a company accounting valuation tells you how much you would need in AA-rated corporate bonds.

Typical company accounting assumptions are not meaningful for valuing real liabilities, there being no significant market in index-linked corporate bonds. The model provides for real liabilities with fixed-income assets, which is an odd and mismatched thing to do. It would be better to set assumptions that discounted fixed liabilities at the AA bond yield and discounted real liabilities at an index-linked gilt yield.

These approaches all use external reference points. In each case, the trustees have a choice: whether to invest in the manner implied by the choice of discount rate, which would stabilise the balance sheet, or to invest in some other way. If the discount rate is gilt-yield driven, then investing in gilts stabilises the balance sheet. To the extent that the assets are in non-gilts there will be volatility in the balance sheet. This is especially so in times of economic crisis, when the 'flight to quality' tends to mean that gilts are the only asset class that holds up in value, while most other asset classes go down.

A valuation that discounts the liabilities at a gilt yield + 1.5%, say, gives the trustees a problem. The liabilities move in proportion to changes in the yield on gilts, and investment in gilts will stabilise the balance sheet, but the return on the assets will fall 1.5% p.a. short of that required. Non-gilt investment is required to stand a chance of producing the return built into the model, but then you have a volatile balance sheet. It's a lose-lose situation.

As well as valuations that show the trustees what a scheme costs if they were to invest in something else, whether annuities, gilts or AA-rated bonds, I think it is very helpful to have a valuation that shows the trustees what funding a scheme would require if they carry on investing as they are. I suggest it is the second most helpful valuation they can have after the solvency valuation.

» It is very helpful to have a valuation that shows the trustees what funding a scheme would require if they carry on investing as they are «

To keep things simple, let's consider a scheme that has terminated benefit accrual, which is all too realistic these days. On the one hand, we have the income from the scheme's assets and, on the other, outgo on the scheme's liabilities, including expenses and PPF levies. The employer's liability is to make up the difference, if any, between the asset income and the liability outgo. A realistic model of this situation needs to project the income expected on the scheme's actual assets.

It is conventional to summarise the asset income cash flow and liability outgo cash flow into a balance sheet. If the assets are to be shown at their market value, we need to find the rate of return that discounts the asset income cash flows and gives their market value as the answer — that is, the internal rate of return. For equities, we need to project dividends and possible future dividend growth. For property, there is rental income and possible future rental growth. For bonds, there are coupon and redemption payments. It isn't true that 'discounted income' valuations are dead. Finding the rate of return that discounts the income on the assets and gets their market value as the answer is simply the correct way of deriving the prospective return.

Now we are able to value the asset and liability cash flows consistently. The same RPI assumption can be used to project RPI-related liability outgo and asset income. We can discount the liability cash flows

with the internal rate of return on the assets for a fully realistic, best estimate balance sheet. Or for Statutory Funding Objective (SFO) purposes, which require a prudent discount rate, a margin can be taken against the best estimate return to obtain a prudent discount rate for valuing the liabilities. Here we have a transparent, objective approach to setting SFO technical provisions. For this article, I will not explore the debate as to whether the word 'prudent' really does mean making an estimate biased to the expensive side of best estimate.

One big advantage of this method is its balance sheet stability. If there is a deficit on this method, it needs funding. The size of the deficit is not the product of mismatched assets and liability calculations. In contrast, a scheme that was 100 percent funded in April 2007 when valued on a gilt yield + 1.5% basis might very well be less than 60 percent funded two years later, if the large majority of the assets are in non-gilts. Which of these results is the reliable one? Neither. The instability of the method means you can't tell whether you were being kidded by the 100 percent result or are being unnecessarily worried by the 60 percent result.

Another big advantage of carrying out a valuation assuming continuation of the actual investment strategy is that it helps avoid some errors of judgment. For example, an equity return pre-retirement and bond return post-retirement is often used as a prudent approach, and it normally is, but not by as much as you think if the scheme already has more bond assets than it has pensioner liabilities. For a second example, an AA corporate bond discount rate is not prudent if the scheme is mostly invested in bonds with an expected return, after an allowance for expenses and defaults, that is less than the AA bond index. Unfortunately, these are real and not fictional examples.

The Pensions Act 2004 requires the discount rate for technical provisions to be set prudently, by reference to either the expected return on the assets or the yield on high-quality bonds.

The internal rate of return is, by definition, the expected return on the assets and taking a margin against it is a transparent way to obtain a prudent return for SFO purposes. Using a high-quality bond yield is simple but, to be robust, a check still needs to be made that the yield adopted is less than the internal rate of return on the assets.

» Carrying out a valuation assuming continuation of the actual investment strategy helps avoid some errors of judgment «

What about a 'gilt yield + 1.5%' discount rate? It is not a 'yield on high-quality bonds'. In the recent past, a gilt yield + 1.5% represented a sub-investment grade return. Besides, if you wanted to use an investment grade corporate bond yield, the sensible way to do it is to take a corporate bond yield and adjust it down for defaults and expenses, not to add something to a gilt yield. Neither is a gilt yield + 1.5% in any meaningful sense an estimate of the prospective expected return on the assets. Its suitability in law for setting technical provisions is marginal at best.

The consultation paper from the Board for Actuarial Standards on the pensions technical actuarial standard proposes that, 'Assumptions… should be based on evidence… In many cases, assumptions should reflect the state of the world at the effective date.' The 'gilt yield + 1.5%' method contains data about the state of the world at the effective date drawn only from the gilt market, which contains very little information about the return to be expected on the non-gilt assets that the method is modelling.

To conclude, a valuation might assess the cost of a scheme assuming that annuities are bought or that the assets are reinvested in gilts or corporate bonds. Second only to a solvency valuation, I suggest that it is very useful to have a valuation in which the discount rate is derived from the internal rate of return on the assets, which may be set up as either a best estimate or prudent basis. Such a valuation on a best estimate basis sets an important boundary at the opposite end of the funding spectrum to solvency. On a prudent basis, it provides a stable approach to scheme funding and contribution planning with transparent margins.

I close with an appeal to the profession to stop using the gilt yield + x% method of setting the discount rate for a valuation. To tell trustees that their scheme is 100 percent funded and then say it is 60 percent funded a short while later, using a method represented as reflecting the actual assets of the scheme, risks bringing the profession into disrepute. It is time to move away from this method which has no sound rationale and instead use methods that have a real-world interpretation, fit better with the Pensions Act 2004 and provide a firm basis for advice.

Questions and answers

Ruth Loseby reports on the Profession's plans for promoting and generating high-quality actuarial research

Ruth Loseby is research manager for the Actuarial Profession

With 40% of fellows now under the age of 40, our Profession needs to have the foresight to provide those younger members with the tools and knowledge they need to lead the profession forward, working in the public interest while tackling and speaking out on the issues of today where actuaries can make a difference.

For the last six months I have been listening to members' views of research — from hardcore research enthusiasts to the sceptics who think there are no practical benefits. We all seem to have a different view as to what research is and we are probably all right — from small ideas to major academic work, there are many ways to push at boundaries. We need to be even better at identifying priorities and making sure the results return to the workplace in a usable form, whether tomorrow or in 10 years' time.

The Profession has decided to look afresh at the question of what research we should be encouraging and how best to deliver it for the benefit of the members. The role of research manager was created back in September last year, showing the commitment of the Profession in this area. The management board has subsequently approved various initiatives (explained more fully in this issue's News). Strategically, the board has approved a project to look at more fundamental questions such as why the Profession wishes to undertake research, what are the major obstacles to success, how we can improve communication and how we can leverage our resources by working with external bodies in the UK and internationally. The results should help us set our priorities and make sure we have the resources to succeed in their delivery.

Why do we do research?

Here are some of the ideas to emerge so far:

- To develop intellectual capital to support members to do their jobs well in the public interest now and in the future. Member-led research can be very successful in answering today's practical questions within a short time-frame. Longer-term, practitioners will work with universities, or we can join forces with research councils or other professions to help prime the university research that could help the practitioners of the future.
- To help us speak out on issues of public interest where actuaries have something significant to add to the debate. Members have said they want us to do more thought-leadership activity and we are co-ordinating our efforts to ensure that we speak with authority based on objective research.
- To provide members with the information and data that is currently available via our libraries and online databases. We need to be more innovative at feeding new ideas back to practitioners in a useful format as CPD or to stimulate new ideas for research.

New fruits

There has probably never been a better time to refocus the Profession on research. University-based actuarial research in the UK has always had its beacons of light at Heriot-Watt and City universities and these teams continue to produce world-class actuarial research. The 2005 Morris Review sought to change the world of actuarial education to broaden the way that actuaries could study and become qualified with the hope that we could continue 'to attract the best and brightest university graduates'. This has led to university courses being accredited and the introduction of different routes to qualification.

This educational shift is also bearing fruit for research. It is producing more young members who have had an early experience of research in the form of a dissertation or research project and feel confident and excited about carrying that experience through to the workplace. The Profession hopes to provide ways for these young members to get involved in projects under the guidance of more senior mentors. Our recently launched discount rate project is being led by Chris Daykin and Chinu Patel with a team of more junior researchers associated with Cass Business School, Imperial College and Dublin City University. Tony Hewitt of Imperial explains that: "The research project is an important feature of the day-release Imperial route to becoming an actuary. It allows those students with a desire to learn research skills to apply them to a concrete project where they can add real value to clients or their firm".

The second post-Morris effect is the beginnings of new actuarial research activity at universities that have been undertaking actuarial teaching but are also starting to develop an actuarial research function. Colm Fitzgerald at Dublin City University points out that accreditation requires actuarial input, which has increased the number of actuaries at universities and, consequently, the number of actuaries doing research.

Jeremy Levesley of the University of Leicester said: "Inspired by intellectual challenge, some of the existing staff have moved their research interests towards actuarial subjects with the MSc degrees, nourished by constant interaction with financial institutions and actuarial companies. The intrinsic link 'teaching-research-industry' is the formula for success."

The same strong link between academic endeavour and industry experience is also shown by the recent appointment of Paul Sweeting as professor of actuarial science at Kent following extensive experience as a consulting actuary, and at the University of East Anglia, where closer links with Aviva have created the Aviva chair in statistics (Elena Kulinskaya took up post on 1 March 2010 with two PhD studentships attaching).

We are just at the beginning of a new era but the more diverse options for educating our students appear to be introducing a growing number of young members who will hopefully become part of our research community of the future.

A map of research development

The department of actuarial mathematics and statistics at Heriot-Watt and the school of mathematics at Edinburgh form part of the Maxwell Institute, one of the largest mathematical science groups in the UK. The actuarial and financial maths group at Heriot-Watt has around 10 active researchers with Edinburgh's focus being in wider financial mathematics

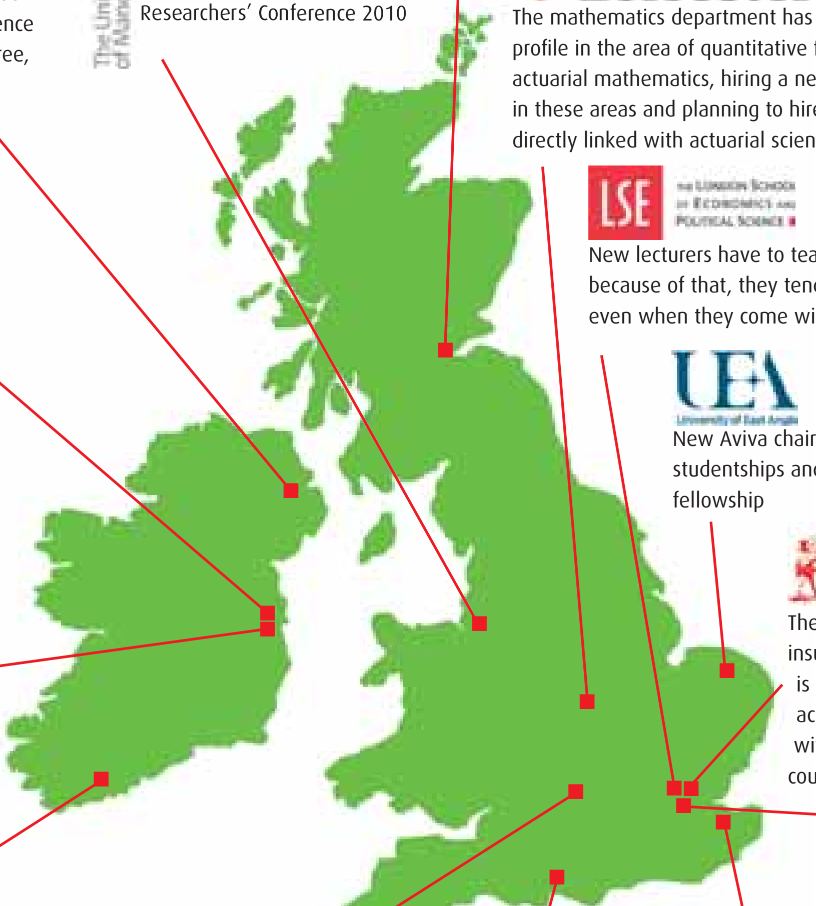
Prior to the actuarial science degree in 2007 there was no actuarial presence in Northern Ireland. With the degree, QUB has started to establish an actuarial research cluster

Recently accredited. Hosting the Actuarial Teachers and Researchers' Conference 2010

The mathematics department has been building its research profile in the area of quantitative finance, risk management and actuarial mathematics, hiring a new professor and two lecturers in these areas and planning to hire at least two further lecturers directly linked with actuarial science in 2010

Actuarial science taught since 1991; includes two full-time actuaries on staff and carries out research across a number of statistical and actuarial areas, often with an Irish-specific context

New lecturers have to teach insurance subjects and, because of that, they tend to embark on relevant research even when they come with different backgrounds



New Aviva chair in statistics with two PhD studentships and conferral of an honorary fellowship

Dublin City University is in the process of applying for accreditation with one active researching actuary already in place

The faculty of actuarial science and insurance at Cass Business School is one of the largest academic actuarial departments in the world, with highly respected degree courses and research

Half of year 2 MSc actuarial finance students (all working full time) opt to write an 8,000-word research report often on a confidential basis for their employer or one of their firms' clients

Research mostly at the undergraduate level with students undertaking a final-year research project with topics in actuarial science growing steadily since CT accreditation. This year, UCC will also make research projects in actuarial science available to Master's students in statistics

Oxford University's Saïd Business School has a 17-strong group of finance academics covering areas in both corporate finance and asset pricing, including pension fund management

Southampton University has expanded its actuarial staff numbers, both to meet the demands of growing undergraduate and postgraduate actuarial science programmes and to develop strengths in actuarial research with new posts in 2008 and 2010

Appointment of Paul Sweeting as new professor of actuarial science in 2009

One-Year Risk Horizon: Solvency II Risk Capital, Technical Provisions and Market Value Margins for the Aggregate of all Long-Tail LOBs

The mandate

CEIOPS Consultation paper 75: Undertaking specific parameters for SCR

3.55 The SCR is the difference between the basic own funds over the one year time horizon in the distressed scenario. This implicitly suggests that undertakings should analyse the difference between all component parts of the technical provisions under the stressed scenario, including the risk margin.

Critical information required

In order to compute Technical Provisions (TP), Market Value Margins (MVMs) and the Solvency Capital Requirement (SCR) for the one-year risk horizon for the aggregate of all long tail LOBs and each LOB, the following critical information is required:

- Probability distributions of the paid losses (liability stream) by calendar year (k=1,...,n), and their correlations for each LOB and the aggregate of all LOBs. Complete run-off is achieved at the ultimate calendar year n.
- Probability distributions of the above conditional on the first (next) calendar year's losses being at the 99.5th percentile, i.e. the year is "in distress" (denoted ξ).

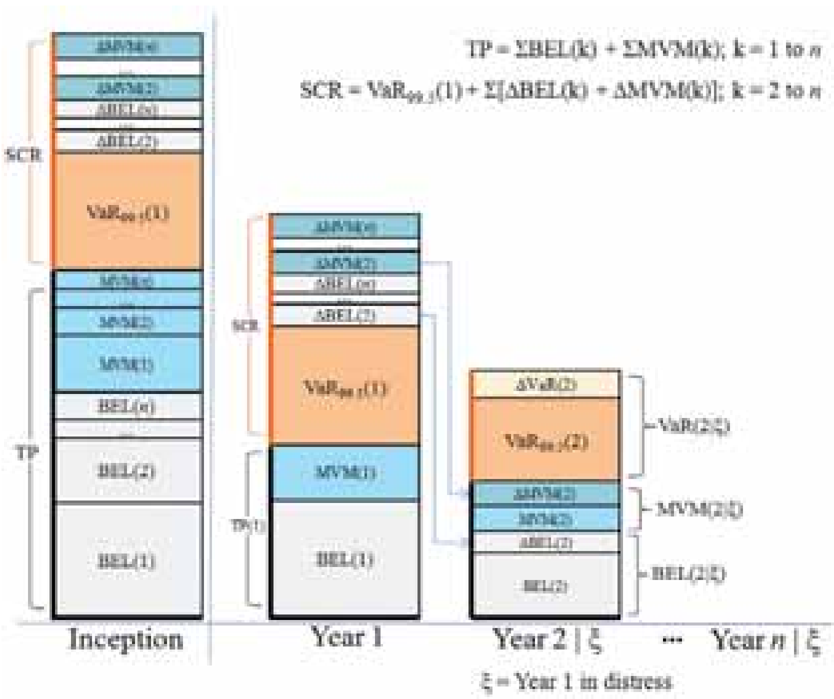
Armed with the above distributions, any risk measure can be computed, including VaR(k) and VaR(k|ξ) for calendar year k for each LOB and the aggregate of all LOBs. The correlations between calendar years are a function of parameter uncertainty and process variability. There are three types of correlations between LOBs.

Solvency II one-year risk horizon

For the one-year risk horizon, risk capital is raised at the beginning of each year. The cost of raising the risk capital, the MVM, is paid to the capital providers at the end of each year along with any unused risk capital. The sum of the MVMs and the Best Estimate of Liabilities (BELs) for each calendar year is the Technical Provision.

Example n-year run-off (correlated)

If the first year is in distress (ξ), then the conditional distributions for subsequent years change, being now conditioned by ξ, resulting in (typically) higher technical provisions. The additional technical provisions required to continue running the business after a distress event forms part of the risk capital fund in the first year. In the event of a distressed year, this additional capital is allocated to subsequent years to restore the balance sheet.



The additional capital required to adjust the BEL is ΔBEL(k); namely BEL(k|ξ) - BEL(k). Similarly, the new risk capital that needs to be raised at the beginning of year k is $\Delta VaR_{99.5}(k) = VaR_{99.5}(k|\xi) - VaR_{99.5}(k)$. The cost of raising this extra risk capital in year k is ΔMVM(k).

The sum of these amendments in the technical provisions is what is required at inception in order to allocate the additional provisions to subsequent years if the first year is in distress. These adjustments form part of the SCR in year one; therefore MVM(1) changes. However for k > 1, MVM(k) and BEL(k) are unchanged, since in the event of the distress scenario ξ, we can draw on the risk fund for the amounts ΔMVM(k) and ΔBEL(k), to augment the MVMs and BELs appropriately.

Rising to the Solvency II challenge

Richard Shaw, Andrew Smith and Grigory Spivak consider different approaches to modelling economic capital in the advent of Solvency II



(Clockwise from left) Richard Shaw is a director of Horgen Capital and Risk Ltd; Andrew Smith is a partner at Deloitte LLP; Grigory Spivak is a consultant in the Risk and Financial Services segment of Towers Watson

The credible parameterisation and modelling of risk dependency is probably one of the most challenging areas for actuaries today. It is an area where, quite often, limitations of the parameterisation and model specification process are masked by complex-looking economic capital models. Solvency II appears to have raised the hurdle.

In everyday language a lot of us use the words 'correlation' and 'dependency' interchangeably. Quite often, a correlation coefficient is used in every circumstance when we need to measure the strength of dependency between two random variables. In fact, it is very important to remember that correlation is just a special case of dependency. It quantifies a linear relationship between two random variables expressed as a single parameter, while dependency deals with any kind of relationship.

One of the reasons for the popularity of correlation in finance is its use in variance-covariance matrices as a part of modern portfolio theory, which is based on the normal (or more correctly, elliptical) distribution. In reality, a lot of financial risks that we deal with in economic capital modelling are not adequately described by the normal, or indeed elliptical, distribution.

Many of these risks exhibit asymmetry and 'fatter' tails than described by the normal distribution, especially in non-life insurance. Therefore, relying solely on correlation as a measure of dependency between risks can be very misleading.

Economic capital risk aggregation

Insurance companies and banks differ in their approaches to economic capital risk aggregation, some techniques being more sophisticated than others. The three common broad categories of methods used in financial modelling are:

1. Correlation matrices — a variance-covariance matrix calculation
2. Copulas
3. Causal modelling — an abstract model that uses cause-and-effect logic to describe the behaviour of an insurance organisation, often referred to as an 'integrated model' using CEIOPS Solvency II nomenclature.

The correlation matrix approach is where capital is first calculated on a standalone basis for each risk and then aggregated using a correlation matrix. The correlations may be estimated using conventional techniques. An alternative is to back-solve parameters to reproduce the answers to specified aggregation tests. The resulting parameters are sometimes called tail correlations or quadrant correlations.

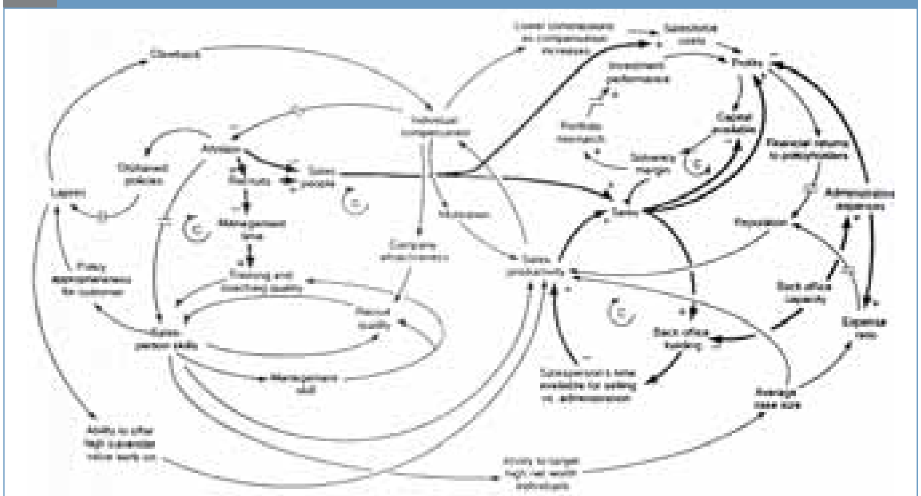
The copula approach is different, as it involves Monte Carlo simulation with the full marginal risk distribution of each risk and a copula function to produce a meaningful aggregate risk distribution. The simplest multi-dimensional copulas from the calibration point of view are the Gaussian and t copula.

Causal modelling is best typified by the idea of common risk drivers that impact risks, often in a non-linear fashion. This is the usual method for capturing dependencies within economic scenario generators. A typical example would be inflation being derived from simulated nominal and real yield curves, which in turn is linked to the simulation of insurance losses.

The different methods are often used in combination; for example, even in causal modelling it is not possible to credibly formulate all of the potential risk relationships so techniques such as correlation matrices or copulas are often used to deal with the residual risks.

These models can get quite complex as illustrated by the causal loop diagram for growth or decline of a life insurance organisation (Figure 1).

Figure 1 — Robert A. Taylor. "Feedback". U.S. Department of Energy's Introduction to System Dynamics (2008)



The best approach

There are various trade-offs to consider within each method:

- Model accuracy (such as the ability to model heavy-tailed risks)
- Methodology consistency

- Numerical accuracy
- The availability of data to perform a realistic calibration
- Intuitiveness and ease of communication
- Flexibility
- Resources.

Moreover, with the advent of the Internal Model Approval Process (IMAP) within Solvency II, and company desires to gain approval, some of these selection criteria gain more importance.

For example, with reference to CEIOPS Tests and Standards for Internal Model Approval Level 2 Implementing Measures (formerly CP56), under the Use Test, senior management need to show that they understand the internal model, including both an understanding of the structure of the model and its limitations.

One approach is to require board members to become conversant with the details of copula methodologies and whatever dependencies are buried inside third-party economic scenario generators. An alternative approach is to simplify the models until management can understand how they work. Simplification has some significant advantages, including easier calibration and maintenance as well as a better chance of mistakes being detected as results are open to wider scrutiny.

In addition, under Statistical Quality Standards there needs to be meaningful support for claiming diversification effects. This includes empirical/statistical analyses and expert judgment of causal relationships or a combination of both. Expert judgment needs to be explained and documented in detail, including how expert judgment is challenged and monitored against actual experience wherever possible. There are challenges ahead for many companies.

Risk aggregation example

We have constructed a simple example featuring ABC Insurance Company.

It should not always be assumed that an advanced modelling approach is necessarily the best. The correlation matrix approach, the simplest of the methods, gives capital levels similar to those of a t copula in our example with positively skewed loss distributions (common within non-life companies). In addition, the correlation matrix calculation in our example uses the linear (Pearson) correlation coefficient and not so-called 'tail' correlations (however defined) that are quite often cited in publications.

Furthermore, the capital levels from the use of a Gaussian copula in this example are actually lower than those arising from use of the variance-covariance matrix approach. This should be noted given that the Gaussian copula is often used by insurance companies to derive aggregate risk distributions without consideration of the impact when marginal risk distributions are no longer normal.

It is assumed that there are 10 separate risk categories and that economic capital is calculated using different methods: copula Monte Carlo simulation and correlation matrix approaches. Both of these approaches involve marginal risk distributions, and either a correlation matrix or an appropriate copula to aggregate risks.

The marginal risk distributions are identical Lognormal distributions with an expected value of 2000 and standard deviation of 500. The correlation between risks for copula Monte Carlo simulations is 25%.

Economic capital is based on a VaR risk measure over 12 months where Capital = Loss (%) – E (Loss).

Figure 2 shows the economic capital results at different percentiles using four different copulas: the Gaussian copula and the t copula with 10, 5 and 2 degrees of freedom (df). Economic capital numbers are also shown using the correlation matrix (Corr Mat) approach to risk aggregation with a linear correlation coefficient consistent with the copula modelling results.

Capital calculated using the correlation matrix approach (not equal to the Gaussian copula) is similar to that from a t copula with 5 degrees of freedom at the 99th percentile, and at a t copula with approximately 8 degrees of freedom at the 99.5th percentile.

Challenging times are ahead for many organisations planning to use approved internal models for economic capital modelling. We expect most firms to follow a pragmatic approach, with an elimination of excess complexity allied with a broader development of in-house expertise.

Figure 2 — Shaw, R and Spivak, G "Correlations and Dependencies in Economic Capital Models", FIRM (2009)

Economic Capital — 25% Correlation

Percentile	Return	Gaussian	t- 10 df	t- 5 df	t- 2 df	Corr Mat
75%	4	1760	1685	1578	1421	1658
90%	10	3688	3610	3582	3418	3763
95%	20	4928	4906	5004	4889	5182
99%	100	7423	7916	8177	9049	8212
99.5%	200	8391	9087	10031	11052	9455
99.95%	2000	11082	13926	14929	18544	13468

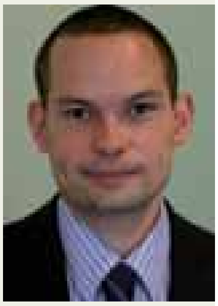
% difference of Gaussian Copula

Percentile	Return	Gaussian	t- 10 df	t- 5 df	t- 2 df	Corr Mat
75%	4	0.0%	-4.2%	-10.3%	-19.3%	-5.8%
90%	10	0.0%	-2.1%	-2.9%	-7.3%	2.0%
95%	20	0.0%	-0.4%	1.6%	-0.8%	5.2%
99%	100	0.0%	6.6%	10.2%	21.9%	10.6%
99.5%	200	0.0%	8.3%	19.5%	31.7%	12.7%
99.95%	2000	0.0%	25.7%	34.7%	67.3%	21.5%

Richard, Andrew and Grigory's forthcoming sessional paper on dependency parameterisation and modelling will be presented at Staple Inn on 10 May 2010.

Closing the gap

Stephen Bale looks at consumers' attitude to insurance products with reference to the Retail Distribution Review and suggests some approaches to closing the protection gap



Stephen Bale is Swiss Re's UK Life & Health disability product actuary

The Insurance Report, published by Swiss Re in December 2009, takes a consumer-focused view of the UK savings and protection insurance market with a particular emphasis on long-term protection business. The report, entitled *The cost of doing nothing*, draws on qualitative and quantitative research conducted among more than 1,000 UK consumers aged between 21 and 70. This article discusses some of the key themes and findings.

The consumer is king

Today's consumer is very different from the consumer a generation ago. Technology has revolutionised the way we live in ways our parents would not have considered possible. The traditional high street could never have offered the ease through which products and prices can be compared today — using internet search, comparison sites and internet forums where people can compare experiences, both good and bad, with complete strangers. Few would disagree that more choice is a good thing and that we have adapted our lives to allow us to select products, and how we buy them, in a world where the consumer is king.

The financial services market is also now characterised by a greater choice of products and services aimed at helping people to achieve their savings and retirement goals, and to buy the protection products they need.

Since the credit crunch began in 2007, its effects have influenced and changed people's attitudes to spending and debt, and have left consumers feeling more cautious. When we asked how people would react to having to reduce their monthly outgoings by £100 a month, only 6% said they would be very likely to cancel their life or protection insurance, with 5% being very likely to cancel their contribution to a pension arrangement. By comparison, 54% would be very likely to stop buying luxury items and 27% very likely to cancel their satellite TV subscription. Consumers do, therefore, seem to regard life and protection cover as a priority commitment.

Our research indicates that people have become more aware of the need to take personal responsibility for their finances. We tested consumers' confidence in how well their household would cope if they were to suffer an illness, disability or death — the results are shown in Figure 1. Rather surprisingly, 71% said their household was very or fairly well placed to cope. Taking consumers aged between 35 and 54, 58% thought that they had adequate insurance and 22% said they had adequate savings to see them through. 32% of those aged 21 to 34 said that they would rely on family and friends to help.

We also asked people what products they already have. 52% said they had life insurance, rising to 74% for 35 to 54-year-olds. 22% have their own long-term income protection policy, and again this is higher, at 31%, between the ages of 35 and 54.

While consumers see their financial needs as being quite simple, we saw a strong desire for access to personal help, looking for a relationship with an adviser but very much on their own terms. Our research suggests that many people are not overly bothered about adviser status, as long as they get the help they need and feel confident that the adviser has done a good job. Many consumers will do their own research to get a better understanding of a product before or after seeing an adviser. 'Advice' means the consumer having somebody to contact, often to discuss quite a simple point and to be reassured that he or she is doing the best thing.

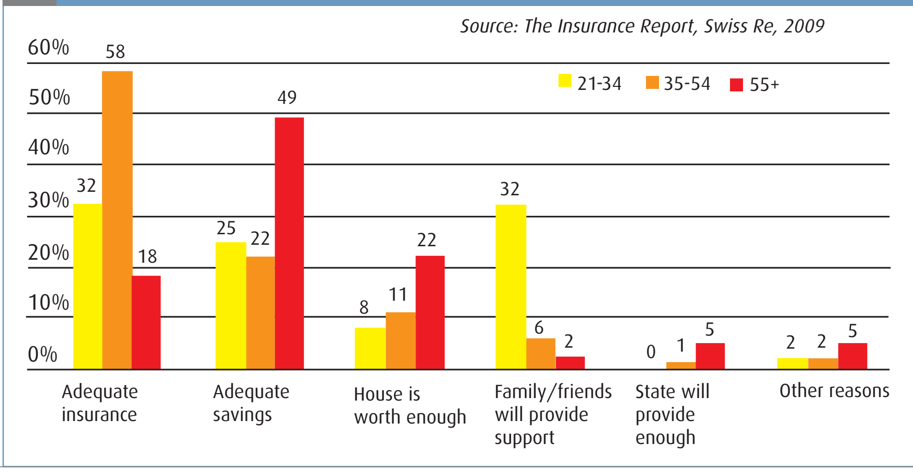
This model is quite a way from the detailed client fact-finding and regular reviews that many advisers use today, or would wish to adopt in response to the Retail Distribution Review (RDR). This suggests that the industry needs to explore further how a basic or simplified advice model might work for consumers.

Time is money

People's perceived simplicity about their needs fed through into the value they place on financial advice. 58% of consumers claimed they would seek independent financial advice for life and protection insurance products and 65% for savings and investment products. Overall, 53% would be prepared to pay for advice for life and

Continued overleaf

Figure 1 — Which of these statements best describes the reason for saying you are well or reasonably positioned? Split by age



Continued from page 39

protection insurance products and 55% for savings and investment products. As regards how payment might be structured, around 90% would prefer a one-off payment compared with the uncertainty of an amount based on hours spent.

The amounts consumers would be prepared to pay are limited. Of those prepared to pay a one-off fee, 20% would pay up to £100 (some frivolously putting a value as low as £1) and 26% between £100 and £199. Tellingly, 36% were unable to give any figure, perhaps reflecting a lack of familiarity with paying for advice and the fact that they see it more in terms of help on demand rather than a full-scale review of their needs. The figures for advice on savings and investment needs are broadly similar.

This suggests there is a big gap between the amounts consumers would be prepared to pay, if anything, and typical adviser commissions. People may be resistant to fee-based advice and this is likely to mean that, for savings products, adviser-charging by deduction from premiums will be the preferred way to meet the advice cost once the RDR comes in. Regular premium contracts, in particular, might look unattractive compared with simple propositions such as individual savings accounts (ISAs).

Innovation need not be complicated

To create more choice and to differentiate themselves from the competition, financial services providers have designed a range of products and services. Arguably, these appeal more to the distribution channel than to the end customer. What the industry regards as innovation may often prove highly complex for the people being sold to. It is a sobering thought that many of the reviews of past sales led by regulators have had complex propositions at the root of the problem, leading to poor marketing and product literature or bad advice. How will the RDR impact product design when insurers can no longer incentivise choice through adviser remuneration structures? Will advisers look for simple or complex product propositions?

The days when product charges were largely concealed from consumers are fortunately long behind us. But, while the industry has made some well-intended and genuine attempts to improve consumer understanding of its products and services, the terminology that we use can still be bewildering.

The way consumers describe our products and services gives us some revealing insights. For example, when we asked consumers about ‘income protection’, many spoke about the risk of being made redundant or unemployed. Only a few understood the true meaning of the term, that it relates to the risk of loss of income due to long-term incapacity. This is not surprising, given that the product name makes no reference to a long-term benefit, payment duration or incapacity.

Once we explained the concept of protecting income against the risk of incapacity on a long-term basis, people found it valuable and useful. But if nobody is there to explain what exactly a product does, what will make the consumer seek it out? We need to be far clearer about what is, and what is not covered. Consumers really do seek this clarity, but our evidence shows that they struggle to interpret much of the material insurers produce and fail to differentiate between what is less or more important.

Income protection is one example of where our product labelling can be improved. Much has been done already, but we still need to do more to make products and propositions clearer and easier to understand. Consistent messaging and simplicity are key to keeping consumers engaged, along with stressing the need for people to take action themselves. Moving our consumer base from being largely passive in its insurance-buying habits to becoming engaged and informed retail buyers is our most pressing challenge.

» If nobody is there to explain what exactly a product does, what will make the consumer seek it out? «

Relationships — keep the flame burning

The economics of being in the advice business have reduced the number of intermediaries available to advise and help consumers. As advisory firms have tried to move their models up market, many low to middle-earners and their families have been driven away from access to advice and towards financial exclusion.

The risk is that the eventual outcome of the RDR excludes even more people. So far, it is clear that there has been too little debate about re-engagement with a market that is, for the most part, under-insured, has inadequate provision for retirement and has become disengaged.

Mind the gaps

Since 2002, Swiss Re has calculated the UK Life Assurance Protection Gap, a conservative estimate of the difference between the amount of life cover people hold and the amount they need. This now stands at £2.3 trillion (£2,300 billion) sum assured, a figure in itself too big to be meaningful to the average UK consumer. Putting it into context, one in every two UK adults has an average personal protection gap of around £100,000 — around four times average earnings.

We have also measured the income protection gap, again representing the shortfall between the cover consumers have and need. Between 2002 and 2009 this has increased from £130 billion in annual benefit to £190 billion. The number of people insured, either through their own policy or an employer-sponsored scheme, is somewhere between 3.5 million and 4 million. But according to our consumer research, up to 11 million people think they have it. This finding is consistent with similar research we carried out in 2004. Perhaps we should be less surprised that people avoid buying cover if they think they already have it — which, in itself, may be fuelled by confusion around what the product actually is and does.

Consumers do at least recognise that they can no longer close their eyes to the need for greater self-provision and that the state will not always provide, other than for the most needy of cases. But they have yet to appreciate the gaps between the cover they have and need, and they are ill-equipped to take the action needed to do something about it. While the debate about the 'retirement time bomb' is well known, one of the costs of doing nothing may be that another time bomb, in the shape of income protection, will soon start ticking.

» The number of people insured is between 3.5 million and 4 million. But up to 11 million people think they have it «

Teamwork will work

One of the keys to closing the protection gaps is greater stability, consistency and realism in the messages given out by government, regulators and our industry. In the current economic climate, it is unrealistic to expect anything other than for individuals to shoulder even greater responsibility. This is true in the short term, as pressure on the public purse and the need to reduce government debt take priority. It is also the case in the long term, as the costs of care and retirement continue to grow, and increasing longevity leads to a growing ratio of elderly lives in our population.

All stakeholders — industry, government or regulators — need to work together. Whatever the merits of different product designs, we need clear, consistent and unequivocal statements from the government that not only savings and investment, but also protection, are good things, and that ultimately the consumer is responsible for ensuring these are in place. The life insurance industry has a key role to play in reducing the protection, retirement and care gaps. But we now need to get more proactive in converting words into action.

Employers are another stakeholder with an important role to play, given that many consumers see the workplace as a natural access point to obtain financial information. Employers today are important providers of financial products — paying for almost three-quarters of all long-term income protection and 40% of all life assurance cover. Our industry must help employers to get clear messages out to their employees about how valuable these benefits are.

Employers too often claim that their staff place little value on the cover they receive through work, but this may well be down to poor employer communication. The importance of employee value should not be underestimated, given that employers are not obliged to provide pension or other benefits and could withdraw cover at any time. Positively, the group risk market has started successfully to raise the profile of cover with employers through its trade body, GriD.

Turning words into action

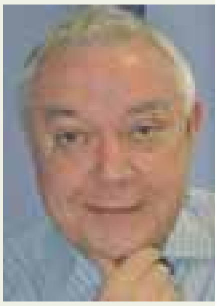
Swiss Re's consumer research reveals a new-found sense of responsibility in the way people manage their money, yet many remain very confused about what exactly our industry offers. Consumers know full well that the days of state provision are numbered, but many have no perception of what to do to address their needs.

One thing is clear — that now is the time to seize the moment to address the issue of personal responsibility, and to respond to people's wants and needs through the right mix of consumer engagement, products and services.

If you would like to comment on this article, please e-mail *editor@the-actuary.org.uk*

The sting in the tail

Con Keating considers the unintended consequences of hasty new regulations put in place as a result of the financial crisis



Con Keating is head of research for BrightonRock Group

This article's origins lie in a short feature entitled *Hubris, Nemesis and Catharsis*, which was published by Vox-EU[1] in the summer of 2009. That called for a measured, considered analysis of any new regulatory proposals and observed that the necessary time was, and still is, available to us. The tone is well captured by its abstract: 'The desire to regulate to avoid any recurrence of this financial crisis is commendable but the haste with which new regulations are being promulgated is unnecessary and dangerous. The potential for unintended consequences is substantial, as the precursor analysis is sometimes incomplete, sometimes incorrect and sometimes inadequate'. These assertions were illustrated by examples. It was no more than a call for prudence, rational and well-informed behaviour, in our regulatory response to the crisis.

In many regards, the situation is little changed. For example, among all of the discussion of incentives for traders and risk-taking, the role of salesmen has passed without remark, but these were the conduit distributing securities that proved so toxic to Norwegian municipalities and minor German savings banks. In the past, salesmen had an incentive to protect their clients, as these were the source of their reputation and future income; it was not uncommon to hear traders grumbling that salesmen were 'working for the client not the bank desk that paid their wages'. A sufficiently large and immediate bonus scheme very effectively corrupts and ends that benign motivation and behaviour.

The previous article used the example of Bear Stearns to illustrate the incompleteness of analysis: 'At the end of February 2008 Bear Stearns reported that it held $303bn of collateral of which $211bn had been used to generate cash or substitute for delivery of cash… in street jargon, this practice of using customer collateral as security for further loans is known as '(the right of) re-hypothecation'.

'With securities lending, title but not ownership passes to the borrower. The lenders of funds did not know whether the securities offered to them as collateral were beneficially owned by Bear Stearns or by one of its clients. When rumours of distress and difficulty abound, focus on exposures and the legal minutiae of agreements is warranted and usual practice. Advancing funds against securities to which Bear Stearns had legal title but perhaps not unconditional beneficial ownership carried a now material risk of entanglement in dispute, if the beneficial owner sought recovery… The payment of sensible interest rate premia by a borrower in this situation is likely to be ineffective in retaining or securing funds, as the lender's risk is no longer tolerable to a very large degree. Many lenders appear to have arrived at similar conclusions.'

It is now evident that AIG's use of collateral in its possession to purchase asset-backed securities was a minor variant to this issue and a major contributor to its problems. The securities purchased were either unsaleable, in distress or could only be realised at greatly impaired prices. Many of the hedge funds that used Lehman Brothers as their prime broker are still unable to recover their collateral securities.

Some commentators have also noted that the use of collateral in 'repo' financing weakens the priority and security of the other creditors of a bank, since this collateral security may be seized and sold outside of the insolvency process.

However, further analysis of the role of collateral more broadly is warranted, particularly in light of the breakdown of the unsecured inter-bank money market. The role of collateral security as a substitute for sound credit risk analysis is a concern.

Table 1 — Collateral held by top five banks (US $ million)

	Total assets	Total notional derivatives	Risk-based capital	Total derivatives credit exposure	Collateral held
JP Morgan Chase	1 663 998	79 941 219	142 825	404 160	107 000
Goldman Sachs	119 678	40 477 262	20 191	185 989	171 000
Bank of America	1 450 830	39 064 884	137 630	188 324	84 000
Citibank	1 165 400	31 943 721	112 475	235 230	58 000
Wells Fargo	1 100 177	5 111 215	117 660	83 796	12 000

Source: Office of the Comptroller of the Currency

The use of collateral security to support a contract lowers the need for a banker to perform both the initial due diligence and ongoing monitoring with respect to the counterparty's ability to service that contract. Collateral reduces the consequence of counterparty failure but may, and usually does, increase the likelihood of the counterparty's failure. It may be argued that this monitoring role is the justification for the very existence of banks.

In addition, the practice greatly facilitates unwarrantedly large gross exposures, which might in other situations be seen as overtrading. It should be realised that, as a result of their ability to create money in normal circumstances, banks do not typically face the financing problems associated with overtrading by an industrial enterprise.

The overwhelming majority of the analysis of the crisis considers the traditional banking of payments services, deposit-taking and credit creation. However, banking has changed dramatically since the 1970s, as developments in technology and financial theory have allowed banks to respond to the demands of their clients for financial risk management by offering new instruments and services, and a broad spectrum of new financial markets has developed.

The changes in banking are most evident from the current extent of banks' activities as principals in capital and derivatives markets. Many have increased and broadened their proprietary trading activity, seeking to benefit from speculation in markets. Proprietary risk-taking has become a cause for concern and action in the US; the Volcker rule is a manifestation of this. However, it is not at all obvious that the prohibitions proposed define the boundaries of risk management activities well. By a broad range of metrics, including exposures, revenues and profitability, many of the larger global institutions may now reasonably be described as being predominantly in the business of financial risk management rather than traditional banking. The principal device used is the OTC derivative contract (see Tables 1 and 2).

From published data it is unfortunately not possible to directly disentangle proprietary trading activities from the provision of risk management services to clients, or management operations within their treasury functions. For the US in mid-2009, the outstanding notional amounts of these contracts aggregate to the total of $203 trillion, having a total credit equivalent exposure of some $1.2 trillion. More than 85% of exposures in the US are bilaterally netted and collateral, which is predominantly cash, of some $550bn is held against a total current credit exposure of $886bn[2]. Over $400bn of this collateral is held by the top five banks, as shown in Table 1. It is immediately apparent that calls for liquidity — collateral based upon the mark-to-market variation of these contracts — can be very substantial and, in the presence of high uncertainty and volatility, might easily dominate other cashflows. It is also evident that these activities are material for these banks.

Table 2 is an analysis of the exposure of selected banks to other classes of institution. From this, it is evident that the uses of derivatives must extend far beyond simple speculation by banks.

Any analysis of this broader role of risk management services offered by banks, rather than their traditional banking roles, raises some questions — should the banking system be the location of financial risk

Continued overleaf

Table 2 — Exposure of selected banks to other classes of institution Net Current Credit Exposure ($ billion)

	Banks	Mono-line insurers	Hedge funds	Sovereign	Corporate and other	All counterparties
JP Morgan Chase	86.96	0.69	3.76	3.95	69.17	164.53
Bank of America	57.28	9.95	2.57	3.79	87.17	160.77
Goldman Sachs	158.38	0.00	5.03	5.14	50.10	218.65
Morgan Stanley	63.77	6.48	2.04	8.18	51.28	131.75
Citigroup	75.29	4.87	3.11	2.47	46.00	131.73
Wells Fargo	13.02	1.30	1.48	0.01	15.91	31.72
Total — all banks	472.73	25.78	19.06	24.45	343.54	885.57

Source: Office of the Comptroller of the Currency

Continued from page 43

management for the economy at large? Should the central bank be as willing to provide liquidity for the relief of problems associated with risk management operations as it is for banking problems?

If the central bank is supplying liquidity to meet margin or collateral calls, it is making a payment to a bank for a loss that that bank has already incurred (but not realised), which is very different from traditional uses, such as meeting a deposit demand. It should also be realised that one bank's loss under an OTC derivatives contract is the counterparty's gain. This was clearly evident in the case of AIG, where the Federal Reserve's Maiden Lane III support was overwhelmingly paid to other banks such as Goldman Sachs and Société Générale, on terms that have been criticised as covert subsidy to those banks. The relative size of potential liquidity calls deserves some thought. A call for liquidity to repay deposits might extend to the majority of a bank's assets or liabilities, but calls under derivatives contracts can be entirely unlimited. It can be argued, following Bagehot, that liquidity support should be offered to a solvent bank for traditional lending activities to the extent that it possesses sound and pledgeable assets, but any need for liquidity under a variation margin call should, at most, be limited to the amount of the bank's capital and reserves. Any call greater than this is simply confirmation that the bank is insolvent.

Since the publication of the original note, the debate has moved on; it is now governments that are over-extended as the banks recover. It is evident that banks will be required to hold far larger reserves of liquid securities and much higher levels of capital than previously. Unfortunately, it should be realised that this cannot resolve the systemic liquidity problem, as was observed by Keynes: "It forgets that there is no such thing as liquidity of investment for the community as a whole"; the role of the central bank as the ultimate provider of liquidity insurance is unchanged.

» Banks will be required to hold far larger reserves of liquid securities and much higher levels of capital than previously «

It is likely, though, that this combination of measures will cause banks to hold fewer assets and result in lower demand in the economy at large. It also suggests a greater role for capital markets in financing large corporations and the advent of new non-bank finance companies. Perhaps the central bank will wish or need, in this brave new world, to adopt a more accommodative policy stance simply to maintain economic demand. Traditional metrics of monetary policy, such as the Taylor rule, are likely to lose much of their power. Questions of policy instrument choice and effectiveness are as relevant here as they are in macro-prudential systemic supervision, on which there is consultation and widespread discussion.

A plethora of proposals have been advanced but it is often difficult to judge how sound many of these are. A case in point — the use of central clearing houses operating initial and variation margins for OTC derivatives concentrates the risk of, and to, the banks, also denying them the liquidity of their maintained margins.

It is clear, though, that the Tinbergen rule should not be forgotten. It is difficult to improve on Robert Mundell's[3] description of this: 'To achieve a given target[4] there must be an effective instrument, and to achieve various independent targets there must be at least an equal number of effective instruments. If a program includes more targets than instruments, at least one target cannot be fully attained; whereas if it contains more instruments than targets, there will be more than one way of achieving the combination of targets[5].' In light of that and the multiplicity of proposals, perhaps now it is the hubris of regulators and supervisors rather than bankers that should be cause for caution.

'Filtering out extraneous information is one of the basic functions of consciousness. If everything available to our senses demanded our attention at all times, we wouldn't be

able to get through the day.'[6] Similarly, for financial markets to function it is necessary to bound uncertainty by convention; pursuit of the gains from trade taking priority over precaution. A whistle-blowing risk manager is still a threat in this context and, like Cassandra, can expect to continue to see his (inevitably alarmist) predictions ignored. Indeed, total preoccupation with the risks of finance is unproductive; any animal dedicating so much of their resources to this activity would be unable to feed and house itself, with obvious consequences. The ending of this article is unchanged from the earlier note: 'We would do well not to forget that we do not discover the future, but rather that we create it.'

1 The full article is freely available at *www.voxeu.org*

2 The difference between the current credit exposure and the total credit exposure figures cited arises from the potential future exposure of contracts in force

3 Robert Mundell, International Economics, Macmillan 1968 pp201-216

4 Targets are the objectives of policy and Instruments the vehicles

5 'Just as a mathematical system will be 'overdetermined' or 'underdetermined' if the number of variables differs from the number of equations, so a policy system will not generally have a unique attainable solution if the number of targets differs from the number of instruments'

6 B Schwartz, *The Paradox of Choice*, Harper 2004.

Treading the boards

This month we focus on theatre, with a review by Charles Cowling of The Worshipful Company of Actuaries' February play *Hanging Hooke*

Hanging Hooke
Staple Inn — February 2010

Actuaries and their guests enjoyed a unique and marvellous experience in February, when the newly refurbished Staple Inn was transformed into a theatre set. Those of us used to sitting through dry actuarial discussions delighted in seeing our hall come alive for a production of Siobhán Nicholas's *Hanging Hooke*.

This magical play is all about the polymath Robert Hooke (1635-1703), regarded by many as the English Leonardo da Vinci. I confess, to my shame, that before I discovered this play my only knowledge of Robert Hooke and his contribution to the history of science and discovery was Hooke's Law on the elasticity of springs, which I learnt for my A-level Physics. I had therefore dismissed Hooke as a very minor character. How wrong could I be?

Like da Vinci, Hooke was a fine artist, an accomplished architect and an engineer; he even designed a prototype flying machine. He was a founder member of the Royal Society (which is celebrating its 350th anniversary in 2010) and, for 20 years as their curator of experiments, he poured out a stream of brilliant concepts, including a universal law of gravity (just one area where Hooke was shamefully treated by his contemporary, Isaac Newton), evolution of species and atomic theory — he even anticipated modern wave theory. It was Hooke that coined the term 'cell' for biological organisms. He also worked closely with his good friend Christopher Wren on St Paul's Cathedral and the rebuilding of London after the Great Fire. This man was truly one of our greatest ever Britons and yet I knew so little about him. *Hanging Hooke* was to change all that.

This one-man play, performed by the hugely impressive Chris Barnes, was a *tour de force* — simultaneously gripping in its story-telling and fascinating for its historical insight on the shadowy energetic genius, Robert Hooke. The audience was transported back to 17th century England for a tale of scientific discovery, intrigue and betrayal. We discovered just a few of the reasons why Hooke has been called the English Leonardo but, along the way, we were also deeply moved by a powerful human story, reaching a triumphant climax in modern-day London.

Not only was the acting first rate, but the writing was beautiful and captivating, effortlessly pulling together a huge story, set across the history of science (treating us to fragments of fascinating scientific insight) with the human story of a scientist betrayed.

The play, which was presented by the theatre company, Take the Space, in conjunction with the Yvonne Arnaud Theatre, was put on by the Worshipful Company of Actuaries as a fund-raising event, very appropriately, for its joint educational project with the Royal Society.

Review by Charles Cowling

Matt and Finn welcome your comments and contributions. Please e-mail *arts@the-actuary.org.uk*

SNAPS WITH GAAPS

Remember to keep your entries coming for our photo competition. The closing date is 9 April. Full entry details can be found at *www.the-actuary.org.uk/872865*.

Chris Barnes, 'hugely impressive' as Robert Hooke

Recommended play

The Power of Yes

In the heart of the financial crisis, the National Theatre commissioned playwright David Hare to write a play that sought to explain why it all happened. With limited time Hare interviewed a wide range of finance professionals and turned this into a thought-provoking drama. Playing on London's South Bank until the end of April.

Art by an actuary

Where actuaries dare

Michael Hall, a student actuary at Alexander Forbes whose dramatic exploits have previously appeared in these pages (see *www.the-actuary.org.uk/703375*) has successfully boiled down the epic war film *Where Eagles Dare* into a mere 60 seconds with a combination of a few jokes, two guns, one German helmet and a Ford Fiesta. The short film has been selected as a finalist in *Empire* film magazine's 'Done in 60 Seconds' competition. You can view Michael's efforts at *www.youtube.com/watch?v=VMxxhE1gQ6M*

April prize puzzle — Titanic triangles

As you all may remember from school, a triangular number is a number of the form N(N+1)/2, where N is an integer — or, if you prefer, the number of dots in an equilateral triangle evenly filled with dots (hence the name).

First of all, find triangular numbers A and B, such that A is 30 digits long — a titanic triangle indeed — and B = 2A (twice a titanic triangle). When you have done that, find triangular numbers C and D, such that C is again 30 digits and D = C/3 (a titanic triangle trisected).

For your chance to win a £50 Amazon voucher, please send your answers to *puzzles@the-actuary.org.uk* by 16 April.
For those of you not into mental arithmetic, the editor can recommend the excellent Wolfram|Alpha as an easy way of multiplying large numbers.

Terms and conditions

The prize will be awarded for the best entry received before the closing date. In the event of a tie the winner will be picked at random. The winner's name will be announced in the next edition. Please note that the puzzles editor's decision is final and no correspondence will be entered into. We reserve the right to feature the winner's name and a photo (if supplied) in *The Actuary*. Your details will not be passed to any third party in connection with this draw.

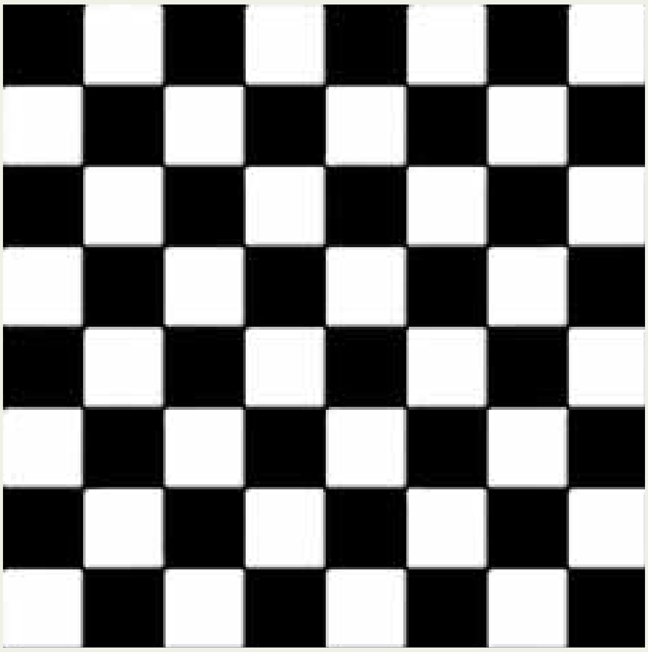
Puzzle 449 — Family fortunes

Riddle me this. William is worth £10 million, Edward and Michael are worth £1 million each and Elizabeth, Charles and Anne are all in debt. But which family member is the richest of all?

Puzzle 451 — Domino effect

Take a chessboard and recolour the squares black and white, so that there are no groups of three or more connected squares of the same colour.

In how many different ways can this be done? (Reflections or rotations, etc, of solutions do not count as the same solution.)



Puzzle 450 — One at a time, please

An open-ended question: what are the longest words in English (not including proper nouns) containing only one particular vowel? For example, 'bananas' counts — and for these purposes 'y' counts as a consonant.

Try to find the longest word you can for each of a, e, i, o and u; after a little thought the puzzles editor has managed a total of 60 letters for five words — but perhaps you can do better? If you have access to a word list and a modicum of programming skill, it's fairly likely!

More puzzles online

To access the puzzles archive or to play daily interactive Sudoku, visit *www.the-actuary.org.uk/puzzles*.
The puzzles editor is pleased to receive ideas for new puzzles from readers at *puzzles@the-actuary.org.uk*

Bridge

The bridge column is aimed at improvers rather than established players — a useful guide for beginners can be found at *www.ebu.co.uk/education/learning/default.htm*.

Please send any comments you have to Tom Bratcher at *puzzles@the-actuary.org.uk*

Bridge challenge 3

Entry level

North
♠J65
♥532
♦K54
♣Q743

South
♠AQ
♥AQJ1076
♦A87
♣A6

Bidding	South	North	(no bids from East – West)
	2♥	2NT	
	3♥	4♥	
Lead	Q♦		

You (South) open a strong Acol 2♥ Partner gives a negative response of 2NT. In case Partner is very weak, you simply rebid hearts. With a few points and three hearts North is worth a raise to 4♥. After the lead of Q♦, you potentially have four losers, one in each suit. How do you plan to get rid of one of them?

Solutions for March 2010

March prize puzzle solution — A one age opera

All of the answers consist of alternating vowels and consonants and start with a vowel. Well done to all those who diligently supplied an exhaustive list of alternative answers to number 22 in particular.

1. Originate	16. Orinoco
2. Alabama	17. Erudite
3. Arizona	18. Abaci
4. Idaho (2, 3 and 4 can be in any order)	19. Amine
5. Obama	20. Aniline
6. Americana	21. Apologise
7. Unimaginative	22. Olivine
8. Aborigine	23. Educate
9. Uluru	24. Agape
10. Aroma	25. Operate
11. Umami	26. Okapi
12. Executive	27. Inanimate
13. Oregano	28. Elaborate
14. Abalone	29. Uvula
15. Avocado	30. Omega

March prize winner

Congratulations to this month's winner, Jeff Powell, who wins a £50 Amazon voucher.

Puzzle 447 solution — Join the dots

(With thanks to Milan Ninchich for submitting this puzzle)

According to my calculations, there are 540 such squares (including 204 that are orthogonal to the original grid) and 1,504 oblongs.

In both cases, calculating a sum of the number of possible arrangements, sorted by the relative positions of the corner dots, is fairly straightforward to do in Excel. (For example there are (9-2-1)^2 = 36 squares in the grid in which the topmost point of the square is 2 up and 1 along from the leftmost point.) Neither the puzzles creator nor the editor have a solution to the extension!

Bridge challenge solution 2
A leading question

E	W
1♠	2♦
3♦	3♠
4♠	

You are South and your hand is:

♠83
♥A742
♦A963
♣QJ9

Usually, against a suit contract, we would make a 'safe' lead such as the top of a sequence and would steer away from leading unsupported aces... but not here! If you have been listening to the bidding, the opposition have at least eight diamonds between them, leaving Partner with only one (or none).

Lead A♦. Now lead a second diamond for partner to ruff. Now, if you can persuade Partner to lead a heart, you can give a second ruff. How do we do that? It may be obvious from the Dummy but the clue is in the second diamond you lead. A high one requests the higher ranking of the other suits; a low one requests the lower ranking. So lead 9♦.

Puzzle 448 solution
Opposite signs

The signs in English and French that might be displayed around airport or railway stations indicating the same thing, but translated into the other language gives the opposite meaning, are as follows:
Lost property;
Objets trouvés (literally 'found property').

Stephen Paines takes a short look at some changes in the exam system over the years, while Justin Chan introduces us to the learning log

Past papers

Exams have been the cornerstone of the education of actuaries for decades, but how has the system changed over time? And have things got easier or harder?

In the 1960s student actuaries were often required to pay to take their exams and for the accompanying study materials. Back then, there was only one study period a year, September to April, which made for a more pleasant summer but a longer qualification period. The tutorial system was in its infancy and was available only for later, essay-based exams; most tutors were volunteers. And, of course, students used log tables, not pocket calculators!

The late 1980s saw the arrival of Hazell Carr Training, which began to compete with the Institute and Faculty in providing study materials. From this point on, the voluntary aspect of tutorial provision started to be replaced by the more formal structure that students know today. Hazell Carr Training merged with Institute and Faculty Education (the subsidiary of the Institute and Faculty responsible for ensuring that actuarial student tuition is available) in 1995, and later became BPP Actuarial Education Limited, of which ActEd is a subsidiary.

One thing for which, perhaps, to be thankful is the splitting up of subjects into two smaller parts; instead of having to pass a pair of exams, it was possible to pass two separate ones. This happened in the late 1990s and survives today in the form of CTs 1-8. On the one hand, having to pass a pair of exams meant you could offset poor performance in one paper with good performance in the other; on the other, a failure would have meant resitting two exams so perhaps there was greater incentive to pass first time. CA1, of course, resembles this structure and is perhaps the subject students are most loath to resit.

As actuarial science degrees began to establish themselves in the UK, exemptions became more common and the knowledge of new student actuaries became more sophisticated. Stochastic modelling and financial economics are around a decade old in exam terms and reflect the broadening of actuaries' activities over time. CA2 and CT9 are very young in exam terms and again suggest a broadening of the education system itself. The continual review of the system is one reason why new courses are added and the profession continues to be relevant.

Are things harder now than they used to be? Probably not, even if there are now more hurdles to surmount. That may give you some encouragement while revising this month.

The learning log

Do you remember what you did at work two summers ago? I don't, but my learning log does. It keeps a record of tasks, achievements and lessons learnt from various activities at work. It's also the document that I copy-and-paste from to fill up the official one, required by the Institute for qualifying.

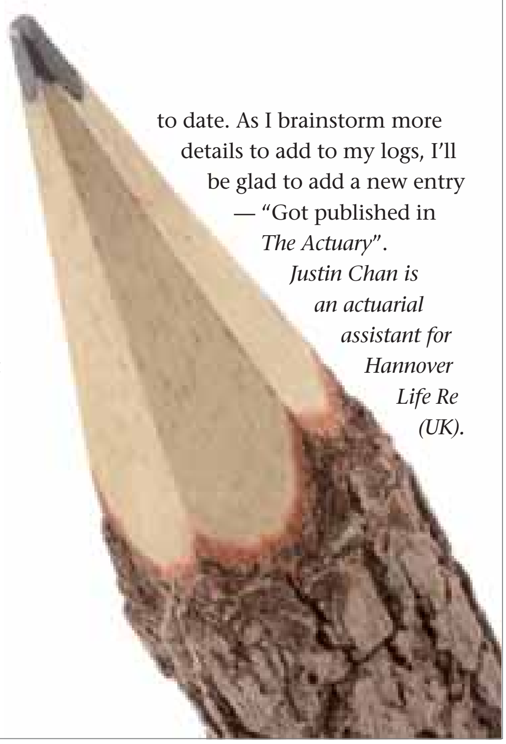
The learning log is a resource with many uses: in the appraisal process, applying for a new position or job, looking up approaches used in previous projects and mistakes never to be repeated.

I have a tendency to locate orphaned documents and search for best approaches to typical problems within my log entries. The entries have become a great knowledge resource and allow me to reflect on my work patterns. Jotting down lessons learnt not only prevents them from being forgotten, but also embeds them in my mind.

Perhaps the most important aspect of the learning log is not what's in it, but what's not in it. Are there any missing work experiences that prevent you from performing at a higher level? Maybe you are happy where you are; but are you happy about where you're heading? As part of a control cycle, our careers now require as much monitoring as the businesses we are involved in.

I'm keeping my learning log handy and up to date. As I brainstorm more details to add to my logs, I'll be glad to add a new entry — "Got published in *The Actuary*".

Justin Chan is an actuarial assistant for Hannover Life Re (UK).

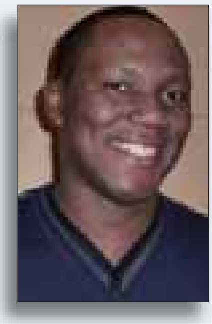


EXAM TIME

Finally, good luck to everyone taking exams this month!

Actuary of the future

Evans Matamisa reveals the practical side of his nature, except when it comes to spiders



Evans Matamisa

Employer and area of work
Prudential UK, Actuarial.

Date entered Profession
September 2008.

Describe yourself in three words
Motivated, ambitious, trustworthy.

What's your best attribute?
I'm very adaptable and can cope well in various environments.

And your worst habit?
I'm quite prone to impulsive buying. As a precaution, I try to steer clear of gadget shops.

Alternative career?
Commercial pilot.

What is most likely to irritate you about others?
I'm often in a hurry so it can be a bit frustrating when people stand on the left-hand side on escalators.

Tell us your formula for success
I believe that if anything is worth doing then it's worth doing properly, so I always try to ensure that everything I do is done to the best of my ability.

How do you relax away from the office?
I enjoy swimming and watching all sorts of documentaries and motorsports.

Best piece of advice you have ever been given?
Seize every opportunity.

Tell us something unusual about yourself
I have a terrible case of arachnophobia. If you ever need to get sensitive information out of me, just place me in a room with the tiniest spider you can find — I'll tell you everything!

Who would play you in a film of your life?
Will Smith — he's got brilliant box office appeal and would therefore earn me a decent amount in royalties.

What three items would you take to a desert island?
A box of Krispy Kreme doughnuts, a small aircraft and a pilot.

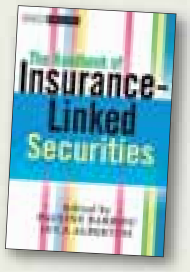
What is your greatest extravagance?
Travelling — I spend quite a lot on little getaways and holidays.

Is the glass half full or half empty?
Definitely half full. I think pessimism impedes progress sometimes.

If you would like to nominate someone for Actuary of the Future, please e-mail *AOTF@the-actuary.org.uk*

Book review

Paul Sweeting reviews *The Handbook of Insurance-Linked Securities* edited by Luca Albertini and Pauline Barrieu



The Handbook of Insurance-Linked Securities is a wide-ranging book covering a variety of aspects relating to insurance-linked securities. It has three sections, covering non-life securitisation, life securitisation and the various tax and regulatory issues. For the first two sections, overviews of the two types of security are given together with the views of securitisation from both the cedant and investor perspectives. There are also class-specific discussions, such as portfolio monitoring for non-life securitisation and longevity indices for life securitisation.

What is not included is any significant information on how to model the underlying life and non-life risks. This is not necessarily a failing of the book — since such modelling is too important to skate over in a chapter or two — but anyone interested in the modelling aspects should buy a book devoted solely to that topic.

Even excluding the modelling aspects, the range of material covered is broad. To produce such variety the editors use the skills of a number of authors. While this leads to a wide range of viewpoints and a breadth of expertise, it occasionally makes the book appear a little fragmented. For example, when three parts of a single chapter are authored by three different individuals, it is difficult to combine the parts into a coherent piece of work. This can leave the impression that some aspects have been overlooked, even if it is not clear which aspects those are.

The choice of authors also has advantages and disadvantages. Choosing a range of practitioners means that the book is firmly focused on how these markets work in the real world rather than how they should work in theory. This is definitely a good thing. However, some of the contributors from industry seem to feel obliged to sing the praises of their employers' skills rather than giving an objective assessment of a particular area, which can reduce the credibility of the information given in their chapters.

The practitioner-based source of information also means that many of the chapters are case studies. Some of these are titled as such, while others use case studies to illustrate particular approaches. This is very helpful as a way of showing exactly how these securities can be constructed and used in practice. However, a drawback of case studies is that they are specific rather than general — the only points that can be illustrated are those relevant to the case study in question. Some more information on 'points to consider' would have been helpful.

The book does, then, have a number of flaws. However, this handbook does give information on insurance-linked securities that is simply not available anywhere else in a single volume or in as much depth.

Paul Sweeting is professor of actuarial science at the University of Kent

Richard Hall has joined *Lincoln International*, the mid-market investment bank, as a director in its Pensions Advisory practice to further grow its employer covenant advisory service. He was previously director at Gazelle Corporate Finance, providing analysis and advice to pension trustee clients.

Kenneth Ayers of the City of London recently received an MBE in the Queen's New Year Honours List for services to the Corporation of London.

Aon Consulting has appointed **Neil Puxley** as client relationship manager, based in Scotland. Mr Puxley will work with Aon's clients to ensure they continue to receive the best quality of service and strategic advice. He joins from Towers Watson, where he was head of the Scottish Benefits Practice.

Neil Puxley

Milliman has announced the appointment of **Martin Sher** as MG-ALFA European product manager. Based in London, he will lead the marketing, sales and support activities to establish and grow MG-ALFA's European presence. Mr Sher joins from SolveXia and was previously managing principal of Tillinghast Software Solutions.

Femi Bart-Williams

Femi Bart-Williams has joined the Pension Solutions Group at *Legal & General Investment Management*, focusing on risk management strategies for UK pension schemes.

Aviva UK Health is pleased to announce the appointment of **Terry Coulthard** to the position of senior group risk actuary. Mr Coulthard was recently chief financial underwriter at Unum.

The Life actuarial team at *KPMG* has recently made the following senior hires:

Roger Houlihan has joined as principal advisor from Pricewaterhouse-Coopers. Mr Houlihan brings finance transformation and reporting expertise to the team.

David Honour joined as principal advisor from Ernst & Young where he led the Replicating Portfolio and Economic Scenario Generators' areas of expertise. Mr Honour has experience of implementing and embedding replicating portfolio techniques in multinational UK and US insurance groups' risk management and ALM frameworks.

Scott Robertson joined from JP Morgan where he helped clients hedge their interest rate, inflation, equity and credit risk. Prior to JP Morgan, Mr Robertson spent three years with HSBC developing capital market solutions for insurers and banks.

Aviva UK Health is pleased to announce the appointment of **Rob Cowley** to the position of finance director. He joins from Aviva's UK General Insurance finance team where he has worked for the past ten years.

Rob Cowley

Have you moved?

Please send news of moves, promotions, retirements and appointments to *peoplemoves@the-actuary.org.uk*

Forward features

The Actuary's features team welcomes contributions from members or contacts in and around the profession. Below is a list of themes for the next few months along with the deadline for submission. If you would like to contribute, please contact Tracey Brown at *features@the-actuary.org.uk* with suggestions.

June 2010 (Published 27 May, deadline 12 April)
- Solvency II
- Risk management
- Mortgages/property

July 2010 (Published 24 June, deadline 10 May)
- International
- Pensions
- Investment strategy

August 2010 (Published 29 July, deadline 14 June)
- General insurance
- Reinsurance
- New fields

Please note that these themes are not exclusive and the aim is for a variety of articles. If you have a burning topic you'd like to write about, please let us know. The editorial team is particularly keen to receive articles around Solvency II issues.

Appointments

www.theactuaryjobs.org.uk

To advertise your vacancies in the magazine and online please contact:
Aisling Durrant, Tel: +44 (0)20 7316 9493, E-mail: Aisling.Durrant@incisivemedia.com

www.ipsgroup.co.uk/actuarial

IPS GROUP ACTUARIAL

General Insurance Actuary

To £150,000 + Benefits – London

Qualified Actuary is required to take on the responsibility of overseeing the technical mentoring and development of a team of Actuaries as well as the opportunity to work on regulatory work as required, supporting supervisors. The work will include reviewing ICA submissions, assisting in Risk Assessment, assessing business plan projections, and providing thought leadership and advice on a range of Solvency II issues. The ideal candidate will be a self starter with the drive, enthusiasm and commercial acumen to further develop and enhance the business

Contact: Guy.Bates@ipsgroup.co.uk – London Office Ref: GB465802

Qualified Pensions Actuaries

Excellent Package – North West

Due to my client's pension's business rapid growth, they have an urgent requirement for two senior appointments. You will ideally have at least four years post qualified experience, and be looking to progress your career to Director level within the next three years. You will be involved in a variety of work ranging from M&A, scheme design, wind ups and accounting figures and some involvement in providing investment advice. You will also have some scope in developing and building the practice.

Contact: Simon.Arthur@ipsgroup.co.uk – Leeds Office Ref: SA468415

Part Qualified Actuaries

Excellent Package – Bristol & Berkshire

My client is looking to grow their expanding pensions business across the UK, and this includes the need for part qualified actuaries in either Berkshire or Bristol. They are offering a healthy mix of trustee and company work, with the chance to assist senior colleagues with ad-hoc corporate focussed project work. This unique opportunity will also give you the chance to work in a multi disciplinary environment. You will have 1 – 3 years experience within a pension's consultancy and be making good progress with the exams.

Contact: Simon.Arthur@ipsgroup.co.uk – Leeds Office Ref: SA468388

Senior Investment Consultant

c £120,000 + Bonus & Benefits Package – London

A prestigious consulting firm is looking to expand its investment team which offers strategic advice to large clients who require non-standard solutions. Candidates will have a deep understanding of the pensions and investment marketplaces and be able to demonstrate an effective consulting style capable of providing challenging and innovative advice to demanding clients. He/she will also be a team player able to contribute fresh thinking and develop junior members of the team.

Contact: Anthony.Chitnis@ipsgroup.co.uk – London Office Ref: Z463859

Reserving Senior Student

£ Attractive – London

Large Insurance company is looking for a part qualified Actuary who is progressing well with the exams to take on a role within their reserving team. This role offers full study support and excellent career progression prospects for the right individual. Rotation into different departments will also be available. Candidates should be from a General Insurance or a Life Reinsurance background and must have at least a years UK experience.

Contact: Guy.Bates@ipsgroup.co.uk – London Office Ref: GB467344

Pricing Contract

£ Daily Rate – London

Part or Qualified Actuary is required to provide high quality, effective actuarial pricing support to the Underwriting Teams. The role will be responsible for providing actuarial input into pricing of large and complex risks; developing, reviewing and maintaining pricing models. Their will also be a level of research required and database development of key pricing assumptions. The ideal candidate will have strong technical skills, and experience of pricing analysis.

Contact: Guy.Bates@ipsgroup.co.uk – London Ref: GB467724

Qualified Pensions Actuaries

Excellent Package – Reading and Bristol

My client's pensions business is rapidly expanding across the UK; this growth has led to a desire to hire at both newly/recently qualified and more senior levels. The work will be a good mix of trustee and corporate work, alongside client management, and the chance to work within a multi-disciplinary environment.

For the more senior positions, experience of winning new business would be preferred.

Contact: Simon.Arthur@ipsgroup.co.uk – Leeds Office Ref: SA468180

Pensions – To Partner Level

Excellent Package – London/ South East

This is an opportunity to join a leading consulting business with the brief to help develop their pensions consulting team which advises the management of listed and complex organisations. Candidates will have qualified as an actuary from a major consulting firm and have experience of advising the management of companies on scheme funding, liability management, derisking strategies and benefit redesign. Candidates will relish the opportunity to develop and lead client relationships as well as contribute to the strategic direction and growth of the advisory business.

Contact: Anthony.Chitnis@ipsgroup.co.uk – London Office Ref: Z468411

London Office: IPS Group, Lloyd's Avenue House, 6 Lloyd's Avenue, London, EC3N 3ES
Tel: 020 7481 8686 **Fax:** 020 7481 8660 **Email:** actuarial@ipsgroup.co.uk

Leeds Office: IPS Group, 8 St Paul's Street, Leeds, LS1 2LE
Tel: 0113 202 1577 **Fax:** 0113 202 1598 **Email:** actuarial@ipsgroup.co.uk

High Finance Group is a specialist consultancy, providing Finance, Actuarial, Audit, Risk Management, Compliance and IT Recruitment solutions to major Insurers and Asset Managers, professional services firms and SMEs. We aim to provide a market leading recruitment service, bridging the gap between large agencies and executive search.

Solvency II - SME — Life

Salary: Up to £75k + Bonus + Benefits
Location: London

Become a Solvency II Subject Matter Expert (SME) in this world renowned insurer as they look to you to unravel and translate the complexities of Solvency II to the business. To be considered you will be either a Life or Non-Life actuary with knowledge of QIS3 or QIS4, good economic capital modelling experience, first class communication skills and a desire to be at the forefront of Solvency II.

Solvency II – Internal Model Design — Life

Salary: £80k + Bonus + Benefits
Location: London

Be integral to the design and implementation of the highly sophisticated Solvency II programme for this Global insurer. Liaising with the key internal stakeholders (Chief Actuary, CEO, CFOs, and CROs) from across the business to support the development of their internal model. The right person will be a Life actuary with sound knowledge of the current regulatory environment, MCEV and Solvency II.

International Actuarial Consultant — Life

Salary: £45k + Bonus + Benefits + Int'l Allowance
Location: Europe

This year take your Actuarial career to Europe. A leading Insurer is seeking a proactive nearly/newly qualified actuarial consultant to join their European team. Based out of the UK you will be flying to Europe each week to develop the actuarial reporting capabilities of their European offices. To be successful you will have experience of either Prophet or MoSes, knowledge of Economic Capital, an insight into stochastic modelling and excellent communication skills are essential as you be joining a multinational/multilingual team. European language skills are an advantage.

Actuarial Process Analyst — Life

Salary: £50k + Bonus + Package
Location: London

Are you looking to join a growing Insurer? A unique opportunity has been created for an assured individual to independently monitor and govern the processes & procedures surrounding the firms pricing models. Working closely with the technical pricing actuary you will be able to develop the scope of your role. They are searching for a person with an excellent eye for detail, a thorough understanding of actuarial processes and an enthusiasm to make a difference to the way the actuarial team operates. The successful person will come from either a life or non-life background and not necessarily be looking to complete their exams.

International Actuarial Analyst — Life

Salary: Up to £65k + Bonus + Allowances
Location: International

My client, one of the top 25 insurers and reinsurers worldwide is in need of a qualified actuary to join their team in the role of Risk Manager. The role will involve the recommendation, design and implementation of risk dashboards and the position will provide a link between the capital modelling and risk workstreams. The company is at the forefront of Solvency II developments within the industry and the role will support the programme in understanding and meeting the regulatory requirements.
The ideal candidate will have extensive knowledge of risk and capital modelling in a non-life insurance context.

Investment Bank – ALM — Life

Salary: Up to £65k + Bonus + Benefits
Location: London

The ultimate opportunity to join an Investment Bank in their market leading ALM team. With a focus on Pan European markets they are searching for an exceptional actuary with outstanding mathematical capabilities to join their team. Your role will be all encompassing from detailed analysis and modelling of economic capital to presenting and delivering tailored solutions to the decision makers of major European Banks and Insurers. To be considered you must have Life Insurance experience and be looking to be intellectually challenged.

Actuarial Contractors — Life

Salary: £500 - £1,500 per day
Location: UK & Europe

Calling all Nearly/Newly Qualified Actuaries! Fantastic Contracting opportunities available in the UK & Europe working for some of the most recognised Insurer's in the world. They are seeking talented individuals as part of their Solvency II initiatives, to drive projects across the UK & Europe. If you have strong actuarial experience from a UK or European General/Life office and are looking to contract apply now. Attractive daily rates + travel, accommodation & business expenses covered.

Corporate Advisory — Pensions

Salary: £50k - £70k + Bonus + Benefits
Location: London

This presents an opportunity for someone close to completing the exams to move into a commercial focused role. With corporate finance bonus levels you will be expected to perform above your peers with a fast thinking consultative approach. The role requires a strategic big picture mindset and consequently is a complete move away from legislation driven calculations. If you are confident, with strong academics and exam progress then please call for more information.

Financial Modelling Specialists I Salary Dependent on Experience
EMB Consultancy LLP
Cambridge

Eames Consulting Group

The UK's largest independent non-life actuarial and business consultancy, EMB prides itself on its highly innovative and effective approach to servicing clients.

We are looking for senior experts in both Financial Modelling and ERM to lead and manage projects, delivering solutions using the EMB Igloo Suite for some of our largest clients around the globe.

Applicants should have considerable relevant experience, be of the highest technical calibre and fully conversant with market best practice. Ideally you should have had exposure to a range of Financial Modelling activities from dealing with hard technical detail through to designing the architecture and implementing a business solution. Good practical experience of successfully delivering projects and managing people is essential.

In addition, we are looking for consultancy skills of the highest standard especially in building client relationships and handling internal and external communications. We would also be interested in speaking to individuals who have strong modelling experience from alternative disciplines.

In return you can expect to work closely with some of the most accomplished actuaries in the industry, deliver cutting-edge solutions, and be rewarded with a competitive package from Consultant to Director level.

For more information please contact our retained consultants Rupert Rickard and Rob Bulpitt.

Rob Bulpitt | Manager
Tel +44 (0) 20 7092 3237
rob.bulpitt@eamesconsulting.com

Rupert Rickard | Senior Consultant
Tel +44 (0) 20 7092 3219
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Executive Recruitment Solutions

REED ACTUARIAL

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General Insurance
Reserving Actuary, London
to £70,000 + benefits
Ref: 3796628
This role involves responsibility for the reserving across all lines of business. With a lot of autonomy, you will be technically strong and adept in this area. No managerial responsibility, we just need an expert in reserving. Ad-hoc opportunities throughout the year will arise to help with capital modelling and product development.
t: 020 7220 4774
e: peter.baker@reedglobal.com

Investment
Investment Actuary, Hampshire
to £65,000 + benefits
Ref: 3794541
A global investment and pension provider is seeking a Qualified Actuary. You will have oversight for Corporate Risk and exposure to ALM modelling. This is an opportunity to develop in a small team within a large organisation.
t: 020 7220 4774
e: mark.jones@reedglobal.com

Life
Modeling Actuary, Bristol
£competitive
Ref: 3799186
This is an exciting time to be a technical lead and expert on the development of all actuarial projection tools and to lead the group best practice in this area. You will have strong skills in either Prophet, Moses or ViP and be a prominent figure in this 20 strong team.
t: 020 7220 4774
e: joanne.young@reedglobal.com

General Insurance
Pricing Motor Manager, London
to £80,000 + benefits
Ref: 3762489
This is a key role requiring an individual with strong pricing management and development skills within motor insurance. You will be a good communicator to liaise with all relevant parties including working closely with underwriters. An Actuary or general insurance professional required.
t: 020 7220 4774
e: joanne.young@reedglobal.com

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GLOBAL ACTUARIAL RECRUITMENT

Lead Actuary - Micro Insurance Academy, India

"Helping communities manage risks from the ground up"

Our Client, the Micro Insurance Academy (MIA) is a (Delhi-based) charitable trust dedicated to training, research and advisory services for microinsurance units serving the poor. MIA is a leading technical service provider in the microinsurance space and think-tank developing cutting edge solutions for microinsurance. The MIA is supported by local and overseas sponsors and provides services in different parts of the world.

There now exists an opening for a qualified actuary within the organisation. The position is expected to last for at least 2 years.

The Role:

- Pricing for insurance packages on the basis of restricted information, especially on the basis of secondary or cross sectional data.
- Developing and pricing reinsurance systems for the micro insurance programmes of MIA.
- Developing new business areas, including outside the priority area of health.
- Developing a risk monitoring mechanism for micro insurance programmes.
- Based in New Delhi (India), with some national and international travel.

The Candidate:

- You are an actuary or have a comparable qualification.
- Experienced in pricing health insurances, drafting and pricing reinsurance contracts and time series analysis.
- Knowledge of livestock, life and property insurances as well as experience in risk analysis and the creation of reserves.
- Creative, innovative and can integrate into a multi-cultural team.
- Excellent command of written and spoken English.
- EU Citizen.

For more information (in confidence) please contact:
Alex Babic, Director – Ireland & India
+44 (0)7909 821 353 alex.babic@dwsimpson.com

"The process has all gone very smoothly, largely thanks to your excellent help."

...is your future bright?

M

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ACTUARIAL SEARCH & SELECTION

sophie@orangemalone.com www.orangemalone.com
0771 363 7998 / 01932 782 119

Six figure salary + bonus

Genworth Financial

London

Vice President Product Development

Genworth Financial is a leading Fortune 500 global financial security company. Genworth has more than $100 billion in assets and employs approximately 6,000 people with a presence in more than 25 countries. Its products and services help meet the investment, protection, retirement and lifestyle needs of more than 15 million customers. There are two businesses headquartered in London: Mortgage Insurance Europe, and the global Lifestyle Protection business. This is an exciting opportunity for an outstanding executive to join the Lifestyle Protection senior leadership team and make a significant contribution to the growth of the business.

THE ROLE

- Reports to the SVP, Sales & Marketing, Lifestyle Protection. Responsible for developing and executing the product development and distribution strategy for the Lifestyle Protection Business globally. Set product agenda, goals and financial targets for the overall business and the regions.
- Lead and manage a talented product development team to develop multi-generational product strategy to drive new growth ideas, maximise penetration and distribution opportunities across 21 countries in Europe as well as Latin America and Asia.
- Work with internal and external constituencies, distribution partners, potential customers and regional and country managers to design and develop the go-to-market strategies for current and next generation products across all platforms.

THE QUALIFICATIONS

- Substantial experience in developing an innovative and multi generational product suite and taking them from inception through to market across countries and distribution partners. In-depth and technical knowledge of product development including a strong understanding of risk, profitability and capital drivers. International experience a strong advantage.
- An outstanding communicator with the ability to influence across all internal and external stakeholders. A strategic thinker who can set a clear vision and articulate this across a range of international audiences.
- A technical background is essential. An actuarial qualification is highly desirable. Experience of working hand in hand with finance, risk and actuarial teams. A high energy leader with strong financial acumen and a commercial mindset.

Tel: +44 (0) 20 7298 3333
For further information, please visit
www.spencerstuart.co.uk

SpencerStuart

Please reply with full details to:
Spencer Stuart, Ref. 38364-002
Email: London@SpencerStuart.com

Bradshaw partners

Financial Services Project Management Search & Interim

Specialist Actuarial Systems & Projects Recruitment

Bradshaw Partners is a niche Interim Consulting & Search Practice focused specifically on the recruitment of hybrid Actuaries, Risk and Finance professionals who blend functional experience with robust project consulting & IT delivery expertise.

Actuarial Systems & Modelling Requirements

Owing to our niche focus, we have been retained by a variety of large and mid-scale insurers, as well as a number of consultancies and software houses to source model developers, actuarial systems consultants and actuarial project managers.

Projects span systems platform rationalisation, to ALM model development, WRAP modelling, and Greenfield implementations.

We require candidates ranging in seniority from student actuaries with modelling skills and deep Excel, VB and VBA expertise; to qualified actuaries with experience of project managing actuarial work streams on complex and large-scale structured projects. We are keen to interview candidates with modelling and development/implementation experience in any of the following applications and tools:

- AlgoRisk
- Igloo
- MoSes
- Prophet
- ReMetrica
- SAS Risk Intelligence
- VIPitech
- MATLAB
- MG-ALFA
- Simulum
- Risk Agility
- FRSGlobal - RiskPro

Please contact Will May via email (will@bradshawpartners.com) or mobile (07827 830766).

Headquarters: St Clements House, 27-28 Clements Lane, London, EC4N 7AE
Switchboard: +44 (0) 203 207 9077 www.bradshawpartners.com mail@bradshawpartners.com

EXTERNAL ACTUARIAL VALUATIONS

We're growing!

ExactVAL offers benefit consultancies and insurance companies the facility to outsource their Defined Benefit pension schemes valuation work. We also provide valuation-oriented training at a variety of levels. Over the three years since our launch we have steadily built up a strong client base and are now looking for an individual to supplement our St Albans office.

ExactVAL

Applicants should have:

- At least two years' experience in DB valuation work
- Good excel and VBA skills
- Experience with the Superval valuation software package
- Strong presentation skills

Applicants for full-time, part-time or temporary posts will be considered

COMPETITIVE PACKAGE OFFERED
NO AGENCY APPLICATIONS

If you would be interested in playing a key role in a growing organisation, then please contact Bill Harris on **07951 427278**, or send your CV to **enquiries@exactval.co.uk**

STAR **ACTUARIAL** FUTURES

PARTNER TRACK — **PENSIONS CONSULTANCY**

WINCHESTER — up to £75k + benefits

Leading pensions consultancy seeks pro-active qualified actuary to join its successful team in this excellent working and living environment. You will have strong communication skills and will apply these on a wide variety of projects. Take this path to partnership.

Ref: Star62

STRUCTURED FINANCE SPECIALIST

LONDON — up to £120k plus benefits

Our client is seeking an individual with investment portfolio management experience and strong communication skills. You will review the cashflow modelling, pricing and valuation, rating agency methodologies and legal documentation of securitisation programs. Take this opportunity to gain knowledge of innovative new products being developed across a broad range of firms and asset classes.

Ref: Star61

QUANTUM LEAP

LONDON — £ to reflect skills and experience

Our client is seeking a qualified actuary with strong modelling experience and great potential. You will compare and contrast alternative solutions, interpret results and explain their significance succinctly and confidently. Take this great opportunity to use and develop your highly-valued quantitative analysis skills.

Ref: Star58

CLOSER TO THE INVESTMENT ACTION

LONDON — £ very attractive

You will be a part-qualified investment consultant who is looking to make more of an impact in a small, innovative team providing solvency management and investment advisory services. This client focussed role will allow you to broaden and sharpen your outlook and make a difference more quickly. Learn from a range of high profile professionals with experience in investment consulting, asset management and risk management.

Ref: Star52

CALLING PENSIONS ACTUARIES — **FULL TIME / PART TIME**

LONDON — up to £120k + benefits

...with strong communication skills and a desire for something different. You will be an enthusiastic team player with the maturity, integrity and stature to challenge, negotiate and influence at the highest level. Part time roles are available. Contact us to discuss a 1 in 200 opportunity!

Ref: Star41

LEAD THE WAY ON SOLVENCY II — **NON-LIFE COMPANY**

LONDON — up to £105k + benefits

Worldwide insurance group seeks non-life actuaries with significant post qualification capital modelling experience. Strong analytical and communication skills are essential. An interest in overseas cultures and languages is an advantage. You will play leading roles in the calculation and analysis of the Group's economic capital results.

Ref: Star32

LIFE IS WHAT YOU MAKE IT — **LIFE CONSULTANCY**

LONDON — £ very attractive

Leading professional services firm seeks actuaries to join its Europe-wide risk practice. Work in a multi-disciplinary team providing commercial advice on a wide range of projects. Get involved in project management, marketing and research and developlment. Make the most of your strong communication skills and technical expertise.

Ref: Star22

SUPERSTARS — **MANAGEMENT CONSULTANCY**

LONDON — £ excellent

Global management consultancy seeks highly motivated qualified actuaries from all disciplines. You will have outstanding academic credentials and a strong record of extra curricular activity, professional accomplishment and leadership. You will benefit from greater and faster exposure to tougher challenges. Join a firm that develops, excites and retains exceptional people.

Ref: Star1

Please call Louis on +44(0)7595 023 983 or Antony on +44(0)7766 414 560 at any time (including evenings and weekends) to discuss vacancies of interest or for an informal discussion regarding your career goals.

ACUMEN RESOURCES

– run by Actuaries for Actuaries®

Portfolio Manager

North/London **Up to £75k plus excellent benefits**

The role holder will be responsible for the investment strategy for a designated group of UK life funds as well as generic issues that cut across more than one of the fund groups. You will recommend changes in investment strategy to better meet the objectives of the fund in terms of asset allocation, benchmark, risk budget, investment process, style and manager selection. The role is open to part or qualified actuaries with investment or specialised long-term savings experience. You will have a full knowledge and understanding of investment issues and performance drivers relevant to the life business. **Job ref: J3127**

Capital & Reporting Actuary

London **Salary up to £75k**

This is an excellent role for a recently qualified actuary looking to step up to the next level. Our client requires a life actuary with good financial reporting experience to take charge of its day-to-day reporting activities on IFRS, embedded value and FSA bases. You will also support the senior management team on Solvency II initiatives. There is a small team of actuarial students to coach and a very experienced management team to support your own development. **Job ref: J3117**

Pricing – Commercial Lines

London **Up to £60k**

Major UK insurer is strengthening its commercial pricing team and requires two analysts with previous GI experience. The team's responsibilities include analysing and setting the rating structures, supporting the underwriting and product teams in the development of pricing solutions, monitoring product performance and profitability, and providing tactical/strategic solutions to the business. You may be part or nearly qualified and you will need strong data handling and analysis skills plus the ability to present ideas and pricing recommendations to senior management. **Job ref: J3120**

Retirement Product Development

South-West **Up to £35k**

A key player in the savings product market is looking for a part-qualified actuary to join its retirement product team. You will contribute to the design and implementation of changes to the products, and support all actuarial input to the development and maintenance of the portfolio. You will need previous experience in a life office plus excellent IT skills, ideally including Prophet. **Job ref: J3121**

Pensions Consulting

UK-wide **Upper quartile package**

This is an opportunity to join one of the world's leading actuarial consultancies. You will work on a wide variety of complex projects, involving the full range of actuarial and pensions consulting advice to trustee and corporate clients. Opportunities exist for mid-level students up to qualified actuaries with several years' PQE. You will need previous consulting experience and demonstrate a confident approach with to managing clients. **Job ref: J3122–24**

Reinsurance – Life & Health Pricing

London **Up to £70k**

Global reinsurer requires a qualified actuary for a varied role in their pricing team who deliver quotes to the UK market. The team works on work on life, critical illness and income protection business. In addition to quotation work you will coordinate input to the pricing basis from other teams, and monitor the company's competitive positioning. You will need previous experience of protection pricing and a client-focused approach to your work. **Job ref: J3097**

Senior Investment Consultant

South-West **Excellent package**

Our client is a leading global provider of investment consulting services looking to recruit a senior consultant. The job holder will use their understanding, knowledge and experience to work effectively with complex clients demanding non-standard and/or sophisticated solutions. You are likely to be a qualified actuary and/or to have completed the Investment Management Certificate. You will have an in-depth understanding of trends in the pension and investment markets and you will bring experience of working with investment managers. **Job ref: J3125**

Healthcare Analyst

South East **Up to £35k plus benefits**

Major player in the health market requires a part-qualified actuary with strong data analysis skills for this interesting and exciting role reporting to the Profit Management Actuary. The variety of experience available will provide a firm foundation for further career development. You will need to demonstrate good progress in the CT exams, and excellent communication skills. **Job ref: J3111**

Reinsurance Analytics

London/Europe **Competitive Package**

Our client is an important player in the global reinsurance market and they are building up their life actuarial analysis team for the UK and Europe. The role involves working with clients and the company's sales team to gather, analyse and interpret data to develop optimal reinsurance solutions. You will need strong analytical and modelling skills and ideally previous reinsurance experience. Some European travel will be required. **Job ref: J3110**

Actuarial Manager – Reinsurance

Ireland **Six-figure salary**

Our client is seeking a Life Actuary with particular strength in reserving and pricing to support its operations in Ireland in its global expansion. The jobholder will be responsible for the development and delivery of reserving, pricing and capital modelling for multiple jurisdictions and business classes; review, develop and maintain the reserving approach; support financial and regulatory reporting by recommending appropriate reserve levels and providing input on capital management issues. **Job ref: J2917**

Global opportunities | **Unrivalled contacts** | **Industry insight** | **CV preparation** | **Interview coaching** | **Salary negotiation**

Global Actuarial Recruitment

Chief Actuary – Non Life

Ireland — **Top Quartile**

You will have responsibility for the actuarial reserving function, provision of actuarial support to the underwriting process including rating and portfolio reviews, input into the reinsurance modelling and planning process, and development of the rating and predictive modelling framework. As part of the senior management team, you will participate and drive the development of the business strategy and contribute to the formulation of a business plan annually. **Job ref: J3115**

Life Consultant – Nearly / Newly Qualified

Ireland — **€65k to €85k**

You will join as a consulting actuary providing consultancy services to a range of clients. Successful applicants are offered the opportunity to gain valuable experience across a wide range of life assurance activities. The nature of our relationships with client companies is such that you will have the opportunity to interact with senior management and to develop your experience and skills right from the start. **Job ref: J3103**

Non Life Student

Ireland — **€35k to €45k**

Our client seeks an actuarial analyst to fulfil the following duties: assisting in aspects of quarterly reserving process including data reconciliation, projection of reserves, reporting of results; assisting in pricing of inwards reinsurance contracts, modelling of exposures; portfolio modelling of excess of loss business and scenario testing; monitoring aggregate catastrophe exposures in key territories; monitoring of large and catastrophe losses. Suit part-qualified with some relevant actuarial experience. **Job ref: J3039, J3100**

Financial Reporting Actuary

Ireland — **€90k to €110k basic**

Reporting to the Appointed Actuary you will manage the production of ongoing group and regulatory reporting requirements. Other responsibilities include reviewing ongoing solvency levels; completing the FCR; managing ongoing planning and reforecasting processes; overseeing the development of a projection system on Prophet to model future profit and solvency; and analysing the company's mortality and lapse experience. Suit an actuary with good life office experience. **Job ref: J3020**

Non-Life Technical Pricing

Australia — **A$110k to A$140k plus super & bonus**

Newly created role working with the non-life reinsurance underwriting team on broad aspects of technical pricing, reviewing and updating existing pricing tools, developing new tools and communicating with colleagues on current pricing issues. There will be close liaison with clients and colleagues in other teams as well as senior management. You will be a part or newly qualified actuary with five years' GI experience and broad-based software skills. **Job ref: J3090**

Life Actuary

Australia — **Up to A$130,000**

An opportunity to join a major financial services organisation to take responsibility for the financial management of one or more risk products. In particular you will produce and analyse the valuation and EV results, monitor experience, recommend basis changes and specify model improvements. You will also contribute to strengthening the areas of risk management and internal control. You will be nearly or recently qualified, with excellent communication and influencing skills, the ability to think strategically and the energy and enthusiasm to drive things through. Australian market experience or a visa to work in Australia will be a strong advantage. **Job ref: J3119**

Team Leader – Life / Fin Services Consulting

Australia — **A$110k to A$130k plus bonus**

Ongoing business growth has created a new opening within this prominent consulting firm for a newly or recently qualified actuary to lead a small team on a wide selection of consulting work for insurance and banking clients. You will be working in a consulting environment at present and be looking for a move to a more prominent player or be in a corporate insurer and feeling the need to broaden your skills and challenge yourself with stimulating client work. Strong, proven communication skills are essential. **Job ref: J3126**

Prophet Developer

Australia — **Salary A$100,000 to A$120,000**

Our client, a major life insurer, has invested in a highly sophisticated valuation system with high levels of automation for data, results and analysis. Using this system, automated monthly valuations are completed and your role will be to support the system manager to produce policy liabilities, embedded values and analysis of change and to develop the system on an ongoing basis. You will have strong Prophet and DCS skills with a minimum of 12 months coding experience and a good understanding of the actuarial valuation of liabilities. **Job ref: J3114**

Join a Market Leader

Hong Kong — **HK$competitive**

As one of Asia's most well respected Life Insurers this global business is currently looking for an assistant actuary to join their expanding team in Hong Kong. You will play a pivotal role in the implementation of Solvency II and developing group reporting including EEV and MCEV, while managing your time to identify critical business issues for MIS reports. As a nearly or newly qualified actuary you will ideally have five years of relevant experience and some previous exposure to supervisory responsibilities. You will need proven stochastic modelling abilities and to enjoy working in a team environment. **Job ref: J3116**

Dublin	London	Sydney	Hong Kong
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HAYS Recruiting experts worldwide

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Investment Actuary, South East
To £70,000 + benefits

Working for this forward thinking business, you will assist the corporate finance team with asset reporting, overseeing corporate risk deliverables and delivering workstream projects. As a newly qualified actuary, you will be required to monitor derivative trade documents and collateral, as well as hedge effectiveness. Exposure to asset and liability management modelling and/or experience of managing external client relationships is beneficial. Understanding of assets and investment markets is advantageous. Ideally you will have investment experience or have passed the investment paper. Excellent knowledge of Excel and Visual Basic is essential. This role offers a strong benefits package including flexible working hours. **Ref: 1109360**
kevin.smith@hays.com or call 020 7481 9984

Non-Life Actuary, West Malling
£excellent package

As part of a drive to grow its non-life operations, this mid-sized insurance group is looking to recruit its first in-house non-life actuary to establish a reserving and capital modelling process in advance of Solvency II. You will be qualified with a consultancy or in-house background and keen to take responsibility for shaping the development of the non-life actuarial function. Pricing work will also be a significant part of the workload as the role develops. You will receive support from one junior actuarial resource to assist you in this role. **Ref: 1102328**
michael.stefan@hays.com or call 020 7481 9984

Technical Advice Actuary, South East
To £80,000 + car allowance + benefits

One of the UK's leading life companies is seeking an experienced actuary to join its reputable team. A key aspect of the role will be based around value-adding analysis and strategic decision-making. Working closely with reporting and commercial areas, you will be responsible for providing valuable technical oversight of methodology and results relating to cost saving on a range of external reporting metrics. You will be expected to use your experience as a qualified life actuary along with your excellent technical ability to advise on a range of high profile projects, including Solvency II. Experience of both EV and RBS reporting and exposure to unit linked and unitised with profits business would also be advantageous. **Ref: 1109326**
kevin.smith@hays.com or call 020 7481 9984

Lloyds Actuary, London
£excellent package

An established Lloyds syndicate is looking to recruit an experienced, qualified actuary with proven strong leadership skills. You will deputise for the chief actuary when needed, liaise with regulators, be involved with peer reviewing other work as well as responsible for the management of staff. This challenging role requires post qualification experience and is ideal for an ambitious individual looking to develop into a Chief Actuary position. Your responsibilities will include technical work that will cover both pricing and reserving of a range of products. **Ref: 1104088**
michael.stefan@hays.com or call 020 7481 9984

hays.co.uk

Non-Life Technical Manager / Senior Analyst

London / Middx — £55-85K + bens

Interested in the General Ins. Marketplace? Leading global insurance co. with lifestyle protection products has newly created this role for an actuary to price new products, evaluate product performance & carry out risk management. You should have significant experience in actuarial, pricing or risk. Ref:10301

Reporting & stuck in a rut?

London — £40-85K+ exc bens

Global business information provider seeks both a p/q & qual reporting actuary to join their dynamic European insurance team. Strong Excel, good communication skills & exp of EV needed for this different reporting role. You'll analyse performance & provide crucial data to clients. Ref:10307

Technical Advice for Financial Reporting

Greater London — £70-85K + car allow

Move away from traditional reporting to high value-add analysis & strategic decision-making. Join a small, niche, high-profile team within the life financial reporting area where you'll provide advice & analysis on a range of reporting issues & projects. Suit actuaries with good technical skills & ability! Ref:10302

Capital Actuary

South West — £50-75K+ exc bens pckge

The role is to help manage FSA & internal solvency data in a small actuarial dept of a major life firm committed to investing in their staff's professional development. Friendly & welcoming team. Flexi working arrangements possible. You'll need ICA exp & prophet. P/Q's considered. Ref:10308

Pensions - Qualified & Senior Students

London, NW, NEast — £Exc + study + benefits

Enjoy working closely with clients? Unique opportunities for qualified pensions actuaries & students with 2 years + experience looking for a change of pace & outlook. Here you can look at the bigger issues, stretch yourself and think outside the box. Will suit proactive ambitious individuals. Ref:10303

With Profits

Surrey / Hants — £55-95K + exc bens

This global financial group needs a With Profits actuary to help support the financial management of with profits work. You'll also oversee FSA pillar 1 results. Autonomous role inc some management. Friendly & sociable team. Exc salary & bens package. Experienced P/Q's considered. Ref:10309

Senior Life Actuarial Analyst

Midlands, S West, S Coast — £40-60K + benefits

With 2 years+ life financial reporting & strong knowledge of financial modelling techniques & systems this exciting role could be yours. You'll support the financial reporting actuaries, becoming highly proficient in Prophet or Moses whilst enhancing your career in this varied role. Ref:10304

X train from Pensions to Investments

Herts / Bucks — £30-50K + bens

Part qual pensions students needed for this growing independent consultancy with a service driven ethos. As well as traditional pensions work duties include investment analysis & the chance to move to the investment sector later on. Training offered. Strong Excel needed. Ref:10310

Move into Consultancy

Surrey/Berks — £35-75K + exc bens

Bored? Mundane work? This isn't. Its client facing, exciting, challenging, dynamic, stimulating and everything else that's different from the routine. Part qual or qual actuaries with skills in Prophet or Moses or similar are needed. You'll want change and will probably get it if you apply now. Ref:10305

Investment without the commute

Surrey / Hants — £60-80K + bens

Lifestyle alternative to long commutes and lack of time. This international group needs an investment actuary to oversee and integrate investment processes. You'll deal with corporate risk, hedge reports and liquidity ratios. Nearly, newly & qualified actuaries with ALM exp should apply. Ref:10311

Non Life Pricing Opportunities

London / Berkshire / Surrey / Kent — £35-80K + bens

Vibrant roles - join a small friendly team where you can price both personal and commercial lines (motor, household, travel, business insurance). Here you'll use leading edge software, prepare actuarial analyses, undertake investigations & forecast future claims liabilities. 1 role offers great prospects for management. Ref:10306

Reinsurance Reporting

London — £50-£75K + exc bonus & bens

Award winning global reinsurer seeks an experienced p/q and a qualified reporting actuary. Duties include assisting, managing & developing the financial reporting function. Technical role with exc career development possibilities. Life insurance or reinsurance background needed. Ref:10312

To apply for any of these vacancies please phone 020 8420 1818, and speak to Peter or Norma or apply online at www.actualsearch.co.uk or email jobs@actualsearch.co.uk.

Non-Life Insurance

Senior Actuarial Leader
London **£180,000 + Bonus + Bens**
Global insurance company requires an experienced and credible senior actuary. You will have responsibility for setting the strategic direction of regional operations. This would suit general insurance actuaries with over 5 years PQE, equipped with exceptional interpersonal skills.
Ref: JH/5726

IGLOO Specialist
London **£150,000 + Bonus + Bens**
My client is a leading London market company that requires a senior Igloo specialist. You will be responsible for providing technical and thought leadership, plus work on a diverse, capital related project-set. Requires an individual with high commercial impact. **Ref: PF/7544**

Commercial Lines
London **£130,000 + Bonus + Bens**
Market leading insurer needs a senior manager of Commercial Lines. You will be responsible for pricing and reserving in a diverse catalogue of business. Your interpersonal skills and excellent commercial awareness will make you a strong candidate. Pricing skills are not essential. **Ref: JH/5518**

Senior Pricing Actuary – London Market
London **£120,000 + Bonus + Bens**
Lloyds managing agency seeks an experienced actuary to act as head of pricing. You will work very closely with the underwriters across multiple lines of business with duties covering the entire pricing process; building, maintaining and improving models. London market skills required.
Ref: JP/5304

EU Actuary
London **£100,000 + Bonus + Bens**
Lloyd's business requires a lead actuary in the UK to oversee all actuarial duties. You will report into the CFO whilst working closely with senior management. The work will be heavily capital focused, with pricing, reserving and planning duties too. Extremely hands on role needing a strong communicator. **Ref: JP/5802**

Capital Actuary / Analyst - Remetrica
London **£90,000 + Bonus + Bens**
My London market client is looking for a senior student or newly qualified actuary to act as the number two in the ICA team. They have a very dynamic, commercially focused environment so require not only good technical skills but also exemplary written and oral communication skills. **Ref: PF/8174**

Pricing Actuary / Analyst
London **£80,000 + Bonus + Bens**
I have four clients currently seeking nearly to newly qualified pricing actuaries. They have increased their product portfolio and capacity, and require more pricing resource to work with underwriters in very dynamic, entrepreneurial, London market syndicate environments. **Ref: PF/7478**

Paul Francis 0207 649 9469
paul.francis@ojassociates.com
Jamie Howard 0207 310 8725
jamie.howard@ojassociates.com
Jonny Plews 0207 649 9467
jonny.plews@ojassociates.com

Life Insurance

Lead Financial Reporting Actuary
London / South **£120,000 + Bonus + Bens**
Due to rapid expansion, my client is currently seeking to recruit a qualified actuary with a wealth of experience in Financial Reporting. You will provide direction and technical expertise to the expanding team as well as playing a major role in streamlining the reporting processes. Liaising with the Board, you will enjoy working in a cutting edge, dynamic environment.
Ref: CN/5991

Senior Strategic Capital / Corporate Actuary
London **£100,000 + Bonus + Bens**
An exceptional opportunity to really make your mark within a Global player; my client is seeking to recruit an experienced actuary with a solid background in capital and / or reporting. Working at group level you will be responsible for leading large projects which will call upon technical and strategic expertise. **Ref: CN/5886**

Senior Insurance Solutions Consultant
London **£100,000 + Bonus + Bens**
Fancy working for one of the world's leading investment banks? If you have a quants background with life insurance experience this could be the ideal next step. In this autonomous role you will act in both an advisory and hands-on capacity. Modelling experience is a must with any investments exposure proving helpful. **Ref: HH/5572**

Risk Actuary
London **£85,000 + Bonus + Bens**
A leading insurance business is looking for an experienced actuary to join this young and dynamic team. This is a rare opportunity to combine both technical and client facing work where the exposure you will receive is considerable. If you have a background in reporting and/or capital and would like to find out more, please feel free to call for a confidential discussion. **Ref: CN/5865**

Pricing Actuary
London **£80,000 + Bonus + Bens**
Are you looking for your next step within the commercial actuarial world? You would be responsible for managing the quote process and maintaining pricing bases in addition to leading projects and small teams. This is an ideal opportunity for an actuary who wants to remain hands-on whilst also gaining client exposure. **Ref: HH/5858**

ALM / Capital Actuary
London **£60,000 + Bonus + Bens**
This leading life office that has recently undergone an exciting period of growth and development requires two nearly/ newly qualified actuaries with ALM and/ or capital management skills. Due to the desire to just bring on strong actuaries there is considerable opportunity to mould the specifics of the role around the individual. **Ref: HH/5999**

Life Consultant
Edinburgh **£55,000 + Bonus + Bens**
Opportunities exist for Life Consultants in Edinburgh please call if you have strong skills in reporting & modeling and are keen to develop your career in this area. Roles available for nearly/newly qualified & experienced professionals. **Ref: DL/5612**

Clare Nash 0207 649 9350
clare.nash@ojassociates.com
Harriet Hall 0207 310 8783
harriet.hall@ojassociates.com

Oliver James associates

Pensions & Investments

Investment Management – LDI Solutions
London **£100,000 + Bonus + Bens**

The highly-regarded LDI Solutions team of a major investment management business is looking to recruit an investment strategy specialist due to considerable growth. The successful applicant will have strong client facing skills and excellent industry knowledge gained within a consultancy, asset manager or bank. **Ref: RD/5697**

Longevity Swap / Buyout Opportunities
South East **£Competitive + Bonus + Bens**

A number of insurers and banks are keen to recruit qualified actuaries into this exciting area. This high-profile market is living up to its exceptional potential, thus creating a number of opportunities for Actuaries in various roles. If you wish to find out more then please do not hesitate to contact us. **Ref: RD/5854**

Investment Consultant
London **£75,000 + Bonus + Bens**

Excellent career opportunity for investment consultants wishing to operate in a broad, commercial role. This rapidly-growing team requires consultants to regularly work in multi-disciplinary commercial project teams as well as undertaking a broad range of consulting responsibilities including client management, investment strategy, and manager selection. **Ref: RD/5412**

Rick Davis **0207 649 9353**
rick.davis@ojassociates.com

Ireland

Non-Life Reserving Actuary
Dublin **€150,000 + Bonus + Bens**

Are you a qualified actuary with a passion for general insurance and a specialty in reserving? Heading up a reserving team & as a senior figure you will work closely with other business units and will be heavily involved in Solvency II. Please call for more details. **Ref: DL/R11S**

Reporting Actuary
Dublin **€100,000 + Bonus + Bens**

My international client is seeking a qualified actuary to work as part of a team, to take part in statutory reports, realistic balance sheet, & stochastic modelling. You must also have skills in EV & MCEV. This role will manage 3 actuarial students. Apply now. **Ref: DL/5567**

Non-Life Student
Dublin **Negotiable + Bonus + Bens**

Are you looking for a career in general insurance? My Dublin based reinsurer is seeking an enthusiastic actuarial student; they will look at someone from Life, Pensions or GI but you must have a desire to specialize in GI. Please call for more details. **Ref: DL/5998**

Diane Lockley **+353 1685 2413**
diane.lockley@ojassociates.com

Contract

Oliver James Associates are currently one of the genuine leaders in the UK Actuarial contract/interim market, servicing the needs of our clients and candidates alike across the life and non-life insurance sectors on a pan-European basis. Demand for actuarial contractors has dramatically increased over recent months and will continue to do so over the next 2-3 years. If you are interested in finding out more about the contract market, please do not hesitate contact one of our experienced consultants.

Non-Life, Qualified Actuary, London, Global Insurer, Capital Modelling, Remetrica, Solvency II, 6 month contract **£800 - £1100/day**

Life, x2 Qualified Actuaries, London, Capital, ICA review, Solvency II, 6 month contract **£750 - £1000/day**

Life, x6 Nearly/Qualified Actuaries, South East, Leading Life Insurer, Solvency II, Pillar 2, RBS, ICA, Prophet/VIPitech, 6 month contract **£500 - £1000/day**

Life, Multiple vacancies for Part/Fully Qualified Actuary, Midlands, Leading Life Insurer, Reporting, EV, IFRS, RBS, WPA, 6 month contract **£600 - £850/day**

Life, Part/Qualified Actuary, London, Pricing, Reinsurance Pricing, Longevity, Moses, 6 month contract **£600 - £800/day**

Life, x3 Mid Tier Student/Fully Qualified Actuaries, South West, Leading Life Insurer, Prophet/Moses Developers, non-ALS Library, 3 - 9 month contract **£450 - £750/day**

Gary Rushton **0207 310 8793**
gary.rushton@ojassociates.com

Ik Onyiah **0207 310 8785**
ik.onyiah@ojassociates.com

Overseas

Oliver James Associates is a leading Actuarial recruiter in the German and Swiss markets, and due to our continued success we have been invited to work exclusively with many of the market's top names (references available on request). We recruit life and non-life actuaries to reinsurers, insurers, brokers and consultancies with salaries ranging up to €300,000. A few of our current vacancies are listed below:

Life, Partner, Major Consultancy, Germany, previous consulting essential **€250,000+bonus**

Non-Life, Solvency II, Global Reinsurer, Germany **€100,000+bonus**

Life, Product Development Manager, Germany, Global Reinsurance Leader **€100,000+bonus**

Non-Life, Pricing, World Leading Insurer, Germany **€90,000+bonus**

Non-Life, Pricing, Well Known Insurer, Switzerland **CHF130,000+bonus**

Life, Solvency II, Global Reinsurer, Switzerland **CHF130,000+bonus**

Non-Life, Capital Modelling, Major Insurer, Germany **€80,000+bonus**

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