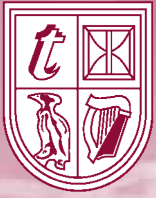


Newsletter

September 2011

The Society of Actuaries in Ireland

Election of Honorary Fellow

Contents:

Election of Honorary Fellow . . . .Page 1
Quantitative Easing . . . . .Page 2
Risk Appetite Panel Discussion . . . . .Page 3
Discussion Paper on Sovereign Exposures . . . . .Pages 4,5
Solvency II Internal Models . . . . .Page 6
Pillar III under Solvency II . . . . . .Page 7
Complexities of Risk . . . . .Page 8
Communicating Investment Risk . . . . .Page 9
Pensions Levy – Practicalities & Complexities . . . . .Pages 10,11
Society's AGM and Election of 2011-2012 Council . . . . .Page 11
Back Page . . . . .Page 12

Kevin Murphy, Immediate Past President of the Society presenting Tom Ross with his Honorary Fellowship parchment.

THOMAS M ROSS, Hon FSAI, OBE, BSc FFA FCIA ASA

From time to time Council elects Honorary Fellows whom it considers proper to admit by reason of their position or experience or by reason of their eminence in the actuarial profession or otherwise. Following the AGM on 9th June 2011, Kevin Murphy, Immediate Past President of the Society, conferred Tom Ross with Honorary Fellowship of the Society. Kevin said that the Society was very pleased that Tom had accepted Honorary Fellowship of the Society to join other eminent Honorary Fellows; Professor Philip Boland, Professor Phelim Boyle, Professor Emmanuel Buffet, Mr Chand Kohli, Professor Brendan Walsh and Professor Alastair Wood. Kevin also commented on the Society's loss following the recent death of Dr. Garret FitzGerald, who was also an Honorary Fellow of the Society.

Most members will know Tom as a Past President of the Faculty of Actuaries and as a member of the Society's Committee on Professional Conduct. Any golfers amongst our membership will appreciate that it was Tom who presented the Society with a trophy for our now traditional annual golf match against our Scottish colleagues. There was always a special relationship between the Society and the Faculty of Actuaries.

We asked Tom to briefly outline his actuarial career for us:

I am aged 67 and an actuary who has specialised in pensions. I graduated from Edinburgh University with an honours maths degree in 1966, and qualified as a Fellow of the Faculty of Actuaries in 1970. I was President of the Faculty from 2002 to 2004.

I retired from Aon Consulting at the end of 2005, having spent almost 30 years with the firm and its predecessors, the best known of which was Clay & Partners. I spent 5 years in Vancouver, Canada, in the early 1970's. I was now reaching the happy stage of life where I had more past than current appointments and could do things by choice rather than of necessity or at the behest of others!

I am Chairman of an investment trust, the Edinburgh UK Tracker Trust plc, and Chairman of the trustee board of the Smiths Industries Pension Scheme. I remain involved with the work of the International Actuarial Association, which has the advantage that meetings have to be attended every six months in different parts of the world! I also chair a children's medical charity, the Children's Liver Disease Foundation, which does excellent work in the field described in its name.

Until recently I was a member of the Board for Actuarial Standards, an operating Board of the Financial Reporting Council, which was established to set technical standards for actuaries following the review of the profession chaired by Sir Derek Morris, and the Senior Independent Director of Royal London. I retired as Chairman of Penta Capital Partners, a Private Equity management company, at the end of 2007. Until June 2008, I was Chairman of the Pensions Policy Institute, a research body which I was instrumental in founding, and a member of the Code Committee of the Takeover Panel.

I was Chairman of the National Association of Pension Funds from 1995 – 1997, and a member of the Hampel Committee on Corporate Governance.

Now semi-retired, I find more time to enjoy my five grandchildren, a round of golf, a day at the races and lots of travel with my wife Margaret.

Quantitative Easing

On Tuesday 17th May 2011, Colm Fitzgerald delivered a presentation on Quantitative Easing and its implications for Actuaries.

Quantitative Easing (QE) is the monetary policy used by central banks to increase the supply of money. It is achieved when a central bank credits its own account with money that it creates out of nothing. This money is then used to purchase financial assets, government bonds, mortgage-backed securities etc. Additionally, an increase in money supply through the fractional reserve system can be achieved by changing the reserve requirements.

The Impact of QE

As QE will typically involve intervention on the bond market bond prices will go up, lowering yields. However Colm went on to explain that where the initial intervention leads to higher inflationary expectations yields at the longer end of the curve may subsequently rise. Colm then linked the impact of QE on equities nicely into the impacts that he'd just explained in relation to bonds – lower bond yields would make equities relatively more attractive with the subsequent high inflationary expectations also contributing to higher real asset values. QE can result in stock market bubbles unless the action results in higher real economic output which was considered unlikely in the longer term. This can then be followed after a period by a stock market sell-off if investors fear the implementation of restrictive monetary policies to curb excessive inflationary expectations. To tackle inflation a central bank will increase interest rates which then reverses the initial QE process.

The impact of QE on the exchange rate is relative to any QE being progressed in other countries. Relative to a country where QE isn't being applied or where it is more restricted QE than in the local country the exchange rate should fall. Over the medium term however a depreciated local currency should increase the competitiveness of the local economy and the export market should grow. In this instance if QE results in stronger growth there should be a subsequent appreciation of the currency.

Companies are encouraged to borrow during periods of QE as lower interest rates reduce the cost. Capital investment spending by these companies will go on to increase employment and income levels. This will increase economic growth. Increased consumer spending arising from reduced debt servicing levels as well as a reduced incentive to save will further impact on economic growth. Internationally however if countries conduct QE exercises to engage in competitive devaluations the result would be negative for both international trade and economic growth.

At this point Colm summed up his views of QE. In the short term you have a positive result in lower bond yields and higher equity values. In the longer term imbalances and bubbles emerge. These longer term negative results of QE and the associated volatility go on to have significant impacts on financial markets and consequently insurance companies and pension funds.

The Irish Money Supply

Colm then looked at the money supply in Ireland. Here the fractional reserving system has gone into reverse and money has been destroyed over this period. This is effectively QE in reverse. Ireland is currently running a year on year contraction in the money supply of about 20%. This is worse than was experienced in the US in the 1930's.

Economics Discussion

Colm went on to stimulate an economics discussion by illustrating some concepts and theories. Speaking about Political Economics Colm discussed the age old question of why our political leaders don't follow through with the economically correct course of action. Political Economics suggests that the politicians will play towards the ego of the population – the goal being re-election. Tough decisions will only be made when they are forced upon the political class. The recent Irish example being the acceptance of the EU/IMF bailout where the decision was only made after it had been forced upon the government.

The next topic that Colm touched on is the concept of Neoliberalism i.e. the school of thinking whereby the most important people in society are the entrepreneurial class, those who create jobs and wealth. It goes on to suggest that society should do all that it can to benefit this class of the population and by doing so the wealth will filter down to everyone else. This then motivates the entrepreneurial class to further develop and continue to create more money.

Some startling numbers next as Colm looked at the negative wealth effect in Ireland over the past 3 years. During the years 1996 to 2007 the money supply in Ireland increased by 540%, driving up asset prices but also the fixed debt attaching to these assets. After going through some quick sums Colm arrived at an estimate for the collapse in Irish asset and property values of €700bn or 5 times GDP.

Speaking about the "Money Tree" Colm described how German banks in the years prior to the economic collapse made risk free profits. They did this by selling German bank bonds and then using the proceeds to invest in Greek bonds, for example, with swaps then being used to close out the interest rate risk. What this effectively achieved was the sale of insurance on the status quo in Europe. As you know we have seen a change to the status quo in Europe, however these banks are not paying out and instead are being subsidised by the Greek government in the case of our example.

Addressing the issue of a possible bond bubble Colm highlighted the unusual situation that has emerged in the US. Large volumes of bonds have been sold in the US to combat the financial crisis however this was simultaneously met with a lowering of interest rates. These two actions don't generally go hand in hand and may result in a bond bubble. We have seen some signs of this arising out of various actions taken by ratings agencies over the past few months in relation to US debt.

Finishing up the presentation Colm touched on commodity price movements. Using various indices Colm illustrated the 100% rise in the average cost of commodities over the last 2 years and also a 50% increase in the global cost of food. Colm linked the cost of food to unrest in the middle-eastern states following recent upheavals where people are now experiencing food shortages.

Discussion

The discussion which followed raised some interesting points including;

- increasing commodity prices alluding towards a bubble;
- if cash isn't king what are the alternatives?;
- agency risk;
- celebrity economists;
- and advice for Minister Noonan.

Mark Lanigan

Risk Appetite Panel Discussion

A Working Party of the Society's Enterprise Risk Management Committee recently published a paper entitled "Constructing a Risk Appetite Framework - an Introduction". A discussion evening was held on 24 May which focused on issues raised in this paper and explored practical challenges that companies face when putting such frameworks in place. The panel included Tony Jeffery, Deputy Head, Retail Insurance Division at the Central Bank of Ireland (CBI); Pat Ryan, a non-executive director to several companies; and Bill Hannan, Group Head of Risk and Compliance at Irish Life & Permanent.

A member of the working party, Eamonn Phelan, welcomed and introduced the panel. He gave a brief introduction to the new Corporate Governance Code from the Central Bank of Ireland and outlined the requirement to establish a Board approved Risk Appetite.

The first question put to the panel was in relation to the type and level of detail required in the risk appetite statement. The overall consensus was that this cannot be vague and thus requires a reasonable amount of detail. It should include financial numbers such as economic capital, regulatory solvency, earnings or sales.

It was noted that the examples shown in the Society's working party paper were good and that the traffic light system, whereby if a risk is outside appetite the status turns amber, is effective and gives the Board a warning sign to act.

Pat Ryan recommended starting with strong qualitative statements and then adding quantitative measures. A risk appetite statement should effectively articulate the business the company is undertaking and where the company wants to use capital. He also warned that the risk management framework needs to take into account performance measures that are increasing positively, where this increase is not in the best interests of the company. For example, market share increasing for the wrong reasons.

Tony Jeffery stated that it is vitally important companies choose the level of detail included in the risk appetite which works for their company, as it may happen that companies go through the motions but a certain risk appetite statement may not be effective for their company. Also he advised that it's best to have an alert system that works in real and moving times.

The second question related to whether risk appetite measures should be expressed in economic capital terms. Bill Hannon responded saying both Solvency I and Solvency II measures matter.

A question was raised about the disclosure of risk appetites to the public. Some documents will be public under Solvency II; therefore certain information will have to be in the public domain. This information however would need to be comprehensive so the reader can understand the detail. The company also needs to decide the extent of the detail disclosed. One of the CBI requirements is to set risk appetites in the short, medium and long term. Certain risks behave differently over different time horizons. It was stressed that it is important to set risk appetites appropriately at different time horizons, for example, to meet short term risks one needs short term capital such as cash. It was also said that risk appetites could be linked to the economy e.g. objectives to improve risk measures as the economy improves.

A question was presented about the Central Bank's responsibility to ensure that companies are not exposed to people failure as was experienced in the banking crisis. It was strongly stated that the Board of the company is responsible for the individuals in the firm and that the Central Bank will have views but will not be responsible for this.

Tony Jeffery said that under the new Corporate Governance Code there are requirements for the Board to act as an independent check even if individuals are performing well. There should also be strong risk and audit committees and directors should understand the risks. The three lines of defence should enforce these regulations.

The next question queried how a company decides if a breach is material enough to warrant reporting to the Central Bank. The common response here was to report a breach only if it is serious and relevant. It was suggested that the Central Bank could provide more detailed criteria around this. Bill Hannan suggested that the best way to approach this would be to set up trigger points such as a red amber green system. The risk management framework of the company should have procedures in place to deal with any breaches in an appropriate manner.

If the recommendation is that a risk appetite has to work for a company one could have the situation where two similar companies have different risk appetites. Tony Jeffery commented that the Central Bank is keen to see how companies run their business i.e. what affects policyholders and what affects shareholders. They want to know about misses and near misses.

The following additional queries were also put forward:

How should a company quantify the risk appetite in respect of operational risk? Suggestions included qualitative statements such as 'no tolerance for breach of regulation' and also quantitative measures, for example the compensation paid to policyholders or an analysis of performance with the Financial Services Ombudsman.

There was willingness for common language to be used by the Central Bank so that all parties are clear as to what each term means e.g. standard definitions for risk appetite, risk tolerance, risk preference.

Will the risk appetite statement effectively manage upside and downside risk? One view was that the risk appetite gives boundaries. The risk appetite sets out how much a company can put on the table and how much they can undertake. The risk appetite statement ensures decisions are made by the business rather than just actuaries.

If the Solvency Capital Requirement is breached, should this be reported? Yes this should be reported and the reason for the breach should be communicated to the Central Bank.

What extent should the risk appetite support Solvency II and help the ORSA process? Tony Jeffery stated that Solvency II is a risk based system and all parts of the system should work together. Bill Hannan, who wrote the review, said that Solvency II will have greater harmony with risk management.

The last question related to upside risk and that the risk appetite statement appeared to be geared more towards negative risks. Pat Ryan said that the risk appetite should account for a range of outcomes.

Discussion Paper on

The credit risk of sovereign bonds and the implications for life assurance actuaries in valuing actuarial liabilities has become very topical of late. With this in mind the Society of Actuaries established the Sovereign Exposures Working Party to examine the various issues involved. On Thursday 9th June members of the working party presented their discussion paper on sovereign exposures to a well attended evening meeting in The Alexander Hotel.

The evening meeting followed the Society's AGM and was opened by the newly appointed President of the Society, Paul O'Faherty, who introduced two speakers from the working party, Linda Kerrigan and Thomas Farrell.

Linda began the presentation by outlining the three main areas covered by the paper produced by the working party:

- The working party sought to bring some consistency to how actuaries would adjust government bond yields to allow for credit risk. With this in mind they outlined a number of factors which they felt should be considered when making an adjustment for credit risk;
- They summarised a number of approaches that could be used to estimate credit risk of sovereign bonds; and
- They identified some issues the actuary should consider where a company has material sovereign exposures (i.e. concentration risk).

In recent months, government bond yields for several developed peripheral countries have been increasing; this reflects the market's perception of an increase in the risk of default. The valuation of actuarial liabilities requires discounting cashflows using a valuation interest rate derived from the yields on the assets backing the liabilities. Historically sovereign bonds were used to back the actuarial liabilities, and movements in asset values due to changes in interest rates were offset by movements in the value of the liabilities. If assets and liabilities were well matched there should be a minimal effect due to the change in interest rates.

In recent months the market values of some sovereign assets have fallen dramatically due to a widening of spreads on sovereign bonds. The question for actuaries as a result of this are whether they should discount their liabilities using these higher interest rates, thus causing a fall in the actuarial liabilities? And if not, what adjustment should be made to the yields of the assets when valuing the liabilities?

In order to set future assumptions actuaries generally analyse historical data. However, there is limited historical data available on sovereign default in developed countries. Historically, most sovereign defaults have been concentrated in emerging economies. Hence it is necessary to develop new methods to assist the actuary in making an informed decision when setting the valuation interest rate.

Existing Advice for Actuaries

Linda then gave an outline of sources of information available to actuaries in determining the most appropriate adjustment to make to yields to reflect credit risk:

- The insurance regulations ((European Communities (Life Assurance) Framework Regulations, 1994), refer to the need to have regard to the yields available on risk-free investments of a similar term in the same currency when assessing the adjustment for credit risk;
- The Central Bank of Ireland (letter to Appointed Actuaries in December 2010) advised that it was expected that actuaries would explicitly understand changing market perceptions of risk and, if appropriate, allow for them as described in the above regulations; and
- Finally, Actuarial Guidance (Section 3.3.4 of ASP LA-3) states that "it is appropriate to have regard to any differences in yield which arise from differences in marketability of the asset in question as compared with the risk-free alternative when assessing the deduction for the default risk."

The working party concluded from examining the regulatory and professional guidance available that it was clear that the actuary is required to assess the credit risk of bonds (including sovereign bonds) backing the actuarial liabilities.

Approaches to Estimating Credit Risk

A number of alternative approaches to estimating credit risk on sovereign bonds were discussed.

Credit default swaps (CDS): Credit default swaps are a form of insurance which can protect investors in the event of default. They can be viewed as the market price of the credit risk for particular bonds. This approach involves basing the illiquidity premium on the residual spreads available from bond yields less the cost of credit default swaps.

Market based metrics such as Bloomberg: These are metrics quoted on each bond that are used by market participants when examining the credit risk they are taking on in return for holding a particular asset. Two of the most widely used metrics are the Z Spread (or Zero volatility spread) and the ASW - Asset Swap Spread.

Solvency II illiquidity premium: This approach is based on a proportion of the spread over EURIBOR-linked swaps of the yield on an index of corporate bonds. Under Solvency II insurers will have to use this approach regardless of the assets they hold.

Historical experience approach: This approach involves using historical experience of bond default rates, downgrades and loss on default as a guide to likely outcomes for given holdings. The approach has been used in the past by insurers holding portfolios of corporate bonds.

Bank of England's summarised analysis of corporate bond spreads: This approach suggests a best estimate of circa 50% of the excess spread over risk free rates as being attributed to an illiquidity premium for holding corporate bonds.

Expert market opinion: This approach involves gathering the views of a number of market experts to derive a consensus estimate of the amount of the spread which relates to risk.

The working party considered many more possible approaches, including the covered bond method and the structural model method.

Concentration Risk

The discussion then moved on to the concentration risk associated with sovereign bonds. In particular where a company has significant concentration risk there is a binary outcome, i.e. there is either default of the sovereign or there is not.

The actuary is responsible for drawing the Board's attention to any concentration risk. The working party recommends that the following scenario testing is provided

Sovereign Exposures

to the Board to highlight the potential impact of sovereign exposures on the capital position of the company:

- Impact on the solvency position of the company due to a widening of spreads on government bonds over risk free rates;
- Solvency position of the company if all the assets were switched to a "risk-free asset" (e.g. more highly rated government bonds); and
- A reverse stress test which would show the level of loss the company could withstand in the event of a default.

In addition to the above the actuary should make the Board aware of their interpretation of policyholders' reasonable expectations in the context of sovereign bond concentration risk.

While it is the responsibility of the Board to decide whether the concentration of sovereign bonds is acceptable given its risk appetite and having reflected on the likely outcomes, the actuary also has responsibilities where they feel there is a material risk that a life insurance company will have insufficient funds or will fail to meet its obligations.

Summary

The working party concluded that it is appropriate to allow for credit risk on sovereign bonds where spreads are materially in excess of risk-free rates. However, it is difficult to apply established techniques for estimating credit risk to sovereign bonds. It was emphasised that there is no single definitive approach to estimating credit risk. The actuary needs to consider a range of possible approaches. Finally, the actuary should also make the Board aware of market exposures and of the implications of credit events where there are concentrated exposures. This should involve scenario testing to highlight concentration of risk.

Discussion

A thought-provoking Q & A session followed the presentation.

- There was agreement that there was a need for consistency across the industry and that sovereign default and credit risk were important issues for the profession to discuss.
- Some suggested there was a need to formalise the paper into guidance.
- There were also suggestions that actuaries should start moving towards the Solvency II approach now, allowing for 100% of the credit risk and using an AAA government bond yield for liabilities.

Paul O'Faherty brought the meeting to a close and thanked all the speakers for the informative presentation and discussion.

Grainne Loughnane

Solvency II Internal Models

On Tuesday 31 May 2011, Tony Jeffery, Dermot Marron and Niamh Gaudin of the Central Bank of Ireland delivered a presentation on Solvency II Internal Models to the Society. The large crowd which attended was a testament to the critical role Internal Models will play in the future risk management of Irish insurance firms. Before the presentation commenced, Tony stated that the views expressed by the three presenters were their own personal opinions and were not necessarily those of the Central Bank.

Approval Process

Tony opened the presentation by noting that Ireland has the second highest number of applications for use of an Internal Model (unsurprisingly the UK has the highest number), with the Central Bank required to assess approximately 45 models.

The basic principles which the Central Bank Internal Model team will use in their assessments are:

- European regulators want firms to use Internal Models, but only if they accurately represent the risk profile of the firm.
- The Central Bank is a risk-based supervisor and so proportionality will be applied where appropriate. The more material areas of risk will receive the most attention by the Central Bank team.
- The role of the Group supervisor is key and they take prime responsibility for the approval of the model as a whole.
- Where the Central Bank is not the Group supervisor, they will be concentrating their assessment on local use, local governance and local calibration.

The Central Bank will also be particularly focussed on the Use Test. Put simply, if local management do not understand their Internal Model and/or do not use the model appropriately then the model will not be approved. To test management's understanding of the Internal Model, the Central Bank must themselves understand the model. As part of this familiarisation process, the Central Bank will communicate any potential issues to the Group supervisor (but probably not the company). These issues will be graded into three classes:

- Observation - an aspect of the model that may be deemed to be unusual but does not overly worry the Central Bank.
- Concern - an aspect of the model where the Central Bank will require further evidence as to its appropriateness.
- Major Issue - an aspect of the model that the Central Bank is not prepared to accept.

The approval process that the Central Bank will follow is:

1. Readiness Assessment Request
2. Assessment of Readiness by the Central Bank
3. Request for Status of Evidence and Pre-Application Submission
4. Walkthrough of the Internal Model with the Central Bank
5. Decision on assessment levels (conceptual, detailed or very detailed)
6. Completion of Model Overview and Work Plan ("MOWP")
7. Detailed work based on MOWP
8. Approval and confirmation of no further questions ("NFQ") for each criteria
9. Formal Submission and Approval (the Central Bank's legal interpretation is that they cannot formally approve an Internal Model until after 1 January 2013)

Validation

Following Tony, Dermot Marron spoke to us on the validation of Internal Models. Dermot felt that firms need to give the initial validation of their Internal Model a higher priority than may currently be the case when planning their model development. If the initial validation does not take place early in the development cycle of the model it may be too late to remedy any problems with the theoretical basis of the model that may be uncovered at a later stage.

Ongoing validation of the Internal Model is also of particular importance to ensure that the model stays fit for purpose and remains aligned to any changes in the risk profile of the firm.

Solvency II requires that the validation of the model is carried out independently of those who developed the model. The reporting lines of those validating the model are very important when evidencing this independence - a direct line to those who can approve model changes is very desirable in this regard. Dermot also explained that validation which is carried out by an external firm is not automatically deemed to be independent, for example where the firm has previously advised on the model or is conflicted in another way. If validation is being outsourced then the terms of engagement should match the firm's validation policy. Dermot suggested that firms who intend to outsource their validation should share their proposed engagement document with the Central Bank to enable them to offer an opinion on whether the terms meet their expectations.

Aggregation

Our next speaker was Niamh Gaudin, who gave an excellent synopsis of the issues regarding the aggregation methods used in Internal Models. As diversification benefits can amount to up to 50% of a firm's undiversified total economic capital, this is an area that the Central Bank will be examining in detail.

A particular difficulty for actuaries in this area is the requirement to justify the assumptions underlying diversification effects with empirical data. It is quite apparent that there is very little empirical evidence available so expert judgement will be heavily relied upon here.

The most common aggregation methods used by Irish companies are variance-covariance matrices and copulas. When choosing their aggregation method, firms should consider:

- how accurately are CAT events represented?
- how easy will meeting the Statistical Quality Standards be?
- Use Test - will senior management be able to demonstrate an understanding of the method?

Discussion

At this point the presentation ended and was followed by the customary Q&A session. Some of the more important points discussed were:

- Insurance is a mathematical business and as such it is not too much to expect boards and senior management to understand mathematical concepts such as the aggregation methods used in their Internal Model, e.g. variance-covariance matrices, copulas.
- Although Internal Models will not be accepted or rejected on the basis of how they compare to the Standard Formula, firms are expected to be able to understand and explain why their Internal Model produces a different capital requirement.

Dónal Hyde

Pillar III under Solvency II

On Wednesday 22nd June 2011, a large audience attended a presentation by Brian Morrissey on Pillar III of Solvency II. Brian is a consultant with KPMG and acts as Appointed Actuary to a number of regulated entities. This presentation is number nine in the Solvency II series which has been running since the end of 2009. Most of the focus of the Solvency II presentations to date has been on Pillar I and II. In this presentation Brian focused on the Pillar III reporting and disclosure requirements under Solvency II and the challenges facing companies as the implementation date nears. Brian opened by explaining that the aim of Pillar III is to enhance market discipline and complement requirements under Pillars I and II to make undertaking's more transparent.

Information Available

Brian explained that there is a lot of publically available information including: the Directive Level 1 text, Omnibus II, CEIOPS/EIOPA final advice and there is also private information which if you are not part of a large insurance Group may be difficult to attain. Brian discussed the information in relation to Pillar III that is available publically from the various sources listed above.

Reporting Framework

Brian described the components of the Pillar III reporting framework which includes the Solvency and Financial Condition Report (SFCR) and the Regular Supervisory Report (RSR). The SFCR will be publicly disclosed while the RSR is a private document which will go to the regulator and will contain all information necessary for the purposes of supervision. On an ongoing basis there is reporting to the supervisor in the event of pre-defined events and other ad-hoc queries from the regulator as they arise. There may be some initial requirements to provide the regulator with an opening Solvency II balance sheet and SFCR and the first Supervisory Report but none of this has been finalised yet. Brian explained that Solvency II is a principles based Directive and that the detail of the reporting in the SFCR and RSR should be proportional to the complexity of the risk profile of the insurer. Brian emphasised that for internal model companies there are substantial additional disclosures including: use test, calibration, statistical quality, P&L attribution, validation standards and external data.

SFCR

The SFCR is produced annually. There is scope for a single Group wide SFCR to be produced, however, permission is required. The format of the report is specified and the SFCR is a Board approved document. Brian explained that the SFCR is aimed at policy holders and other stakeholders so it needs to be understandable. Brian discussed the structure of the SFCR in detail which includes: business performance, external environment, systems of governance, risk profile, valuation for solvency purposes and capital management. Brian highlighted that while this is a public document a lot of information is still required and pulling all this together in an efficient way will be a challenge.

RSR

While there is scope to produce a Group wide SFCR, companies do need to produce a solo RSR. This is not necessarily an annual document and it is possible to get an exemption to produce one every three years. However, the frequency will depend on the intensity of the supervisory review process. The RSR will have a common structure and it is also a Board approved document. The RSR will complement the SFCR and there will be no need to duplicate information contained in the SFCR. Brian explained that the structure of the RSR is similar to the SFCR but the information required is more detailed as it is focused at the supervisor. There will be extra information that would not go into the SFCR for example: business strategy, risk strategy, legal issues, regulatory issues, variance to business plan, future developments for the company and disclosures around mechanics of the internal model relative to the standard formula. As part of the RSR there will also be significant emphasis on transactions and risk concentrations within a Group and inter-Group transactions will be an important part of reporting to the supervisor.

Brian used an internal audit as an example to illustrate the differences between the SFCR and the RSR. The RSR would include details of the internal audit work performed, the findings of such work, the resolutions and implementation plans. The SFCR is less detailed and would contain information such as how internal audit is set up within the company and how it is independent and objective of management.

QRT's

The QRT's (Quantitative Reporting Templates) support the SFCR and the RSR. The QRT's will consist of quantitative information in a standardised format which can be easily compared across the industry. This will ensure consistent reporting and should aid harmonisation on a European cross-border basis. All of the templates will go into the RSR while only a handful will be issued publically in the SFCR. There are more forms to be completed than current requirements. Brian discussed some of the information required to complete forms. Brian noted that there is still a lot of discussion and debate around the variation analysis. At the moment the industry bodies are putting forward an EEV type approach; however, EIOPA are not in agreement.

Reporting Timelines

Brian went through the reporting timelines for solo companies and Groups and he explained that there will be a transitional period. By 2016 the reporting timelines will be shorter than the current timelines under Solvency I. Brian explained that subsidiaries of Groups have longer to submit numbers, but he explained that this would have to be in line with a Group timetable which will be tighter than the actual timeline and he expects that this will drive how subsidiaries based in Ireland produce the information. Brian stressed that the reporting calendar will become more crowded and complex than it is at the moment and this will place significant demands on reporting functions, even based on current workload without the new requirements.

Challenges

Brian wrapped up his presentation by exploring some of the challenges facing companies as the implementation date nears. Brian concluded that even though the requirements are not finalised, there is enough information to start to understand the challenges and start developing drafts and, although Pillar III may be the forgotten Pillar, it should not be dismissed.

Q&A Session

This was followed by a Q&A session which included discussion of: resource challenges for supervisors, challenges for directors, frequency of the RSR and how effective Solvency II would have been to prevent past failures.

Jean Rea

Complexities of Risk

Neil Cantle, a principal with Milliman in the UK, addressed the Society on 27 June at an afternoon meeting at the Alexander Hotel on the topic of "Complexities of Risk." The presentation gave an outline of a new model developed in Enterprise Risk Management (ERM) and how this could be applied in practice. Neil had been working closely with the Actuarial Profession in the UK in recent years to develop practical methodologies for assessing and managing risk for all types of businesses.

Neil started off by questioning the stereotypical view of risk and how it is measured. Risk was, he said, an emergent property of a "complex adaptive system", such as any large business. Human judgment can be one of the worst ways to measure risk, and more often than not leads to significant errors. In particular, the idea that many risks were too complex to model was incorrect, and we needed to address complexity in any risk model.

He highlighted that even complex systems tended to be the result of underlying simple processes – for example, hundreds of birds flocking through the air in unison may appear to be complex, but this is actually the result of each bird following a small number of basic principles.

Any system needs to first of all take a holistic approach , i.e. look at the overall picture and then assess what precise risks need to be quantified. The most important, and most difficult, part of this was to allow for interaction between risks – most risks cannot be measured in isolation. To allow for this, a system was developed that uses Cognitive Mapping to capture the connections between risks and set them out in a clearly visible manner.

The first step is to understand your risk profile. This will differ for each organisation, and can evolve over time. This should give you a set of risk factors. At this point it is critical that you don't oversimplify too soon – labelling a risk into just one area could result in a failure to allow for correlations between the different risks.

Visually mapping out the risks allows you to appreciate the key "nodes" or issues that are showing up as risks. There will be several links between the "nodes" representing the correlations between the risks. The key "drivers" for these nodes should then be identified to see what is driving these risks, and hence what the business should be most concerned with. A further item to review is any gaps in the model – the map should show if any items have been omitted, as is often the case.

The Cognitive Mapping method also has the benefit of allowing you to measure how much information (or uncertainty) you have, and the Shannon Entropy can be used for this purpose.

Neil gave the example of the reported financial results of 2 large UK insurers. The companies had very similar headline results in terms of premiums, claims etc. but when underlying factors were examined, it was found that the two companies had very different drivers and hence very different risks.

The discussion then moved on to the actual output from the model. It could be used from a top-down or bottom-up perspective. From the top-down, a business can set its risk appetite (probably to be set by the board of directors) e.g., deterioration of balance sheet position to a certain confidence level. This can then be input to the model to feed down and give you limits for each "node" or risk factor. Alternatively, it could be used from the bottom-up as a risk-monitoring tool in order to assess how much risk the company has at a particular point in time.

Neil showed a number of slides on how the output would look in the form of a tree with the different branches representing different risks. The closer the branches, the more alike the risks were. This was used to demonstrate how the risks for one multinational could be pooled from the information provided by the various operating entities with some risks showing up as significant to the company overall even though they were not significant to any of the individual entities.

Discussion

Neil then summarised his presentation before throwing it open to questions. Mike Claffey asked how the idea of reverse stress-tests had been applied in the UK. Neil replied saying that the FSA would welcome this, as it wanted to see an assessment of all the risks that may cause a business to fail, not just the risk-capital tests that had dominated to date. Cognitive Mapping could identify risks that had not been accounted for previously.

William Holmes pointed out that this should be seen as an opportunity for the Actuarial Profession. It should be marketed as an opportunity for business leaders to better manage their business and increase profitability, rather than an extra regulatory burden. William also asked if the methodology had been applied to the investment world; Neil confirmed that it had been used on several occasions and the feedback had been that the model allowed businesses of all types to understand and identify risks that had not been recognised before.

In response to a question from James Murphy, Neil stated that the development of these models had in the past often been left to company management before an eventual presentation to the board of directors. In fact, the reverse was preferable, as the board should be involved at the outset in setting the risk appetite for the company and the model could then work from there.

Following a question from Dermot Gorman, Neil confirmed that some insurers intended to use the model in their internal model under Solvency II, especially for operational risk. He did say, however, that most companies were taking a bottom-up approach under Solvency II and looking at each individual risk and quantifying it rather than the more holistic approach proposed by Neil.

Chairperson Padraic O'Malley asked if the model could identify risks in advance. Neil said it could, and gave the example of the banking collapse of 2008, where the model would have identified specific questions relating to banks that subsequently collapsed, but not for those that survived intact.

There being no further questions, Padraic O'Malley thanked Neil for his informative and interesting presentation.

Gerard Nolan

Communicating Investment Risk

On Tuesday 28th June, the Working Party on Communicating Investment Risk presented their Report on this topic. The Working Party is chaired by Colin Murray, who was assisted in the presentation by Maria McLaughlin and Hendri Solomon. Emily O'Gara and Marie Phelan are also members of the Party.

The Report tackles the increasing problem of how best to communicate investment risk to consumers who may not be particularly financially literate. As the range and complexity of funds both in Life Assurance and in the Pensions industry are increasing rapidly, the industry needs an effective way to make sure investors understand the risks they are taking on.

The Report which the Party presented is not intended to set out guidelines or be interpreted as the most effective way to communicate investment risk. Instead the Party aimed to educate on different global requirements when portraying investment risk on investment products. The effectiveness or otherwise of these regimes was also analysed. The Report did offer some pointers on the construction of fund literature, but these were intended to stimulate debate and were not presented as a solution to the difficult problem of ensuring investors are fully aware of what they're getting into.

Current Regimes

After brief introductions, Hendri Solomon discussed the current methods for presenting the risk inherent in investment products worldwide. Ireland has no particular guidelines for describing risk and risk calculation varies between providers. At the other end of the scale, Italy requires a rigorous set of disclosure based on three pillars of decision making: what happens to your investment under different return scenarios, risk classification and time horizons. While such detail is comprehensive, the Party are less keen on the intensive calculations required and the effort required to ensure consumers understand each output.

Other regimes, split between those which describe risks and those which provide a risk rating or classification, were also discussed.

European Developments

Maria McLaughlin then spoke about European developments, particularly the UCITS IV Directive and CESR Guidance. Maria outlined the main features of the Key Investor Document (KID), a template for investment product literature.

The main requirements are:

- A two page document with a clear, easy to understand statement of objectives and investment policy
- A risk and reward profile, including a horizontal risk thermometer with a risk rating determined by the weekly/monthly volatility using five or more years of data. The risk rating should include a short narrative
- Information about charges (in monetary terms)
- Past performance (in monetary terms)
- Practical information

While the Party supports a short document which includes graphics and uses volatility as a measure of risk, they felt that there are a number of problems with this template, such as a potentially unbalanced emphasis on past performance, no quantification of other risks (e.g. concentration or liquidity) and no allowance or mention of diversification benefits if an investor has holdings in more than one fund.

The European Commission's PRIPs (Packaged Retail Investment Products) initiative, ABI and Investment Management Association research and the Consumer Protection Code were also discussed.

Risk Measures

Colin Murray finished off the presentation. He discussed the effectiveness of different measures of risk such as volatility, Sharpe/Sortino ratios, drawdown, 99% Value at Risk, etc. Using a large range of life assurance fund data, the Party applied each of these risk measures to various five year periods and examined how well historic risk predicted future risk. The Party concluded that while there are many different and complex risk measures, volatility is as effective as, or better than, other measures in summarising the riskiness of an investment.

Colin ran through a proposed investment literature template which the Party had constructed. This largely followed the layout of the KID discussed earlier and had the following features:

- Two pages – no more so as not to overwhelm consumers
- Product names should have a subtitle which summarise the risk features of the product (e.g. "A high risk fund with the potential for high returns")
- All management and intermediary charges should be shown
- Percentages (for example charges or expected returns) are accompanied by numerical examples (as SAI President Paul O'Faherty noted, 30% of people don't understand percentages)
- Risk levels should be shown on a horizontal thermometer and explained by a short narrative
- A stochastic analysis of potential returns and the benefit of these returns to investors (tables could be used to reduce required calculations for many standard funds)

Discussion

Following the presentation, the floor opened up to comments and questions. Many in the audience commented on the high quality of the paper, including former SAI President, Philip Shier, who noted how useful this research would be in the DC Pensions industry.

Niall Alexander

Pensions Levy -

Frank Downey delivered an informative presentation to a joint meeting of the Society and the Association of Pension Lawyers in Ireland on the controversial pensions levy in the Alexander Hotel on 19 July 2011. The fact that the presentation was so well attended for a mid July event and was followed by an extensive Q&A session is a testament to the importance of the subject.

We've only ourselves to blame!

Frank opened with some interesting remarks from the Dáil records when the levy was being debated. The Minister for Finance had explained that the levy was actually proposed by the pensions industry itself, and in his discussions with the industry the point was made that "based on actuarial advice, a temporary levy would have no impact on funds."
The levy is apparently affordable because funds are expected to grow by an average of 6% in the next three or four years(!)
Interestingly, the logic for excluding annuities and ARFs from the levy is because they are already subject to income tax on payment or (imputed) drawdown. The future tax payable on funded pension arrangements seemed to be conveniently ignored in that argument.

Should the employer pay?

Moving on to the area of where the money should come from, Frank considered that given the trustees' obligation to act in the best interests of the beneficiaries, they should first ask the employer if it would pay the levy from its own resources. The outcome of this is likely to vary depending on the interactions of the trust deed & rules, corporate policy and the financial position of the employer. This may touch on some complex issues in the trust deed & rules in terms of contribution obligations and whether the employer could be forced to pay. The area is likely to require some legal advice, for example, on whether the levy could be regarded as an expense of the scheme rather than a contribution.
HR issues are likely to emerge if the employer decides to pay it for one class of beneficiary but not another – e.g. paying for DB members but not DC members; or paying for active members but not deferreds.

Reduction in benefits

If the levy is not paid by the employer from its own resources, then the Act allows for benefits to be reduced to cover the impact of the levy as follows:

"…the benefits payable…may be adjusted by the trustees, but the diminution in value of those benefits shall not exceed the amount disbursed from the assets attributable at the valuation date to the scheme's liabilities in respect of that member…"

Firstly, a benefit reduction is not automatic, and some possible justifications for not reducing the benefits where the employer does not pay include:

- the scheme is in surplus;
- the scheme is not in surplus, but the funding proposal remains on track;
- the levy could be offset by investment or other gains which are more material;
- discretionary benefits could be reduced or not given.

However, the possibility of reducing benefits raises a number of important and difficult decisions. Again, what powers the trustees have to effect changes may be dictated by the trust deed & rules.

Frank then ran through a number of scenarios demonstrating how the financial position of a scheme might change depending on how the levy was dealt with.

In the scenario where a scheme is in deficit and benefits are not reduced, then because of the priority for expenses and pensioners, it is active and deferred members who will suffer a reduction in coverage. Due to the gearing effect, the reduction in assets attributable to them will be greater than simply 0.6% and this can become quite significant after 4 (or more) years.

If the decision is taken to reduce benefits, then questions emerge as to what assets can be attributable to liabilities in respect of a member, and on what basis should those liabilities be calculated? Frank considered two possible approaches:

a) Based on the ongoing funding level with the same level of reduction applied to all members.

b) Based on the MFS funding level and either
   (i) same reduction for all members, or
   (ii) reduction based on coverage level for each class of member.

Running through some examples, it was clear that there is a great deal of variability in outcomes for different categories of member depending on which approach was chosen. Again, the effect can be significant if compounded over 4 years. The different alternatives should be presented to the trustees, and they can consider who should bear the greater loss depending on the nature of their scheme.

Practicalities and other issues

Frank considered a number of other issues which emerge if benefit reductions are to be implemented:

- The Revenue may review any adjustment of benefit.
- Do schemes need a full valuation of liabilities at 30 June to calculate reduction accurately?
- Will the booklet / trust deed & rules need to be updated?
- How should communication to members take place?
- Should current pensions be reduced or can it be deferred until the next increase?
- Should deferred benefits be reduced or can an adjustment be made to future revaluation?
- Can actives accrue 0.994 yrs benefit per year (instead of 1 year)?
- New admin requirements for benefit statements.

Accounting for the levy

The initial consensus of the "Big Four" accounting firms is to account for the levy (and any benefit changes) on a year by year basis, rather than all in one go. For 2011, either the actual return on assets or the expected return on assets should be adjusted downwards to reflect the levy, but for 2012, the expected return should be adjusted downwards. If benefit reductions are to be implemented, then these should be accounted for as a past service gain in the year in which the decision to reduce benefits is made.

Practicalities & Complexities

Q&A

A healthy Questions & Answers session followed where members raised their thoughts and interpretations of the legislation as well as some of the clarifications that they have obtained from Revenue to date.

Some of the key points raised were:

- Whether net current assets due to the scheme at 30 June are subject to the levy? The Revenue are to provide clarification on this point.
- Whether annuities held by the scheme (in trustees' name or individual member's name) would be considered an asset for levy purposes? Apparently the Revenue have clarified that these can be ignored for levy purposes as the deemed net value is zero.
- It was noted that if employers tended to pay the levy for their DB schemes (which generally have older employees) but not for their DC schemes (which generally have younger employees) then this might pose some discrimination problems.
- It was acknowledged that there are a number of conceivable ways of implementing benefit reductions and one speaker suggested that it might be useful for the pensions industry to come together and agree a consistent method. Keith Burns indicated that the Pensions Committee's preference was for actuaries (and other advisors) to outline a range of possible outcomes to trustees rather than pick one single approach.
- It was acknowledged that the wording in the Act was vague and inconclusive, and it would be helpful if the Revenue issued guidance clarifying what was intended by the legislation.
- A question arose as to whether the term "member" includes dependant pensioners or those in receipt of a benefit under a pension adjustment order? This will depend on whether they have been admitted to membership under the rules of the scheme.
- On whether the "temporary" levy was likely to continue beyond the 4 years, Frank felt that it will be continued in some form. The point was made that the pensioner lobby is very effective and powerful and if the levy was passed on to them in the form of benefit reductions, then they might be incentivised to mobilise and put pressure on their elected representatives to ensure it does not continue longer than necessary.

Conor King

Society's AGM and Election of the 2011-2012 Council

Prior to the conferring of Honorary Fellowship on Tom Ross, the AGM of the Society took place. Paul O'Faherty was elected as the Society's 20th President at the AGM held on 9th June 2011. Paul will deliver his President's Address on Thursday 22nd September in the Alexander Hotel. This will be an ideal opportunity to hear Paul's views and his plans for his term as President.

Council 2011-2012 Officers:

Paul O'Faherty *President*
Dermot Corry *Vice President*
Evelyn Ryder *Honorary Secretary*
Jim Murphy *Treasurer*

Immediate Past President:

Kevin Murphy

Council Members:

John Armstrong
Gerard Bradley
Joyce Brennan
Keith Burns
David Costello
Cathal Fleming
Jonathan Goold
Colm Guiry
Sinead Kiernan
Richard O'Sullivan
Ciara Regan

Student Society's Summer BBQ

Left to Right: Aisling Bhreathnach being presented with her prize by Jennifer Johnston from Acumen Resources

On Thursday 21st July, the Student Society's Summer BBQ took place in the outdoor courtyard at D2, Harcourt St.

Although the Irish weather did not hold up its end of the bargain, students' spirits were not dampened as they were safely under cover from the rain. The event was very well attended, with over 125 students turning out, and a pleasant evening was enjoyed by all.

The menu featured some tasty BBQ food, some refreshments and the chance to win an Apple iPad2. Of all the spicy actuarial debate overheard, most focused on who should win the coveted iPad. Many felt it would surely be theirs to claim. Much bribery was attempted (and of course rejected).
In the end, the prize went to Aisling Bhreathnach. Congratulations to her on her terrific windfall.

This year Recently Qualified actuaries were also invited and we were happy to see that many attended. The event was kindly sponsored by Acumen Resources and the Student Society would like to thank them for their support.

The Charity Table Quiz took place on Thursday 18th August and winners and photos will be in the next issue of the Newsletter.

Congratulations to our Recent Qualifiers:

Name	Company
Azka Ali	*Mercer*
Tanya Beattie	*Mercer*
Daragh Burns	*Irish Life & Permanent*
Sinead Carty	*Aviva*
Thomas Donegan	*Bank of Ireland Life*
Cora Ciechanowicz	*Zurich*
Keith Gawley	*Allianz*
Christopher Goold	*Aviva*
Ciarain Kelly	*Milliman*
Gavin Maguire	*Irish Life Assurance*
Majella McDonnell	*Aviva*
John Nugent	*Bank of Ireland Life.*
Maebh O'Connor	*Mercer*
David O'Shea	*Bank of Ireland Life*
Laura Power	*AON Hewitt*
Sinead Robertson	*Aviva Life & Pensions*
Theresa Shiels	*Irish Life*
Keith Sutherland	*Standard Life*

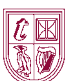
On the Move

Fellows:

Michael Brennan has moved from Friends First to **Canada Life**
Steve Gardner has moved from Barclays to **Santander Insurance Ireland**
Brian O'Connor has moved from Aviva to **MetLife Europe**
Bernard Lee has moved from Barclays to **MetLife Europe**
Naomi Reville has moved from Aviva to **Deloitte**
Michael Murphy has moved from Aviva to **Towers Watson.**

Students:

John McGlynn has moved from Mercer to **Deloitte**
Niamh Sweeney has moved from Capita to **PricewaterhouseCoopers**
Ursula Morrow has moved from Towers Watson to **PricewaterhouseCoopers**
Kate Kingston has moved from AEGON to **AXA Life Europe**
Morgan Gleeson has moved from Aviva to **MetLife Europe**



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