Newsletter

August 2007

The Society of Actuaries in Ireland

Pensions – delivering by design

L to R: Dr. Deborah Cooper, Kevin Wesbroom, Dr. David McCarthy, Anne Maher, Philip Shier, Liam Quigley and Alan Hardie.

Pension Plan Design – A Time for Change

Liam Quigley of Mercer HR, Dublin, set the scene for this half day seminar by commenting that there had been little change in benefit design since he started work twenty years ago!

Liam went on to say that employers' attitudes to defined benefit schemes had changed recently for a number of reasons – changes to accounting standards, regulatory risk and compliance requirements as well as the reality of higher costs due to increased life expectancy and lower interest rates. This has resulted in some employers moving to defined contribution schemes for new entrants, others increasing member contributions, a minority of employers changing future benefits for current members and, in some instances, schemes actually winding up. Young employees are generally unconcerned about pension changes while older employees are much more pension focused. In fact, only 50% of employees are in pension schemes.

While moving to defined contribution schemes for new entrants may help to reduce risks for companies in the medium to long term, it did not remove the risks associated with benefits built up to date. In addition, Liam illustrated that low employee turnover could mean that the financial saving from moving to defined contribution schemes is limited. The movement to defined contribution also raised the issue of benefit adequacy with total (employer and employee) contribution rates typically around 10% of salary. This is compounded by members only starting to contribute to their pension at older ages.

With regard to the role of the State, Liam stated that the level of the basic state pension (about one-third of average earnings) means that it

continued...

Contents:

Pensions – delivering by design continued...

can only be looked upon to prevent poverty. Private pensions are required to provide an adequate income and comfort level in retirement. He commented that there is now a global trend towards mandatory private pensions that provide income adequacy and voluntary private pensions that provide retirement comfort. While pension issues formed part of the last partnership talks and a green paper on pensions is imminent, he stated that the government must provide clarity about the level of the state pension, state retirement age and the future regulation of private pensions.

Liam briefly outlined the hybrid design options available which split the risk between employers and employees. He concluded that employees and employers need to recognise the economic realities and that there are many possible solutions. It is not as straightforward as a choice of defined benefit or defined contribution!

Hybrid Plans – Do they have anything to offer Ireland?

Kevin Wesbroom, pensions consultant, began his presentation by saying that he had jointly researched a paper for the Department of Work and Pensions in the UK about hybrid plans. He defined a hybrid plan as a plan which is neither pure defined contribution nor pure defined benefit.

Some common hybrids in the UK are "career average plans" (where the pension is defined as a proportion of each year's pay and revalued to retirement in line with inflation) and "cash balance plans" (where an account is set up to provide a pension at retirement with an annual contribution of around 15% of pay which is revalued up to retirement in line with inflationary increases).

Kevin outlined a number of other hybrid options and commented that the risks (investment, annuity conversion, salary and longevity) can be shared between the sponsor and member in different ways with different members winning and losing depending on the design. He mentioned some UK companies that had introduced hybrid plans recently – Barclays, Unilever and BAE Systems – and briefly described the approaches they used.

He then reviewed the international experience and commented on the US (where "cash balance plans" are popular), Switzerland (where all plans are hybrid because of legislation), Netherlands (where defined benefit has been replaced by "revalued career average") and Belgium (where legislation has led to the majority of plans being hybrid).

Kevin also highlighted the decline of defined benefit schemes in the UK and the move away from defined contribution schemes. He commented that two regulatory regimes (insurance and pension) govern the same pension promise in the UK and posed the question of whether these are likely to converge?

Interestingly, in the UK, there are hedge funds willing to replace the employer when a scheme is closed to future service, take on the liabilities and buy them out at a later stage which would suggest there may be value in buying pension schemes!

Comparing Pension Outcomes from Hybrid Schemes

Dr. Deborah Cooper of Mercer HR consulting had joined us from the UK to provide an overview of a study commissioned by the Department for Work and Pensions (DWP) into pension outcomes from alternative pension scheme designs, outside of the traditional occupational final salary or money purchase norm. The trend for DB to DC in the UK had led to concern over the declining number of DB type schemes, with Ireland following suit.

Various designs were considered; career average, cash balance, cash balance with a bonus type top-up, nursery and DC with a top-up. Final salary schemes have often been criticised for their bias towards full career higher earners so a range of working and earnings patterns were also considered.

Initially, based on 100% bond investment and looking at replacement ratios based on final earnings only, each scheme design gave broadly similar outcomes with part-timers faring the worst. When revalued career earnings were taken into account on this basis, the outcomes were extremely close for all workers with defined contribution giving a slightly lower benefit than the other designs. If the investment profile was altered to 50% bonds, then the defined contribution outcome improved and came out first.

The study went on to show how members of DC type schemes, including cash balance and nursery schemes face the most variability in possible pension outcome. This increases for equity investment and longer careers, however in these scenarios designs with guarantees, top ups or bonus features and nursery type schemes offer members higher upside potential.

In summary, Deborah confirmed that the study showed that while in most cases, DC with an adequate contribution can give members the best outcome it also gives members the highest probability of the worst outcome! More complex designs such as cash balance or the introduction of guarantees and bonus add-ons can reduce the probability of a poor outcome but with a higher administration burden on Trustees and Companies.

For many employers who already have DC in place, the likely future development is for increased contributions. For those companies considering a move away from final salary, some element of risk sharing will probably be on the agenda. Whichever design is agreed to meet employer objectives, as always with DC schemes, member communication will be key.

The Optimal Allocation of Pension Risks in Employment Contracts –

Dr David McCarthy, Tanaka Business School, London, opened his presentation by reminding us that pension offerings by an employer are purely voluntary with any pension design the result of a contract between the employer and the employee. This fresh perspective on risk and risk sharing allows us to view risk as having a price and to consider how much each party will pay to trade this risk.

David went on to show that in a perfect market, an employer will choose the pension scheme design which produces the lowest overall lowest risk adjusted cost, where cost is both wage cost and pension cost.

A final salary scheme may increase wage risk to the employee initially, however protects against longevity in the workforce by rewarding employees with earnings into the future.

As an employee progresses through their working career their exposure to wage risk will decline as their financial risk increases. Older workers find pensions more attractive and naturally have higher savings accumulation as retirement looms. No surprise here, older workers find pensions more attractive, younger workers salary!

A career average scheme by its nature, averages out earnings and therefore smoothes any wage shocks, reducing both the employer and employee risk. A cash balance type scheme offers limited upside to employers while defined contribution schemes with equity investment offers employees optimal pensions.

Labour markets, taxation and employee behaviour can impact on all of these outcomes. One thing that is clear though, one size does not fit all!

"Quis periculum subiret?" (Who runs the risk?) -

Alan Hardie, AIB Director of Pensions, commenced his presentation with a review of the distribution of risks between employers and employees in the context of traditional DB/DC plans. With DB provision the majority of the risks are borne by the employer with the important exception of benefit security (this reflects an Irish employer's ability to wind up the plan in deficit – a very different position to that of the UK where a deficit becomes a debt on the employer). With DC provision the risks are almost entirely borne by the employee.

This polarisation of the distribution of risks under DB/DC has led to concerns being expressed by employers/shareholders regarding the suitability of DB provision and unions/employees regarding the suitability of DC provision. A natural consequence of these concerns has been a desire to examine alternative pension designs which would achieve a more acceptable distribution of risks between the various interested parties.

Alan noted that such a move does not necessarily mean moving away from DB. Many companies have achieved some level of risk sharing by increasing employee contributions rates in response to rising contribution requirements. Another variation on the Final Salary DB model is a Career Average plans which has gained some popularity in recent years (e.g. Tesco). However, it was also fair to say that many companies who are reviewing pension arrangements are also strongly considering other risk-sharing models i.e. hybrids.

The move to hybrid arrangements is a relatively recent phenomenon in Ireland but is well established in other countries. Alan considered the various models which existed and categorized the type of hybrid plan in terms of whether it is a hybrid design by

- Benefit – A common example in Ireland is the traditional pension plus tax-free cash model which applies to Public & Civil Servants and was also recently adopted by the EBS. A model which is popular abroad is a cash balance plan, where a cash sum is guaranteed at retirement and in some cases the annuity exchange rate is also guaranteed

- Service – Nursery Plans which typically offer DC benefits for an initial period and DB thereafter.

- Salary - Typically such plans pension salary up to a particular level on a DB basis with salary above that level pensioned on a DC basis.

It was noted that that hybrid plans had recently been adopted by a number of the financial service sector employers following recommendations from the Labour Relations Commission/Labour Court and that these designs were fast becoming the benchmark in the sector.

Alan completed the day with a discussion of the pros and cons of the various models noting that that the actual risk distribution in each of the hybrid designs would depend on the actual features of each individual plan.

Cathal Fleming, Cormac O'Leary and Emer Reid

Operational Risk in Life Insurers

On Thursday April 19th, Nick Dexter, Brian Morrissey and Cameron Mills gave a series of presentations to a well attended Evening Meeting of the Society in the Berkeley Court Hotel. These presentations followed on from similar ones given to the Institute of Actuaries. Their aim was to discuss practical approaches to the assessment of operational risk in life insurance companies.

The Institute's Life Operational Risk Working Party has published a paper entitled "Quantifying Operational Risk in Life Insurance Companies". The paper considers how actuaries working in conjunction with other risk management professionals and senior management, can develop a framework to assess the capital requirements relating to operational risk, taking into account the capital requirements of other risks and their interaction. The paper outlines some of the key areas that need to be developed in future to improve the assessment of operational risk.

The presentations discussed three specific areas covered in the Working Party's paper.

Collecting Operational Risk Loss Data

The first presentation was given by Nick, a partner in KPMG's London Financial Services practice. He started off with a brief background on the origins of the Life Operational Risk Working Party, which he chaired. Nick explained that at the outset of the new capital requirements under the Individual Capital Assessment (ICA) system, actuaries were struggling with the practical issues around operational risk. A group of actuaries from a number of life companies came together to discuss how they could develop a framework of techniques and methodologies to assess operational risk. From this the Working Party was established.

Nick pointed out that banks and other institutions have been ahead of the game in relation to operational risk. He explained that actuaries need to play a key part in the insurance sector working with other risk management professionals. Nick explained that, in many cases, there is little or no data available in the area of operational risk losses within organisations. He stressed the importance, going forward, of embedding operational risk management in organisations as well as the need to collect relevant data.

However, even where internal data is available some issues remain:

- Staff may not document how they've failed in a particular area.There can be a perceived "fear and blame" culture.
- It may not be obvious when a loss is made or how to split the loss into expected and unexpected. For example, if a company is overpaying claims this may be due to poor underwriting ten years ago and/or poor claims management now.
- The rarity of some events can mean that there is insufficient data to model the tail of the distribution with accuracy.
- It can be difficult to obtain the split of payments between release of reserves, settlement costs and ex-gratia payments.

We can look outside of our own organisation for data but there are difficulties in using such data. For example, we may not know the exposed to risk, making it hard to scale it to our own organisation. Also, it may not be obvious what the gross and net claims are. (A net claim is the actual loss assuming all the risk management controls that are in place work.)

Nick suggested another way of gathering data – to talk to the operational managers. These are the people closest to the business on the ground. They'll have views on what the potential loss events might be and their frequency and severity. While there is an obvious difficulty due to inherent bias, some trends can be highlighted from such discussions.

Nick explained that allocating capital to a risk is not always the best solution. In some circumstances it is better to mitigate the risk. He gave some examples of risks not requiring capital:

- strategic opportunities risks
- new business risks
- risks to other corporate objectives

We also need to be aware of how risks are allowed for in other areas of the business so as not to double count risks in the capital requirement or worse, miss some risks altogether. For this reason, the Operational Risk and Financial Risk teams need to work closely together.

Assessing Control Effectiveness

Brian Morrissey opened his presentation by discussing how control effectiveness could be built into an operational risk capital model. He spoke in the context of a scenario-based approach to modelling operational risk. For each operational risk an adverse scenario is defined and the impacts of that scenario are quantified. Such a scenario might be considered as consistent with a certain desired level of confidence, e.g. a 1 in 200 year event.

The idea is to look at the gross and net risk and how we move between the two given the controls in place. In practice it can be more straightforward to first identify the key controls. Then we work backwards from the net loss to see what the gross loss would be if these controls failed. Each control is given a weight and from this we calculate the weighted-average control effectiveness to identify the movement from gross to net. It is assumed that this movement happens in a linear fashion. It is then possible to model actual losses given the current controls in place.

Brian explained that this approach leads to the clear identification of key risk indicators (KRIs). The KRIs could be used as follows:

- To assess the current gross and net costing of an adverse scenario, so the key drivers of the costing can be identified (e.g. headcount for business interruption risk). Then limits are set around these drivers so that when these limits are breached the costing is re-visited in more detail.

- To update the operational risk capital model more frequently as the KRI should be easier to collect compared to re-doing a whole analysis of the adverse scenarios.

Brian pointed out some advantages of this approach including:

- managers can see what actions will influence their operational risk capital

- it can align management behaviour with the implementation of operational risk policies

- it ties-in with existing requirements for documenting processes such as Sarbanes-Oxley and internal audit

It is recognised that there are also some drawbacks to this approach. For example, it doesn't consider frequency of risk and the movement from gross to net loss is often not linear.

Operational Risk Management and embedding it in the Business

Cameron Mills discussed his experiences of embedding an operational risk management policy in a business having himself gone through three ICA processes. He stressed the need for organisations to start simply and build from there. He outlined the cycle of operational risk management: Identify, Assess, Control and Monitor risks.

He suggested starting off with a top-down approach where the senior managers consider the largest risks facing an organisation. However, it is important to then move on to a bottom-up approach which sees the whole organisation getting involved.

He explained how it can be difficult to keep everyone engaged as many may feel that they don't really affect the capital numbers. One solution to this is to try to make the process helpful in their everyday tasks rather than using the stick approach.

A reporting framework for analysing operational risk should be established within an organisation. From Cameron's experience the frequency of such reports can vary from quarterly to annually. These reviews will show how the risk profile of the organisation is changing over time and help to ensure that any control weaknesses are tracked and managed. Naturally, certain external events or changes in the business environment may require one-off operational risk reviews.

Discussion

A lively discussion followed the presentations. It was suggested that the bottom-up approach is unlikely to significantly alter the required capital position. Cameron acknowledged that the impact of any one individual is limited. However, this approach can give a good insight into how an organisation is being run.
Nick commented that the culture within many organisations needs to change as it will be a requirement of Solvency II to embed operational risk in the business.

Comments from the Floor emphasised the need to avoid mixing operational risk with other risks captured elsewhere, and stressed the need to have a common language for operational risk. It was also suggested that the standard formulae for setting operational risk capital being developed for Solvency II may be too simplistic; Nick explained that CEIOPS don't want to set the bar too low. They would prefer companies to use internal models so they are giving an incentive by calibrating the standard formulae to be quite prudent.

A final question put to the speakers was if they thought that actuaries would be at the forefront of operational risk management in future. Nick commented that it is often true that the risk department is quite separate from the actuarial ones and this may need to change seeing more actuaries as Chief Risk Officers.

Philip Shier closed the meeting and thanked each of the speakers and presented them each with a small memento.

Karl Murray

Actuarial Processes and Controls

Hubert Crehan and Brian Morrissey from KPMG gave a presentation on Actuarial Processes and Controls to members at the Alexander Hotel on the 24th April.

The session highlighted how actuaries in life and general insurance companies have been dealing with the consequences of SOX (the Sarbanes-Oxley Act) and new FSA requirements for internal controls around financial reporting. Scheme actuaries will be subject to compliance monitoring from April 2007.

Introduction

Hubert opened the presentation by explaining that the aim was to bring out the benefits of work done to date by actuaries to satisfy SOX (and other) requirements and to highlight good practice in the area of actuarial processes and controls. An awareness of these practices will assist actuaries in reducing the risk of material misstatements in the actuarial aspects of financial reporting and in preparing for the introduction of compliance monitoring. It was, however, recognised that actuarial processes are highly complex and often judgemental.

Background to SOX and FSA Requirements

Regulation from overseas, such as SOX and FSA reporting requirements, has increased awareness around the required documentation of controls. Actuaries are likely to be further exposed to a closer focus on quality of documentation and controls over systems, models and processes, through varying forms of internal or external peer review – for example peer review of the appointed actuary role, compliance monitoring of scheme actuaries from April 2007 and other regulatory developments.

The background to SOX is probably widely known. Issued in response to the Enron and Worldcom debacles, the Sarbanes Oxley Act intended to expand corporate governance, increase public confidence in financial reporting information and strengthen the capital markets systems.

The main impact on insurance companies was the introduction of Section 404, Management's Internal Control Report. This requires a management report on internal control over financial reporting in each annual report including:

- A statement of management's responsibility for establishing and maintaining adequate internal controls over financial reporting for the company.
- A statement to identify the framework used by management to evaluate the effectiveness of internal control.
- Management's assessment of the effectiveness of internal control over financial reporting.
- A statement that the issuer's independent auditor has issued an attestation report on management's assessment of internal control over financial reporting. For insurance companies it requires significant additional documentation of risks.

In the United States, SOX audits of internal controls have added an important and complex new dimension to the auditors work. The auditor is required to develop a more complete understanding of the strengths and weaknesses of the client's financial reporting systems that would not necessarily be required in a financial statements audit.

A SOX audit costs more but probably results in greater assurance. The greater level of assurance may not arise from the work of the auditor, but the level of documentation by management and testing completed by management or internal audit.

The FSA sets out clear principles and requirements for processes and controls for regulated entities including insurers. This includes an approved person who is responsible for having operating procedures and systems. So in respect of actuarial processes and controls, this responsibility probably rests with the Head of the Actuarial Function.

The FSA expect reasonable care to establish and maintain such systems and controls. The principles set out by the FSA are no different than SOX, however the execution requirements are clearly different.

Whilst Irish regulations are less developed, they focus on having appropriate controls to comply with legislation. Peer review of the Appointed Actuary's role is, however, on a voluntary basis.

With effect from the 1st of April ASP-PEN-10 has been introduced which requires a compliance monitoring review of the statutory work of Scheme Actuaries. One of the purposes of the audit is to review the adequacy of procedures relied upon by the Scheme Actuary.

Key Risks Associated with Actuarial Reporting

Brian took over to explain that key decisions made by actuaries are often made based on the output from complex financial models. Complex models which can often, however, contain errors. This can lead to undetected financial losses (rarely gains) and potentially the loss of credibility, reputation and confidence. He gave various examples including how AIB's John Rusnak was able to accumulate such substantial losses without detection in All First because he was able to edit a financial model used by back office to check his trading positions.

A KPMG survey found that "over 70% of models presented for review had major errors impacting on the integrity of the results" with the issues arising varying from no formal review process to evidence of bad practice and an absence of formal documentation of the model. The major causes of errors in models were incorrect cell references, incomplete calculations, incomplete labelling and incorrect accounting and tax treatments.

In a case study for a SOX audit of an actuarial process in a life insurance company, 294 deficiencies (as defined under SOX) were found in the process and findings such as this were not uncommon. Issues arising were:

- Inadequate documentation of how the final basis for a valuation was derived

- Inadequate controls over, and documentation of, user developed tools such as spreadsheets

- Inadequate controls over data used and its manipulation

However, the issues raised should be put into the perspective of what is a reasonable result given the level of judgment involved in the work of actuaries. Due to the judgemental nature of some of the parameters, often errors are not material and the results could be argued to be within a reasonable range. Common causes for errors can be traced back to resource constraints, tight timescales leading to a squeeze on detailed checking in some cases, late changes to figures and poor project management.

Good Practice

The key areas of focus are:

- ***Documentation***
  Having detailed and appropriate documentation is key including procedures and manuals focusing on how to do something and whether somebody can pick up the task and simply do it (which can reduce key person risk). Comments on how reliable the process is and the key controls over the process in terms of risks, reliability of the process, judgments involved, significance of the process and the level of oversight in place. If it's necessary to justify an opinion it must be documented.

- ***Data***
  Using data appropriately with a clear audit trail from download to data manipulation to data integrity checks. Evidence of peer or "4-eye" review, particularly for non-automated processes and formal data integrity reports are important. Building in sufficient time for all the checking deadlines and identifying responsibility for ensuring data is appropriate for use. A lot of work is done by actuaries on reasonability testing and reconciliations to check that nothing has gone missing from start to end of the valuation process.

- ***Assumptions***
  Having good sign-off documentation for assumption setting and methodology. This includes explicitly setting out all assumptions, having a central source for parameters and cross-referencing with relevant standards.

- ***Systems and Models***
  Keeping systems and models appropriately monitored. For example regression testing after changes, running a parallel system for a period to check for accuracy, having expected results when modelling system changes and periodic testing for accuracy. Documentation is also clearly important for change control monitoring and for user understanding.

- ***Spreadsheets***
  Keeping spreadsheets monitored with an inventory of spreadsheets in use and having controls on key spreadsheets such as controlled access, cell protections and built-in checks. Documentation is particularly important for spreadsheets which are key tools in the work of the actuary and where controls may currently be less rigorous than for formal IT systems.

- ***Reporting***
  Having internal peer review on reports together with robust analysis of surplus and a reconciliation of results. This area tends to be well covered by actuaries currently.

Challenges and Implications for Actuaries

An awareness of these practices will assist actuaries in reducing the risk of material misstatements in the actuarial aspects of financial reporting and in preparing for the introduction of more formal or informal compliance /review monitoring. The actuarial profession is, however, behind best practices in the US and UK, albeit that some actuaries are adopting these best practices voluntarily.

Resource constraint is often the major challenge and reduces the capacity to fully incorporate good practice in terms of these issues. While there are often longer-term benefits to be gained through better practices, it is likely that some form of regulatory revision will be needed to drive change more quickly across the profession.

Trevor Booth

The Society's Annual Ball - Saturday 19th May

Jonathan Goold, Carmel Brennan, Heather & Tony Jeffery.

Colm Fagan, Lily Garvey, John Gibson.

Gerry & Jasone O'Carroll, Peter Towers.

Michael & Trish Murphy.

Enda Walsh, Brian Murray, Una Flynn, Brian Murphy, Patrick Needham.

Mary & Tom Barry, Jo & JohnDevine, Antoinette & Paul O'Faherty.

Solvency 2: Implications for Life and Non-Life Insurers

Solvency 2 – general history and background

David Paul kicked off with a brief history of insurance regulation in Europe. The current rules date from the 1970's and, while simple to apply, they don't reflect how best practice has evolved in the meantime. In particular, the rules are relatively risk insensitive, and therefore do not encourage good risk management practices. Furthermore, these rules are not geared towards the supervision of multinationals.

Solvency 2 was introduced to address these points. In 2003, the principles and ambitions for Solvency 2 were laid out. CEIOPS, a committee made up of the regulators in each of the individual member states, was asked to provide advice on the best way forward. This process is now nearing an end, with a draft Framework Directive due to be published by the European Commission by mid 2007.

This directive will need to be ratified by the EU parliament, at which stage it can be adopted by the individual member states. The current timeframe aims to have Solvency 2 fully in place for 2012.

Pillars 2 and 3 and a general insurance perspective

David opened this section with an insight into how Solvency 2 will apply to specific general insurance issues. One model will be used to calculate both premium and reserving risks, though two separate strands will feed into it. A maximum of 15 years history of loss factors will be allowed in calculating company specific factors. There will also be a separate model for catastrophe risks.

David then moved on to talk about Pillars 2 and 3. Pillar 2 covers the supervisory review process and internal governance requirements. It includes the Own Risk and Solvency Assessment (ORSA), which requires companies to ensure they have considered all risks. If an internal model has been used to calculate the capital assessment, this must be reconciled to the Solvency Capital Requirement Individual regulators will have the power to make capital add-ons if they deem it necessary.

Pillar 3 covers disclosure and aims to encourage market discipline through the need to make disclosures. The requirements include the disclosures to be made by companies to both the regulator and the public, and also the disclosures required of regulators. As well as disclosing the Solvency Capital Requirement, Minimum Capital Requirement and methodologies and assumptions, companies must produce a detailed Solvency and Financial Condition Report. Regulators must disclose both the amounts of, and reasons for, any capital add-ons.

Pillar 1: A life perspective

Introduction

Seamus Creedon, chairman of the Solvency II Life Pillar 1 working group of the Groupe Consultatif, was the second speaker. He gave a brief introduction into the genesis of the Groupe's involvement with Solvency II in 2002. It established a project team to interact with the Committee of European Insurance and Occupational Pensions Supervisors (CEIOPS) and other organisations actively involved in Solvency II.

The Life Pillar 1 working group is primarily concerned with the determination of both 'Target' and 'Minimum' capital requirements to appropriately reflect underlying risks.

Technical Provisions

Seamus went on to outline a key issue in the development of Solvency II, the distinction between hedgeable and non-hedgeable liabilities. The issue arises from the principle that hedgeable liabilities are to be valued according to market consistent principles whilst non-hedgeable ones are to be valued based on best estimate assumptions plus a margin for risk. CEIOPS has recommended that this margin for risk is calculated using a cost of capital approach.

Solvency Capital Requirement

The target capital requirement under Solvency II is referred to as the Solvency Capital Requirement (SCR). It is to be calculated by means of a standard formula or through the use of an internal model. The basic principle of the SCR is that we meet contractual liabilities with 99.5% confidence over a one year time horizon. The risks considered include market risk, credit risk, insurance risk and operational risk.

The standard formula will be more complex than existing solvency calculations in its allowance for the categories of risk mentioned above. The use, instead, of an internal model will be subject to a number of criteria. These are as follows:

- Is the model genuinely used in risk management?
- Is the calculated SCR a fair estimate of risk?
- Are the data and methodology reliable?

Minimum Capital Requirement

The Minimum Capital Requirement (MCR) is intended as an absolute minimum capital level before regulatory intervention. It will be calibrated to a much less stringent risk of not being able to meet liabilities. It will be a legally enforceable requirement and as such will need to be simple and robust. These aims will clearly conflict with the complex nature of a measure that reflects the underlying risks involved.

Other issues

Seamus touched briefly on a number of other issues relevant to the ongoing development of Solvency II, including:

- Capital hierarchy.
- Solvency II and the IASB.
- The approach taken to groups.
- Implementation risks.
- Ireland specific issues.

continued...

Solvency 2: Implications for Life and Non-Life Insurers continued...

Solvency II: A regulatory perspective

Role of the Financial Regulator
Mike Frazer, deputy head of insurance supervision at the Financial Regulator, concluded the morning session by providing a regulatory perspective on Solvency II.

Mike has been involved with Solvency II since joining the regulator in late 2004, with particular involvement on the Pillar 1 working group. This is one of the many CEIOPS Solvency II working groups, each of which includes a representative from the Regulator.

The role of CEIOPS is to provide advice to the Commission in drafting the Framework Directive. The Commission also consults with the European Insurance and Occupational Pensions Committee (EIOPC). The Department of Finance is represented on this committee, seeking regular advice from the Regulator on emerging drafts of the Framework Directive.

Mike then outlined a number of regulatory issues being considered by the various working groups of CEIOPS.

Group Supervision
The supervision of groups under Solvency II has become a key issue for CEIOPS. One view is that a group should largely deal with one lead supervisor. Whilst the European industry generally supports this view, there are concerns about the balance of power being with a single group supervisor. These concerns include the urgency with which a group supervisor will act in the event of problems with smaller

Harmonisation
The harmonised implementation of Solvency II directives across member states is a key objective of the Commission. There are a number of major threats to this objective, including:

- The failure of the directive to take account of member state idiosyncrasies.
- Expedient measures taken to achieve swift implementation.
- "Gold-plating" by individual states.

One size fits all?
A further issue involves the ability of one system to meet the needs of all companies and markets. Mike raised a number of issues, including:

- Should reinsurers be calibrated to a higher ruin probability?
- Will niche specialists be forced into the use of internal models?
- Will small companies suffer?

Conclusion
Mike believed the best way of achieving answers to these questions was through participation in QIS3, a survey organised by CEIOPS to develop an insight into the possible impact of Solvency II on capital requirements.

Solvency II: Lessons from Basel II Andrew Mawdsley

Andrew Mawdsley, of the Financial Regulator, drew parallels between the work underway in the insurance sector in respect of Solvency II and the Basel II process which the banking industry has been implementing over the last couple of years.

Andrew presented a potted history of Basel II from its conception back in 1998 through to the final “accord” in 2004, and the phased implementation of the rules throughout 2007 and prospectively in 2008.

The Aims

The aims of Basel II are similar to those of Solvency II i.e. to encourage better risk management and increase risk sensitivity while, at the same time, not increasing the overall capital strain on the industry. The overarching objective is essentially to ensure capital is held where it is needed. A notable comment by Andrew at this juncture was that there were limits on the level of capital reduction allowed when moving from a pre-Basel II environment to the Basel II rules.

The Financial Regulator’s method of adoption of Basel II gives clues to its likely approach in adopting the Solvency II rules. For Basel II, the regulator adopted a “copy-out” approach to transposition of the EU directive, presumably indicating that there were minimal changes at the local level to the guidance issued by the EU commission. They also adopted the guidance of the Committee of European Banking Supervisors (CEBS). Beyond that, the approach is principles-based, with the emphasis on firms to satisfy themselves that they meet the minimum requirements.

Implementation: Pitfalls for the Financial Regulator

The similarities between the principles and aims of the two capital assessment paradigms are clear, e.g. three pillars, the use of internal models and the importance of supervisory review, all of which are well documented. However, it is in the implementation of Basel II that the insurance sector can learn valuable lessons from its banking counterparts and perhaps avoid similar pitfalls. The transposition of Basel II into local law seems to have resulted in a large number (approximately 100) of national discretions that allow the local regulator a degree of latitude in the implementation of the directive. There is the consequent danger that this degree of latitude could result in divergent capital standards and potentially an uneven playing field between the EU member states. A mitigating factor is the existence of

CEBS which co-ordinates the push for convergent implementation. It is likely that CEIOPS will have to operate a similar role for the insurance sector.

Implementation: Pitfalls for Companies

There are also implementation lessons for individual firms. The adoption of the Basel II standards was a complex project and required a significant investment of time and resources. Technical challenges in collating data and building information systems need to be overcome and the skill set to manage such a project, particularly for larger organisations, will have to be either built up or bought in. In addition, evidencing senior management buy-in and demonstrating the enterprise wide use of the capital assessment framework in the operations of the business is challenging. The onus is on firms to demonstrate the use or influence of the model in their day-to-day activities.

Finally, the experience with Basel II teaches us that any submission to the Financial Regulator of a significantly reduced capital requirement after switching from one capital assessment framework to another may be treated with some scepticism. This is especially true given the Financial Regulator’s mandate to ensure that the overall capital in the system is still sufficient to cover the risks underwritten by the industry – whether financial or insurance.

QIS3 workshops and Plenary

The seminar then broke into two concurrent sessions – with Michael Culligan leading a workshop on QIS3 for life companies with assistance from Gareth Colgan and Seamus Creedon, while John McCrossan, Declan Lavelle and Derek Bain led a similar session for a non-life insurance audience.

Finally, everyone reconvened for a closing plenary questions & answers session.
All seminar presentations are available on the Society's website at:

http://www.actuaries.ie/Events%20and%20Papers/MgtDetails/Events2007/070403_Pensions_Seminar.htm

Billy Galavan, Angela McNally and Ronan Mulligan.

Irish Critical Illness Experience 2001-2003

Introduction

Colm Fagan opened the evening by thanking the council, committee, sub-committees and workings parties for all their help during his term as president.

He expressed his best wishes to Philip Shier who takes over from Colm as the 18th President of the Society of Actuaries in Ireland.

Philip then performed his first act as President by congratulating Colm for the achievements made during his term in office. In particular, Philip singled out for special mention, Colm's successful role in:

- Setting up the new members' qualifying receptions.
- Positively engaging with the government towards the achievement of greater regulation of the Actuarial Profession.
- Initiating regular members' meetings.

Philip then turned his attention to introducing the topic of the evening's presentation from the Critical Illness Working Party, namely "Irish Critical Illness Experience 2001-2003". The members of the Critical Illness Working Party were Anthony Brennan (Chairman), Tony Jeffery, Brendan McCarthy, Colin Murray, Brenda Papillon and Hendri Solomon.

Overview

Anthony Brennan, chair of the Critical Illness Working Party, began giving an overview of the terms of reference of the Working Party, explaining the methodology used in the investigation and outlining some high level outcomes and observations.

The Critical Illness Working Party was set up to:

- Compare the critical illness experience of life assurance offices selling business within the Republic of Ireland with relevant published tables and analyse this data for trends.
- Determine whether the production of an Irish insured lives critical illness table would be appropriate and if so, to produce same.
- Survey the current critical illness reserving bases of Irish life assurance companies and make recommendations.

In performing the investigation, the Working Party closely followed the methodology used by the original working party. One significant data issue identified with the original workings party's data was that all Irish Office claims rates for 1995-2000 were overstated by approximately 2.5%.

The current study was based on data collected on insured lives and claims settled between 2001 and 2003. The analysis of the current experience showed that:

- Average claim delays have increased by 2 months for death and critical illness claims since the 1995-2000 study. Heart Disease, Cancer and MS showed similar average delays to the previous study but Stroke has shown a significant increase in its average claim delay, increasing from 143 to 277 days.
- Irish claims development is also significantly longer than that observed in the UK.
- There is no significant statistical relationship between claim size and claim delays.

Irish Experience Results

Tony Jeffery then took the floor and went on to explain some of the detailed findings of the studies.

He showed that, using the 1995-2000 data and factors, the Working Party would have expected 298 claims settled in the period 2001-2003 at a cost of €12.5 million. However, actual claims settled were 341 at a cost of €15.8 million. The main causes of the 15% increase in claims and 27% increase in costs were the additional claims on years previously assumed to be run off and an overall increase in IBNS (incurred but not settled) delays.

Overall, it appears that Accelerated Critical Illness business experience is broadly at the same levels as for the previous experience but with some improvement observed for males. However, Stand Alone Critical Illness experience shows a marked disimprovement, with an estimated overall 10% deterioration for both males and females.

From the exposure data, it is evident that the rapid rate of growth in inforce critical illness business over the 1990's has now stabilised to being about 6% to 7% per annum. Overall, claims experience is still developing and, with only 1772 claims paid within the period 2001-2003, this study can only give an indication of the ultimate expected level.

In particular, claims rates clearly increase with age and there are relatively low exposures at ages greater than 50. It is the experience of these age groups that could potentially have the biggest impact on the ultimate profitability of the product and it will be many years before we have any credible experience at these ages.

As expected, smokers have experienced heavier claims rates than non-smokers and this differential appears to increase with age. Policies sold to smokers are also experiencing higher lapse rates and the proportion of new business sold to smokers continues to decline.

It is difficult to distinguish any trends or have a definite view on the analysis by cause of claim. As soon as the data is broken down, the credibility that can be placed on the results falls dramatically. For females, the key illness is cancer which accounted for three quarters of female critical illness related claims in the investigation. Cancer and heart attack are the two significant illnesses for males and account for about two thirds of male critical illness related claims.

Conclusion & Recommendations

Colin Murray and Anthony Brennan then spoke of some of the recommendations arising out of the study and potential future developments.

When reserving for critical illness, the recommendation was for all offices to carefully analyse their own experience and consider allowing for:

- A margin for variation of 25% to 35% over best estimate.

- An allowance for deterioration of 1% to 3% per annum for Accelerated Critical Illness business.

- An allowance for deterioration of 2% to 4% for Stand Alone Critical Illness business.

- An allowance for an IBNS deterioration factor in the range of 0.5% to 1.5% per annum or an IBNR deterioration factor in the range of 0% to 0.25% per annum if the office is already reserving explicitly for notified claims.

The CMI has investigated UK experience for the years 1999-2002. Overall, the results would suggest that UK experience is lighter than Irish experience.

The Working Party:

- agreed with the conclusion reached by the previous working party regarding the fact that there simply is insufficient data to construct a table that would prove to be a better shape than IC94 or CIBT93. The lack of data will continue to be a significant issue for the Irish Investigation for many years to come.

- believes that the most practical option for producing an Irish insured lives table would be for a future working party to take the most current UK tables available and produce an adjustment factor that reflects the experience differential between Ireland and the UK.

- suggested that the Life Committee should consider adopting a "light" approach to gathering the most recent experience which would enable the key indicators of the business to be analysed more frequently. The use of a "light" approach would not preclude repeating the more detailed investigation on a less regular basis, particularly if the "light" approach identified any significant changes in the underlying experience.

Anthony concluded the presentation by thanking all of the offices that participated in the experience investigation. He also thanked the CMI who provided great assistance throughout the investigation.

Questions & Answers

A questions and answers session followed. The majority of the questions posed centred around the increase in the average claim delays. The Working Party had expected to find that better informed consumers would have generally made their claims earlier but the data did not support this expectation. There was no satisfactory conclusion to this debate and this issue remains an open question for consideration.

Eoin Harte

The Statistical & Social Inquiry Society of Ireland goes On-Line

What did Irish actuaries do in the long winter evenings before the Society of Actuaries in Ireland was founded in 1972? More precisely, what activities did such actuaries engage in to further their professional development and apply their skills for the greater public good?

One outlet was the Statistical and Social Inquiry Society in Ireland, founded in the worse year of the Famine as the Dublin Statistical Society for the "promotion of Statistics and Political Economy". In 1862 it changed to its current designation, extending its objects to include 'all questions of social science'.

All 14 papers read at the first session are of interest to actuaries (see Figure 1). The paper titles hint at some of the major themes that would be explored by the Society over its history to date.

The first actuary in Ireland to qualify under the examination system of the Institute of Actuaries of Great Britain and Ireland, William John Hancock, read several papers to the Society in the heyday of its influence (1860-1890), when ordinary meetings were "certain to produce and audience of about eighty" an annual meetings a few hundred. In fact in 1864 a special train was put on to cater for the crowds going home after the Inaugural Meeting. Since that time, many actuaries have played a role in the Society, by reading papers and as members of Council, notably including the first President of the Society of Actuaries in Ireland, William A. Honohan, who was previously a President of this Society. Figure 2 sets out a list of papers read by actuaries to the Society.

SUBJECT OF PAPERS.	AUTHOR.	DATE OF READING.
* On the connection between Statistics and Political Economy. — No. 2	James A. Lawson, LL.B.	December 21, 1847.
* On the Use of the Doctrine of *Laissez faire* in investigating the Economic Resources of Ireland — No. 3	W. Neilson Hancock, LL.D.	Ditto
On the Mortality of Irish Medical Practitioners	W. R. Wilde, Esq.	January 18, 1848.
* On the Effect of the Usury Laws on the Funding System. — No. 4	W. Neilson Hancock, LL.D.	Ditto
* On the Changes in the Nature and Locality of Textile Manufactures. — No. 5	W. Cooke Taylor, LL.D.	February 15, 1848.
* On the English and Irish Analyses of Wages and Profits. — No. 6.	Robert Vance, Esq.	Ditto
* On the Condition of the Irish Labourer — No. 7	W. Neilson Hancock, LL.D.	Ditto
On Banking	Mountiford Longfield, LL.D.	March 20, 1848.
* The Official Report of the Trustees of the Lurgan Loan Fund	John Hancock, Esq.	Ditto
On Emigration	Conway E. Dobbs, Esq.	April 17, 1848.
* A Notice of the Theory, "That there is no hope for a Nation that lives on Potatoes." — No. 4	W. Neilson Hancock, LL.D.	Ditto
* On the Economic Views of Bishop Berkeley and Mr. Butt with respect to the Theory, "That a Nation may gain by the compulsory use of Native Manufactures." — No. 9	W. Neilson Hancock, LL.D.	May 15, 1848.
* On Commercial Panics — No. 10.	James A. Lawson, LL.B.	Ditto
A Notice of a Plan for the Systematic Collection of Irish Economic Statistics	W. Neilson Hancock, LL.D.	Ditto
* The annual Address	The Archbishop of Dublin	19 June 1848

Figure 1: List of Papers Read to First Session of the Statistical and Social Society of Ireland, 1847-1848.

See Black, R.D.C. (1947) Centenary Volume of the Statistical and Social Inquiry Society of Ireland, Eason & Son, p.22. See Whelan, Ireland's First Actuaries, in October 2001 Newsletter of the Society of Actuaries in Ireland, for more about William John Hancock FIA. Note that the earlier article stated that the founder and prime influence behind the Society's early decades, William Neilson Hancock, was the actuary's brother. I now believe him to his uncle (the mistake arising from confusing the son with the father of the same name).

I.	Hancock, William John	*Applications of American Legislation to Assurance Companies in the United Kingdom, Vol. V, 161, 1870*
II.	Hancock, William John	*Some Account of the Laws of the States of New York and Massachusetts regulating the business of Insurance Companies, Vol. V, 124, 1870*
III.	Hancock, William John	*Temporary and Permanent Business of Friendly Societies, with some suggestions for making the latter secure through the agency of the Post Office Insurance and Savings Bank Departments, Vol. VI, 484, 1875*
IV.	Honohan, William A.	*Irish Actuarial Data, Vol. XVII, 381, 1944-5*
V.	Honohan, William A.	*Irish Social Services, A Symposium. A Short Review of Irish and British Social Insurance Schemes, Vol. XVII, 116, 1942*
VI.	Honohan, William A.	*Pension Fund Principles, Vol. XVI, 19, 1938-9*
VII.	Honohan, William A.	*Providing for Old Age through Private Channels, Vol. XX, Pt 3, 178, 1959-60*
VIII.	Honohan, William A.	*A Symposium on the government Green Paper ' A National income-Related Pension Scheme': Financial Aspects, Vol. XXIII Pt 4, 87, 1976-7*
IX.	Joyce, Jimmy	*Symposium on pensions: Implications for Public Policy. Vol. XXVII, 156, 1996-7*
X.	Whelan, Shane (with Lucey, Brian M.)	*A Promising Timing Strategy in Equity Markets. Vol. XXXI, 74, 2001-2.*

Figure 2: List of 10 Papers read by Actuaries to the Statistical and Social Society of Ireland

Actuaries can now catch up on 160 years of professional development as the Society has just made freely available on-line the complete archive of papers read from 1847 to 2007 at www.ssisi.ie. The archive is particularly well-structured, allowing fast keyword searches. Even simply typing into Google will locate papers. As an illustration, I typed in "Joyce Pensions" and up came a pdf of Jimmy's paper.

The Society's on-line archive is a treasure-trove for anyone with a passing interest in economic and social statistics (including demography) or Irish social history. Actuaries might like to begin their study of the fifteen hundred or so papers with those listed in Figure 2, perhaps starting with the papers on pensions as their deliberations are now topical again with the national pensions review. Or if mortality is more your interest why not begin with, say, *Mortality from Influenza in Ireland* read in 1919 by the then President and Registrar-General, Sir William J. Thompson, or, indeed, any of the other 162 papers that the search engine calls up when 'mortality' is the search word?

Maybe some actuaries might even like to play a more active role by becoming members or preparing papers – if so, please contact me. Last year, for instance, the Professor John Hills (London School of Economics & Political Science and also member of the three-person UK Pensions Commission) read a paper on the future pension system in the UK; next year we plan to have a symposium on recent trends in mortality in Ireland. Meetings are conveniently held on Thursday evenings at 6 pm and, when in Dublin, will usually be held at the Royal Irish Academy on Dawson Street.

Shane Whelan, Honorary Secretary.

The Statistical and Social Inquiry Society of Ireland (www.ssisi.ie) *is an all-Ireland body that has been in continuous existence since 1847. The Society organises six or so public meetings each year at which papers are read followed by an open forum discussion. The Society provides a unique meeting ground for discussion between decision-makers in the business, public service, trade union, academic, and professional communities.*

Golf Update

Captain's Day - Thursday 23rd August - Edmondstown Golf Club
If you wish to play in Captain's Day and have not booked, please contact the Society.

Matchplay
As we go to print, we are at quarter finals stage:
Declan Keena v Gareth Colgan
Bryan O'Connor or David Harney v Michael Muench or Raymond Leonard
Frank Downey or Paul Duffy v Neil Guinan
Liam Quigley or Tom Collins v John McCarthy

Best of luck to all!

New Qualifiers

Congratulations to our New Qualifiers from the April 2007 exams.

Naomi Cooney	Irish Life
Niamh Crowley	Irish Life
Fiona Doyle	Watson Wyatt
Laura Eyres	Mercer HR
Sinead Fennessy	Standard Life
Niall Gallagher	Mercer HR
Ciara Ganley	Hibernian
Sandra Grant	Irish Life
Steven Hardy	Hanover Re
Anthony Joyce	Friends First
Grainne Kelly	Irish Life
Martin Kelly	Canada Life
Anja Kuys	Barclays Insurance
Eamon Loughnane	AIG
Brendan McCabe	Watson Wyatt
Michelle Neary	
Ann Marie Nestor	Canada Life
Niamh Nolan	Bank of Ireland
James O'Connor	Buck Heissmann
Adrian O'Connor	Mercer HR
Michael Pierce	Mercer HR
Siobhan Quill	Hibernian
Stuart Redmond	Irish Life
Joanne Ryan	Acorn Life
Grainne Tierney	Hibernian
Kate Tobin	Hansard Europe
Elaine Walsh	Hibernian
Richard Walsh	Mercer HR
Debbie White	Bank of Ireland

CPD Scheme

Members have been reminded, via eNews bulletins and separate email communications, that CPD under the new scheme should have been completed by 30 June 2007 and that category declarations and CPD returns need to be returned to the Society, via the on-line facility, by 25th August 2007.

There are several useful documents relating to the CPD on the website:
http://www.actuaries.ie/Careers_Education/CPD%20Scheme/cpd_new_page.htm

Previous eNews bulletins also provided detailed information on the CPD scheme. In particular, the May 2007 eNews bulletin covered the CPD scheme and the requirements to submit category declarations and CPD returns to the Society. It also covered the requirement to comply with the UK Actuarial Profession's scheme.

Previous eNews bulletins are on the Society's website at:
http://www.actuaries.ie/About_the_Society/Society%20Publications/eNews%20Bulletins/eNewslisting.htm

SAI Communications with Members

Members should be aware that the Society now communicates with members mainly via email. If you are not receiving regular email communications from the Society i.e. from the SAI info address, please contact the Society's office to ensure that we have your correct email address.

Regular eNews bulletins are issued to members. The last eNews was circulated on 26th June 2007. If you did not receive this email, please contact the Society.

eNews includes a recap on any emails sent by the Society to the membership since the last eNews regarding Actuarial Standards of Practice or any significant issues in relation to the Society. All eNews bulletins can be accessed on the website at:

http://www.actuaries.ie/About_the_Society/Society%20Publications/eNews%20Bulletins/eNewslisting.htm, or by navigating the dropdown menus as follows: About the Society / Society publications / eNews bulletins.

On the Move

Students

Sarah Teehan has moved from Watson Wyatt to **Transamerica International Reinsurance Ireland Ltd.**
Pamela Doran has moved from Irish Life to **AEGON Scottish Equitable International**.

Society of Actuaries in Ireland
102 Pembroke Road, Dublin 4. Telephone: +353 1 660 3064 Fax: +353 1 660 3074 E-mail: info@actuaries.ie Web site: www.actuaries.ie