



Solvency II - "Get Your Motors Running"
See page 2

WELCOME

Welcome to Milliman's UK life insurance newsletter, which discusses current industry issues and aims to bring clarity to an increasingly complex environment.

This issue covers topics such as:

- A progress update on developments in the countdown to Solvency II
- Longevity risk capital under Solvency II - internal models versus the standard formula
- The emergence of Takaful in Europe
- ORSA - do you know your risk profile?

We hope you enjoy reading the newsletter and look forward to your feedback.

The momentum behind Solvency II has picked up dramatically since the beginning of 2009. The voluminous consultation papers from CEIOPS, setting out their advice on Level 2 measures, have made it clear that we are now moving rapidly towards implementation.

In addition, the FSA has been encouraging companies to gear up their planning for Solvency II. Some are already devoting significant resources to the development of internal models, while others are understandably reluctant to get heavily engaged while the rules of the game are still under discussion.

This edition of Issues in Brief has a Solvency II theme, with articles on the planning process, risk analysis methods and the more specific subject of longevity stresses. For those of you who are at saturation point on Solvency II, there is a more general article on market consistency in light of the relatively liberal application of that concept in 2008 embedded value reporting. Finally for those looking for something completely different we have a piece on Takaful, a subject in which Milliman has now developed expertise in both its London and Dubai offices.

Returning to Solvency II, the consultation papers issued in July provided little comfort for those hoping for concessions in areas such as the risk-free rate,

operational risk stresses and the risk margin. The implications of the current proposals for annuity writers are particularly severe, and there will inevitably be a strong push for some allowance for a liquidity premium to be incorporated in the final proposals. So far it has been difficult to get support for this from insurers outside the UK, but there are signs that others are beginning to recognise that using a pure risk-free rate will have serious implications beyond these shores.

Thank you to those of you who came to our client forum in London on 22nd July. We were very pleased by the attendance at this event, the level of audience participation and the feedback received. Our next such event will be at the same venue, the Andaz Hotel at Liverpool Street station on the morning of 3rd November 2009, and I hope to see you there.

If you would like to hear more about what Milliman has to offer, please contact me at nick.dumbreck@milliman.com or contact your usual Milliman consultant.

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SOLVENCY II – “GET YOUR MOTORS RUNNING...”



IN A PREVIOUS EDITION of this Newsletter, we described the long and winding road to Solvency II. Since then, matters have accelerated and we are now perhaps heading towards the home straight.

After some delay and with some material amendments to the 2008 draft, the Solvency II Framework Directive was finally approved by the European Parliament in April. At 370 pages, it is by no means a light read and, of course, it represents only the Level 1 step, with the Level 2 implementing measures and the Level 3 guidance to follow. To underline the position, CEIOPS issued 12 consultation papers more or less whilst the ink was drying on the Directive and

another 24 in July, with potentially 20 more promised in November.

The timeframe for the Level 2 consultation and analysis remains tight, as a deadline of January 2010 has been set for CEIOPS to submit its Level 2 proposals. The proposed QIS5 which will presumably test the final proposals is now scheduled for August to November 2010. Level 3 guidance will emerge in the first half of 2011

whilst final implementation remains at October 2012.

So, with much still to be decided and implementation still more than 3 years away, there cannot be any need to start thinking about it now, can there? Wrong! The FSA has recently written to firms requesting information regarding their state of readiness to adopt Solvency II. In particular, information was sought on:

- **Governance:** The details of the governance arrangements established for the implementation of Solvency II, including details of the individual leading the project.
- **Risk Management:** The plans for the development of a formal risk management structure including plans for the development of the Own Risk and Solvency Assessment (ORSA).

- **Gap Analysis:** The results of any gap analysis undertaken to determine the current shortfalls from the standards required for Solvency II, or alternatively, when such an analysis was planned.
- The FSA had previously announced that it was consulting with firms as to their intentions regarding the use of internal models and has started discussions on the process to be used for the approval of the first wave of models.

Clearly the FSA’s message is that firms need to be planning actively for Solvency II now.

Most firms will have some knowledge of the Solvency II requirements but given the time and effort needed to get to grips with the Directive and the associated emerging consultation papers, many firms may not be close enough to the detail to determine exactly what needs to be done.

We believe that firms do need to have a clear sight of the issues that will have a major impact for them and to build planning requirements around these issues. A number of streams of work will need to be initiated and firms will need to consider, within the

bounds of proportionality, the level of sophistication which will be required to satisfy the Solvency II standards.

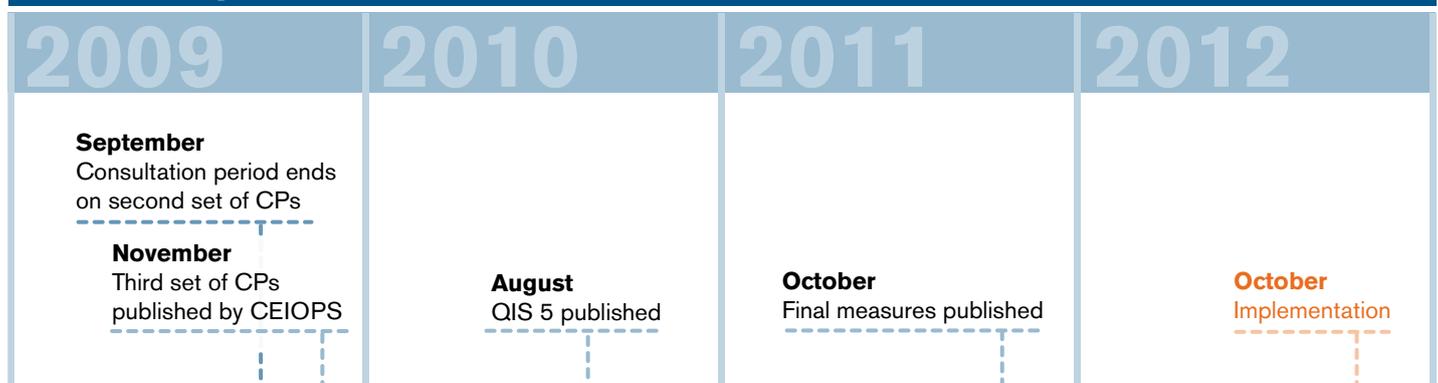
- **Capital Requirements:** As a first step, firms should establish what the capital requirement is likely to be on the standard formula as given in the QIS4 Technical Specification. The assumptions underlying this standard formula should be compared with the actual business and experience of the firm, although it should be noted that the final parameters may yet change as has been seen in the July round of consultation papers from CEIOPS. This comparison will help to inform a decision on whether (partial) internal models need to be considered.
- **Internal models:** If the firm does decide that it will use (partial) internal models then it will need to decide which parts of the SCR it will model and consider how it is going to get approval of its (partial) internal models from the FSA.
- **Best estimate parameters:** Consider the derivation of the best estimate parameters to be used in determining technical provisions (and also the enhanced documentation and audit requirements of Solvency II).

- **Governance arrangements:** Carry out an analysis of the shortfalls in governance and organisational requirements, particularly in meeting the requirements for the new risk function to be established for Solvency II.
- **Planning for implementation:** The planning process will require thorough examination of the technical requirements and a timetable will need to be set which enables firms to react easily to the emerging Level 2 measures (which may involve completion of QIS5). The availability of key technical resources will be an important consideration.

For more information on how Milliman can help you prepare for Solvency II, please contact john.mckenzie@milliman.com; oliver.gillespie@milliman.com; or your usual Milliman consultant.

Solvency II Timeline

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ORSA – DO YOU KNOW YOUR RISK PROFILE?

AS THE SOLVENCY II FRAMEWORK starts to take shape, more firms are getting fully underway with their implementation planning. Some of the deliverables are more obvious than others. Everyone knows that organisations will be obliged to calculate their solvency capital requirement and there has been much comment about whether firms should use the standard formula or invest in building an internal model.

But Solvency II is more fundamental in its requirements than just calculating some numbers – it actually requires firms to “understand” and “communicate” their risk profile so that people, and in particular the Board and senior management, know why the calculated solvency position is appropriate.

Article 44 of the Solvency II Directive relates to the “Own Risk and Solvency Assessment” (“ORSA”). This requires that “As part of their risk management system, all (re)insurance undertakings should have, as an integral part of their business strategy, a regular practice of assessing their overall solvency needs

with a view to their specific risk profile.” There are two main parts to achieving this objective. First you need to know what your “specific risk profile” is and second you need to be able to “assess... overall solvency needs” in relation to that. So far a lot of attention seems to be directed towards the latter, but it is not clear whether companies have adopted rigorous approaches to the former. Surely the calculation is impossible without the understanding?

It is clear that building sufficiently robust models and collating sufficient track-record results takes time and so it is this Solvency II component that

many, if not most, firms have started with. However there is a danger that doing so in the absence of a robust “understanding” of the specific risk profile may lead to having to repeat work later on, or a difficulty in explaining satisfactorily why the model is doing what it is.

Clues to the elements which need to feed into this understanding are referred to in Article 43 (Risk Management). In its opening paragraph it requires (re)insurers to have an “... effective risk management system comprising strategies, processes and reporting procedures necessary

to monitor, manage and report, on a continuous basis the risks, on an individual and aggregated level, to which they are or could be exposed, and their interdependencies". The significant words here are arguably "continuous" and "interdependencies". This is essentially saying that your risk management processes must be such that, at all times, you know how underlying risk factors are interacting to create the enterprise level risk profile. Your understanding of the risk profile clearly needs to be synchronized with your modelling.

Article 44 indicates that the ORSA shall at least include "...taking into account the specific risk profile, approved risk tolerance limits and the business strategy of the undertaking" and that to do this the company "...shall have in place processes which enable it to properly identify and measure the risks it faces in the short and the long term and also to identify possible events or future changes in economic conditions that could have unfavourable effects on its overall financial standing. The undertaking shall demonstrate the methods used to determine its overall solvency needs." So in addition to the emerging risk processes mentioned in Article 43 above, this goes further to say that you should be able to "forecast" your risk profile.

AN ALTERNATIVE APPROACH

These two Articles therefore require that organisations not only identify their risks, allowing for interdependencies, but that they do so by following a process which can be demonstrated to achieve this. Results from complexity science show that knowledge of the behaviours of underlying risk components is actually not capable of telling you anything meaningful about the aggregate enterprise behaviour, as the latter arises through complex interactions.

An approach to describing the overall risk profile in terms of aggregated components is therefore inherently flawed. Rather, it is correct to describe the behaviour of the whole, allowing for all its dynamic interactions, and then use information about the components to explain particular features in more detail. This also means that

forecasting the risk profile is complex and must be done carefully with a good understanding of how the dynamics can create changes in risk profile. In processes involving such complex interactions, small changes in starting assumptions can be amplified into unexpected consequences.

The Directive makes it clear that any processes put in place to determine the risk profile need to be fully capable of allowing for interactions between a complex array of factors and helping modellers to understand what that means in concrete terms for solvency calculations.

Milliman's CRisALIS™ methods use the underpin of complexity science to deliver practical tools which enhance your current risk and solvency modelling to fully capture this information. These methods also enable you to make forecasts about how interactions may proceed in future to create a new risk profile. For example, CRisALIS helps you to:

- Clearly articulate your enterprise risk profile and dynamics
- Create robust and defensible scenarios for modelling purposes

- Develop realistic and appropriate scenarios for stress-testing
- Examine logically how strategic or other changes to the business will impact on the risk profile
- Look at how the underlying risk drivers are interacting and form intelligent arguments for correlation assumptions based on real observations about your own business.

Using a scientific approach enables the construction of a robust, repeatable process and creates a platform for modelling and scenario testing which is simply not possible with an aggregated component driven view of risk. Since CRisALIS derives the risk profile directly from the strategic activity of the business, it also facilitates a connection between the ongoing risk process, which forms and tests hypotheses about emerging risks, and the modelling of risk for capital allocation and solvency assessment purposes.

If you would like to find out more about how complexity-based approaches to risk analysis can help you to implement practical solutions for Solvency II, please contact Neil Cante at neil.cante@milliman.com or Farzana Ismail at farzana.ismail@milliman.com.

Risk Management in Solvency II

Risk management is a key part of Solvency II and appears in a large number of different areas of the text. For example, in the Level 1 text you will find references in:

- Article 41 – General Governance Requirements
- Article 43 – Risk Management
- Article 44 – Own Risk and Solvency Assessment
- Article 45 – Internal control

As you would expect, the Level 2 advice covers additional risk management references. It is important not to overlook the references to risk management in advice relating to other items, such as models.

- CP33 – Governance
- CP37 – Internal model approval process
- CP56 – Tests and standards for internal model approval
- CP58 – Supervisory Reporting

In all these areas, judgement is required to assess how to correctly implement the requirements allowing the nature, scale and complexity of the operations of the (re)insurance undertaking.

LONGEVITY RISK CAPITAL UNDER SOLVENCY II: INTERNAL MODELS VERSUS THE STANDARD FORMULA APPROACH

AS THE IMPLEMENTATION of Solvency II looms ever closer on the horizon, annuity providers are working hard on formulating their approach to longevity risk under the new regime. Insurers will have the choice between using the standard Solvency Capital Requirement (SCR) formula and developing an internal model to allow for longevity risk in their economic capital calculation.

The fourth Quantitative Impact Study (QIS4) used the stress of an immediate and permanent 25% fall in mortality rates, and this test has now been reconfirmed by CEIOPS in Consultation Paper 49 (CP49). It is both easy to understand and relatively simple to implement. However, a flat shock to mortality, instead of a more realistic combination approach that breaks out the impact of higher future annual mortality improvements, may result in a significant increase in the capital requirement, particularly at older ages. Figure 1 illustrates how longevity capital could vary by age, under the CP49 stress, relative to best estimate liability.

An internal model will permit a more sophisticated approach than stressing

the base mortality alone. In particular, it would allow the separation of stresses into both base mortality and future improvements, and also consideration could be given to the volatility of past experience, in a similar way to currently evolving Individual Capital Assessment (ICA) longevity-risk capital models. Using an internal model could provide a very different profile of results, when split by age, compared to the standard CP49 formula. An internal model would also increase a company's understanding of its risk profile.

POTENTIAL CHALLENGES WITHIN INTERNAL MODELS

The calibration of such models remains a tricky exercise, but cause of death based analysis can assist to provide narrative-based stress scenarios around medical advancements.

Figure 2 shows that a 25% fall in mortality rates could broadly correspond to an almost complete elimination of deaths by cancer or by heart disease. This is a way for insurers to understand the severity of the CP49 stress in less abstract terms.

Milliman's analysis indicates that a further uplift in future improvement rates of about 1.7% p.a. is approximately equivalent to the elimination of all cancers or heart disease for a life now aged 70. However, as heart disease overtakes cancer to become the most significant cause of death at ages above 75, the corresponding uplifts to future improvements required to approximate the elimination of a major cause of death become relatively higher for heart disease compared to cancer at the older ages. Such analysis can be a useful guide in terms of understanding the realistic future mortality improvements and potential upper bounds to longevity risk.

UNDERSTANDING THE IMPACT OF LONGEVITY ON ECONOMIC CAPITAL

As computing speed and capacity advance apace, increasingly sophisticated stochastic mortality models are being seen as a realistic response to the internal models question and are used by some of the major annuity writers.

Milliman has developed a stochastic longevity model, called REVEAL™, which could assist annuity writers in

Figure 1: Illustrative longevity capital under the CP49 stress relative to best estimate liability

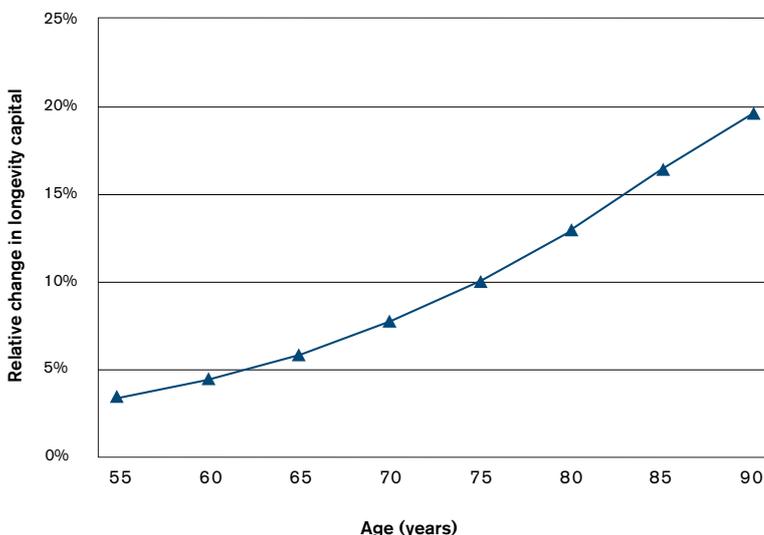
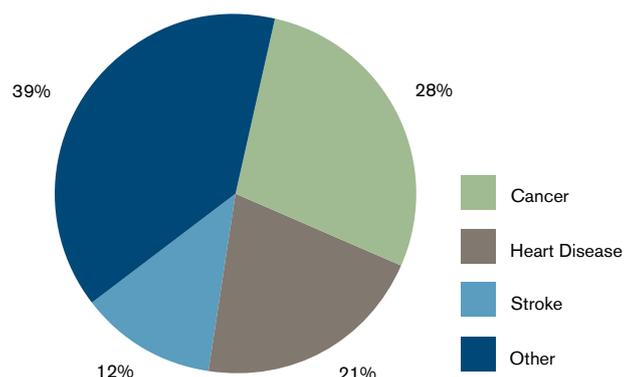


Figure 2: Breakdown of the three major causes of death over all ages in the UK, based on 2007 data

Source: Office for National Statistics 2007 Data



understanding their longevity exposure for economic capital purposes. The purpose of REVEAL is to generate stochastic projections of pension and annuity liabilities with volatile assumptions (i.e. baseline mortality, mortality improvement, extreme mortality and longevity events, and participant behaviour). REVEAL also allows users deterministically to adjust future mortality rates by individual causes of death.

Figure 3 shows the REVEAL longevity capital output for a simple illustrative case study of a medium-sized portfolio of annuities in payment. The graph shows the initial value of the liabilities under the best estimate and the extreme longevity stress scenario. The model was

parameterised using historical volatilities for both base mortality rates and annual improvement rates. For comparison, the graph includes the deterministic run showing the liability value under the 25% stress.

Figure 3 shows that tail scenarios developed using a stochastic approach may lead to a comparable, or even lower economic capital requirement when compared to the CP49 stress, although results will vary depending upon the parameterisation used. REVEAL also allows annuity providers to track the progression of annuity liabilities over time, under a deterministic or stochastic scenario at various percentiles. Such tracking helps providers to better

understand the range of implications of longevity risks to its economic capital (see illustration in Figure 4). Note that both case study illustrations in Figures 3 and 4 reflect a simple example; more detailed parameterisations may be used, such as one that is tailored to the specific experience of the underlying lives of the annuity business.

Figure 4 looks plausible, given that under current ICAs, companies typically hold longevity capital in the range of 6%-8% of best estimate liabilities, although this depends on the age profile of the business amongst other factors, so some companies may be higher or lower than this range.

Figure 3: Illustrative case study - Value of liabilities under best estimate and stressed stochastic scenarios compared to CP49 longevity stress, based on an illustrative portfolio and spread of ages

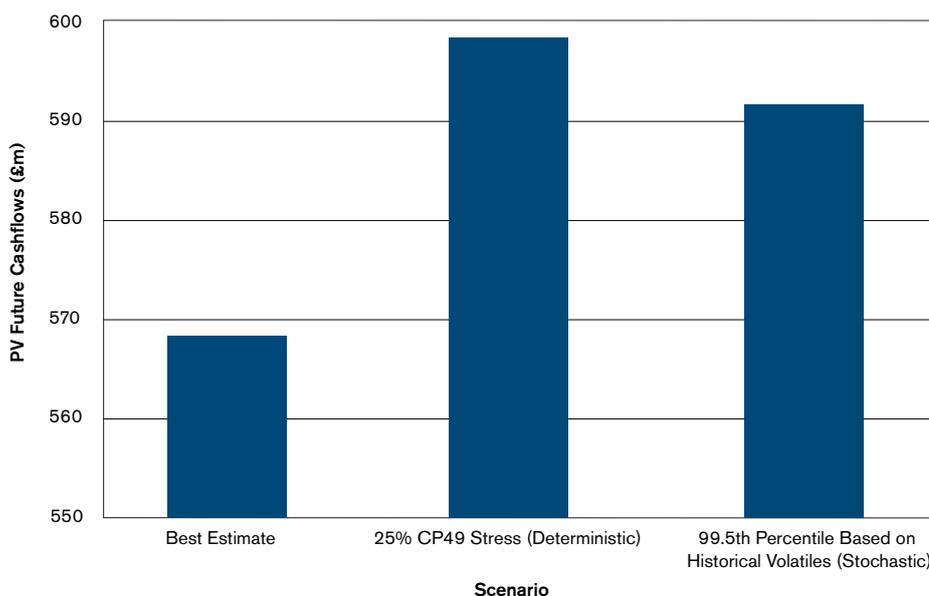
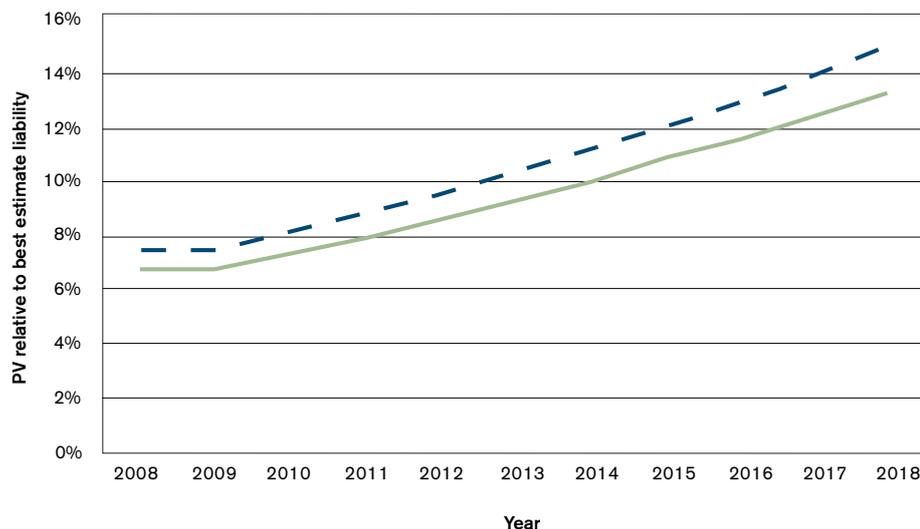


Figure 4: Illustrative case study - Liabilities progressing over time under selected stochastic and deterministic scenarios



WHAT NEXT FOR ANNUITY PROVIDERS?

Annuity writers are under threat from a number of potential changes to capital requirements proposed under Solvency II. Whilst some annuity writers will continue to lobby for a combination longevity stress under Solvency II, others will pick their battles and prioritise their lobbying efforts around the lack of a liquidity premium allowance.

However, lobbying aside, there is one certainty wherever the proposals end up. Annuity writers will be ever more focused on alternative ways to efficiently manage their risk and capital under the new Solvency regime. In particular, there is likely to be further interest in both reinsurance and capital market solutions for longevity risk as more deals are closed and new players come to the market, providing a much needed increase to the capacity available for longevity swaps.

There is no doubt that solutions that offer an attractive way for annuity writers to de-risk and efficiently manage their capital, especially in an environment where capital is scarce, will have the best chances of survival.

For more information on how Milliman can help your company manage longevity risk and prepare for Solvency II, or on the longevity model REVEAL™, please contact robert.bugg@milliman.com; farzana.ismail@milliman.com; emma.mcwilliam@milliman.com; or your usual Milliman consultant.



TAKAFUL IN EUROPE: AN EMERGING MARKET

DESPITE THE FINANCIAL CRISIS, the global Takaful sector continues to expand when many others are faced with a decline in sales and stagnant market growth. With an estimated Muslim population of over 50 million, Europe clearly offers a significant market for Takaful. Globally, interest in Islamic finance as a whole has been buoyed by the sector's resilience throughout the financial crisis owing to limited exposure to mortgage-related assets and derivatives. New specialist providers are emerging, with 2008 seeing the launch of the first dedicated Islamic insurance provider in the UK. For non-Muslims, Shari'a compliant insurance products potentially offer an alternative to conventional insurance – being differentiated through their investment objectives, approach to surplus distribution and oversight system.

CHALLENGES FACING INSURERS

As is common in any developing market, the Takaful industry faces its own set of challenges. Not least of these is the current shortage of suitably qualified scholars to sit on a firm's mandatory Shari'a supervisory board. The role of the Shari'a board is to ensure that an operator's intended product design is fully compliant with Islamic law and that the fund is managed in line with the principles of Takaful. The shortage in scholars may place a short term

barrier on new entrants to the market. It drives up the cost of establishing and maintaining a Shari'a board for all Takaful operators, but particularly affects those companies that wish to obtain the services of the senior Shari'a scholars, who are a scarce resource. This situation has inevitably resulted in scholars sitting on multiple boards, which brings with it issues of independence and undue workloads. Future growth may also be restricted by the currently narrow pool of professionals with sufficient Takaful knowledge in areas such as law, sales and actuarial services.

There are a number of hurdles related to the Shari'a compliant assets in which companies must invest the contributions made by Takaful participants. In the short term, owing to the size of the Islamic banking industry relative to the Takaful market, there is a more than adequate supply of compliant assets. However, there is competition with Islamic banks in terms of purchasing short term Islamic bonds (or Sukuk) in the primary market, whereas the secondary Sukuk market is currently illiquid and expensive. Availability of assets may further tighten as the rapid growth of Takaful continues and Shari'a scholars increase their focus on the compliance of new asset issues, particularly in regard to their perceived similarity to more conventional debt issues. For the UK market, regulatory

admissibility limits and the resulting need to control exposure to particular asset types and counterparties may place a restriction on the level of investment in these instruments. The lack of longer-term Sukuk also presents a potential reinvestment risk for those companies offering Family Takaful (the Islamic equivalent of conventional life insurance).

Takaful operations must be regulated in line with local standards and, as regulatory frameworks in the Middle East and in other developing insurance markets continue to evolve, participants must ensure adequate consideration is given to future, as well as current, capital and reporting requirements.

SOLVENCY II FOR TAKAFUL PROVIDERS

In Europe, the incoming Solvency II regime and its application to Takaful business demands similar attention. Takaful operators in Europe need to comply with Shari'a law as well as the EU insurance regulatory regime. The UK, France and Germany are expected to be the main Takaful markets in Europe. However, the cost of compliance with the proposed Solvency II regime may prove to be too onerous for new start-up Takaful operators. This barrier to new entrants therefore represents an opportunity for existing conventional

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insurers to be the early providers of Takaful products in Europe.

There are other potential challenges under the proposed Solvency II regime for Takaful providers. The limited number of Islamic deposit banks worldwide and the high equity investment to substitute the lack of Sukuk may result in a potential concentration of investment risk. However, there are many asset management companies, including those operating in the UK, which are currently developing Shari'a compliant assets to meet the demands of Takaful providers worldwide.

OPPORTUNITIES FOR INSURERS

Takaful insurance provides access to a large, relatively untapped market, and its growth in the global market is expected to continue in the long term. Many Takaful providers have emerged largely unscathed from the financial crisis, as investments are required to be in highly liquid assets.

From a commercial viewpoint, Takaful can be financially viable when priced suitably. Key considerations include the profit-sharing structure, expenses and the pool of underlying lives. The close similarities between Takaful and mutual operations mean that companies with experience of the latter are particularly well placed to enter the new market. This is further supported by the FSA's stated intention to maintain a "level playing field" within the UK insurance market and it therefore does not differentiate between Takaful and conventional insurance.

In recent years there has also been growth in the Re-Takaful market, with new offerings from global reinsurance companies such as Swiss Re, Hannover Re and Munich Re - a further sign that the Takaful market is no longer a niche market but is here to stay. The capital support and depth of advice that these players can offer will be invaluable in setting up an operation, wherever the chosen market.

Insurers considering entry to the market are likely to be better off assessing the markets and opportunities sooner rather than later. Targeted marketing and consumer education are essential to develop market awareness and established insurers can leverage on their existing marketing and distribution platforms. The lack of a clear market leader in the UK opens the way for insurers to take advantage of the challenges and opportunities present in a developing global industry.

To obtain a more detailed overview of the current Takaful market, please contact fred.vosvenieks@milliman.com; farzana.ismail@milliman.com; lindsay.unwin@milliman.com; or your usual Milliman consultant.

HOW MANY MARKET CONSISTENT STANDARDS DO WE NEED? continued on page 10

A NUMBER OF DIFFERENT METHODS have been used to value insurance liabilities. Some methods related to the value of the assets backing the liabilities and others were based on views of likely future returns on such assets. More recently, there has been a move away from these subjective methods, with the ultimate goal being independently to value both assets and liabilities on a market consistent basis. Amongst these market consistent methods are Market Consistent Embedded Value (MCEV), most recently promulgated in the CFO Forum's MCEV Principles (© Stichting CFO Forum Foundation 2008), Solvency II and Phase II International Financial Reporting Standards for insurance contracts.

It was hoped that the various methods would converge towards a consistent approach. However, these market

consistent methods have been evolving in a number of directions due to the limitations of the methodology identified in the recent financial turmoil.

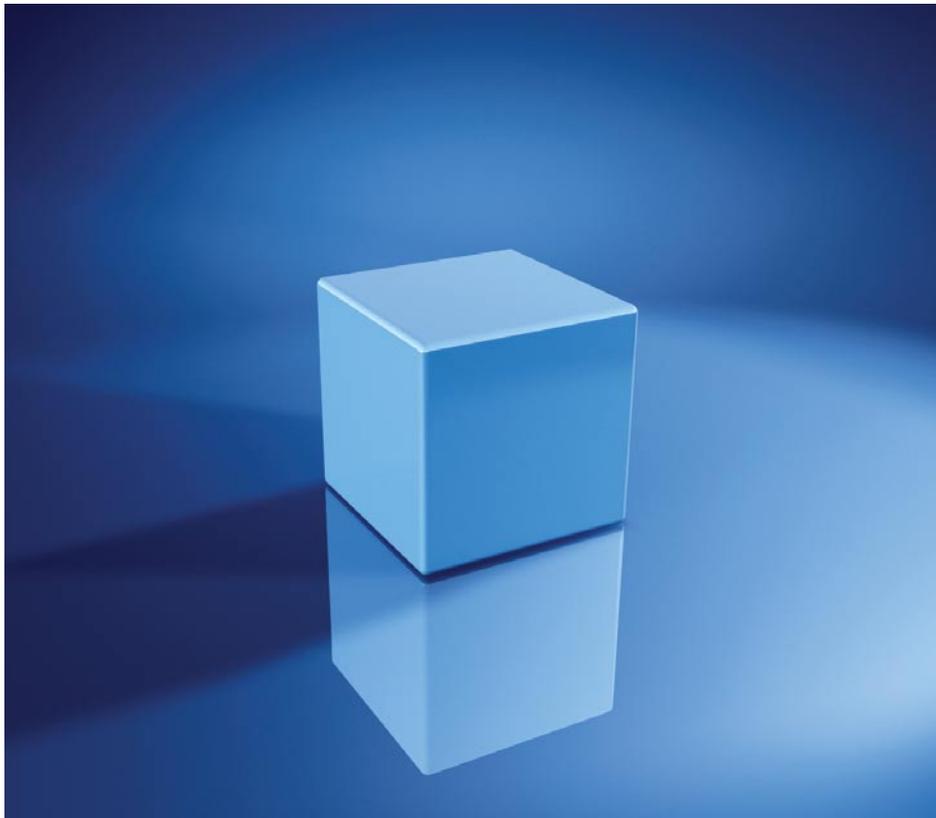
In theory a market consistent approach is straightforward. The price used is that which an independent buyer would pay in a deep and liquid market in an arm's length transaction. However, in practice there is a limited actively traded market for insurance risks. Even where transactions are observed, the prices may not be reliable, as the market is neither deep nor liquid. In a market consistent valuation of an insurance risk, its cash flows are broken down into those that can be replicated by tradable financial instruments (the replicating portfolio) and those that cannot, which are valued by a model as an additional risk margin. The market consistent price is the total of the

replicating portfolio and the present value of the risk margin.

The CFO Forum issued its MCEV Principles in June 2008, before the main impact of the banking crisis had been felt. Originally CFO Forum members aimed to implement MCEV by the end of 2009 at the latest. However, in light of the dislocated financial markets, it has become necessary to review the methodology. Consequently, its implementation has been delayed until year end 2011 as there may be changes to the published Principles and associated guidance. Two areas of market consistency, in particular, have given problems to companies trying to report under it, namely, what reference rate to use (especially the treatment of liquidity premia) and how to calibrate the cost of options and guarantees.

HOW MANY MARKET CONSISTENT STANDARDS DO WE NEED?

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MCEV PRINCIPLE 14 IS QUITE CLEAR that the reference rate should be, whenever possible, the appropriate swap yield curve. The guidance associated with Principle 14 states that no adjustment should be made to the swap yield curve to allow for liquidity premia or credit risk premia. However, at the end of 2008 there was a variety of practices used for defining the reference rate including swaps, the return on government bonds and swaps plus a margin, which was in some instances as high as 300bps.

A similar situation arose with the calibration of the time value of options and guarantees. A truly market consistent approach, as defined by Principle 15 and guidance section 15.3 is to use the implied volatilities from market prices as at the date of valuation. In practice, at the end of 2008, while some companies did use the implied volatilities at 31 December 2008, others used lower volatilities from an earlier (more stable) period in 2008, such as the end of

June, or averaged the volatility over a period, such as the whole year.

Solvency II will require that the level of capital insurers need to hold be calculated at a risk-free rate. CEIOPS is now proposing that the risk-free rate in Solvency II for Euro liabilities be the yield curve based on AAA rated government bonds published by the European Central Bank. The appropriate risk-free rate for sterling liabilities is still subject to discussion. In addition, CEIOPS Consultation Paper 40 is explicit that the majority of CEOIPS members are against the inclusion of a liquidity premium. Consequently, Solvency II may well move in a different direction to where MCEV ends up. This will be due to different definitions of the risk-free rate and potentially the treatment of liquidity premia. Insurers who invest in assets that typically yield more than the risk-free rate of return will not be able to allow for the excess return in calculating the level of capital required to support

the business. This will impact annuity writers, who typically invest a proportion of their assets in corporate bonds which they do not actively trade. Thus they will benefit from that part of the credit spread (the difference between the yield on a corporate bond and the equivalent duration government bond) which represents the liquidity premium.

If implemented as proposed, Solvency II will increase the capital requirements for annuity business and, as a consequence, future pensioners will receive lower annuity benefits. Lobbying in Brussels to permit the inclusion of a liquidity premium in the risk free rate started late, but is now gathering a head of steam. This has moved from being a technical matter to a public policy issue likely to affect a large number of people after Solvency II is implemented in 2012. It is still too soon to say what effect the lobbying may have.

Recent International Accounting Standards Board (IASB) discussions on insurance contracts have indicated that the IASB is now moving away from the market consistent type valuation known as the "Current Exit Value" (as originally proposed in the Discussion Paper). Instead the latest intention is to move towards more of an "entity-specific" type valuation, such as the "fulfilment value", which reflects the expected cost of settling the contract with the policyholder, rather than a market participant, or alternatively, a fair value type method under "IAS 37 but with no gain at issue". However, the devil will be in the detail as to how elements, such as the discount rate for valuing liabilities, are to be set, and whether a liquidity adjustment will be possible. The IASB aims to accelerate its process of issuing an Exposure Draft for insurance contracts to December 2009, rather than the original timetable of 2010, so the hope is that, for once, clarity may come sooner rather than later.

We run the risk of having three similar, yet different, market consistent methods for regulatory and financial reporting and the goal of a unified approach seems as far away as ever.

For more information, please contact philip.simpson@milliman.com or emma.mcwilliam@milliman.com.

VARIABLE ANNUITY MARKET ACTIVITY

THE VA MARKET CONTINUES TO BE of considerable interest. Those who have seen the benefit of successful hedge programmes have continued to expand their product launches.

The large multinational companies in particular are showing increasing commitment to the market, as shown by the number of new product launches this year in the following table. Further launches are expected across Europe, both from the existing protagonists and new entrants – there continues to be significant non-public activity.

The perceived worth of the guarantee is now much more widely recognised, and the market is less price sensitive. Re-pricing and product innovation have

been widespread, with strengthened margins for profit and capital.

HEDGE COSTS

At Milliman we continue to monitor the economic cost of hedging in the form of an index which we have updated below.

Over the course of 2009, market conditions have steadily softened relative to their late 2008 extremes, and hedge costs have eased significantly, although they remain higher than previously experienced.



HEDGE EFFECTIVENESS

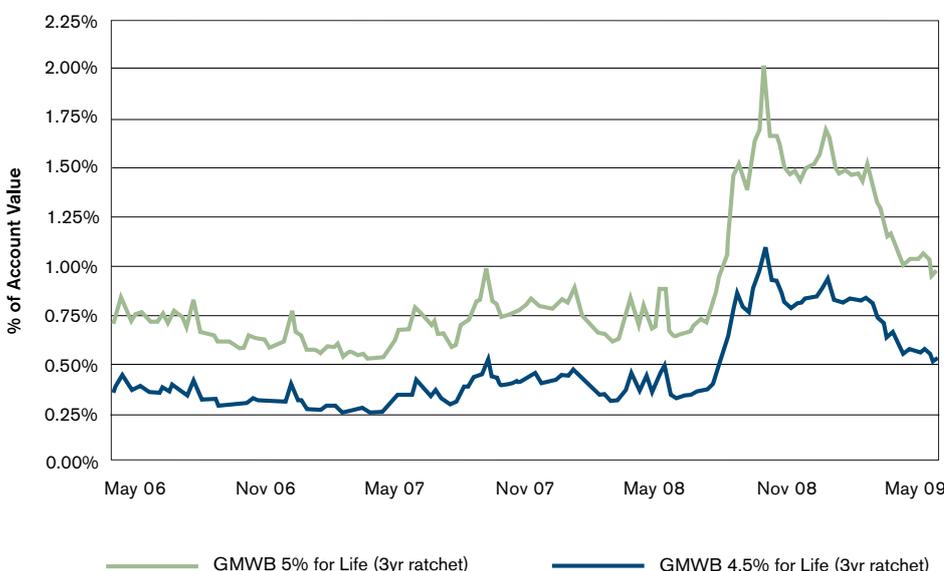
Dynamic hedge programs have continued to be very effective in mitigating the impacts of changes in the economic environment. Milliman recently published a European edition of the year-end 2008 hedge effectiveness report, which focused on the hedge effectiveness of European hedge programs. The results of this analysis were very similar to those of the US, with average hedge effectiveness levels slightly over 94% during the fourth quarter of 2008. Similar observations and conclusions were reported in an independent study published by Standard & Poors in 2009.

Since then, risk management standards have generally strengthened and hedge designs have become increasingly sophisticated. More recently, Milliman published a separate report which provides an updated analysis of the US market for the first quarter of 2009. The report also discusses ways in which US VA writers are improving their hedging programs through better management of risks such as basis and interest rate risk, as well as providing an update on reinsurance and structured solutions capacity.

Please refer to the Milliman website if you would like a copy of any of these reports, or alternatively please contact gary.finkelstein@milliman.com or joshua.corrigan@milliman.com.

COMPANY	PRODUCT NAME	GMxB TYPE	COUNTRY	DATE
MetLife	Citi VA Investment Bond	Withdrawal	UK	Jan-09
Aegon / La Mondiale	Terre d'Avenir	Withdrawal / Death	France	Jan-09
MetLife	Citi VA Auvida	Withdrawal	Greece	Feb-09
Allianz	Invest4Life	Withdrawal	Italy	Feb-09
ING	Lifelong Income	Withdrawal	Belgium	Feb-09
Canada Life	Guarantie Investment Rente	Withdrawal	Germany	Mar-09
MetLife	Citi VA Auvida	Withdrawal	Spain	May-09
MetLife	Citi VA	Withdrawal	Belgium	May-09
AXA	AXA Pensiones Privilege	Accumulation / Death	Spain	Jun-09

European GMWB (3yr ratchet) Hedge Costs



CONFERENCES

MILLIMAN CONSULTANTS are speaking at a number of forthcoming events. If you have not signed up already, it may be possible to get a discount by mentioning that you are a Milliman client.

DATE	ORGANISER	EVENT
5 October	The Actuarial Profession	Current Issues in Life Assurance II <i>Sign-up at www.actuaries.org.uk/members/transactions/conference_booking</i>
7 October	Life & Pensions	Solvency II & Risk Management <i>Sign-up at web.incisive-events.com/rma/2009/10/solvency-ii/index.html</i>
7 - 8 October	Westminster and City	Pension Buyouts: Recovery or Rethink? <i>Sign-up at www.westminsterandcity.co.uk/</i>
3 November	Milliman	Milliman Expert Forum <i>Sign-up at expertforums@milliman.com</i>
3 November	Infoline	ALM & Capital Optimisation <i>Sign-up at www.infoline.org.uk/</i>
11 November	Infoline	Pension Buyouts & De-Risking <i>Sign-up at www.infoline.org.uk/</i>
25 - 27 November	The Actuarial Profession	2009 Life Convention <i>Sign-up at www.actuaries.org.uk/members/transactions/conference_booking</i>
8 - 9 December	Infoline	TCF for With-Profits <i>Sign-up at www.infoline.org.uk/</i>

Following the success of our Forum in July, we are planning to hold another on 3 November at the Andaz Hotel, Liverpool Street, London. We will be sending out invitations soon, but if there are any topics that you would like to hear about at this event we would be happy to hear from you at expertforums@milliman.com and look forward to seeing you on the day.



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