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UK LIFE INSURANCE

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INSIDE

At the time of writing this foreword, the timetable for the launch of Solvency II seems to be in disarray. The fourth and fifth sets of draft amendments to the draft Omnibus II directive, put forward by the outgoing Hungarian and incoming Polish presidencies respectively, have proposed a one-year delay to 1 January 2014. However, the EU Commission and EIOPA are arguing for a launch date of 1 January 2013 to be retained, while proposing some relaxation of the obligations on companies during the first year of operation.

Although postponing the launch date might ease pressure on stretched resources, on balance it is likely to add to the costs of implementing Solvency II for many UK companies, particularly if there is also a delay in resolving key areas of debate such as the liquidity or matching premium and contract boundaries and in finalising the detailed Level 2 requirements. While the FSA has made it clear that UK companies should continue to base their preparations on the earlier launch date, the current uncertainty is hardly helpful.

With-profits

The consultation period on the FSA's paper proposing changes to the COBS rules for with-profits business ended in May, but arguments over some of the more controversial proposals continue. Prominent among these is the proposal to require all group service and fund management companies to provide services to with-profits funds at cost. It seems likely that there will be some relaxation of this requirement, as it is unlikely to operate to the advantage of with-profits policyholders in some situations, in particular in closed funds. Other proposals which have encountered opposition include those relating to the terms on which new business is written and the requirement for fair distribution plans. On the other hand, there has been relatively little resistance to the proposed changes to governance arrangements, including the proposal to require a with-profits committee for all large with-profits funds.

At the same time, the government's recent white paper on regulatory reform leaves some uncertainty over the future division of responsibility for supervision of the conduct of with-profits business between the Prudential Regulation Authority and the Financial Conduct Authority. There is no obvious dividing line because of the interaction between policyholders' interests and liabilities, and agreeing a way forward that avoids duplication of effort could be tricky.

Takaful

Milliman has recently completed full and summary versions of a detailed and authoritative report into the worldwide family Takaful industry. Details of how to download the free summary version and how to order the full version are provided on page 16.

Enjoy the rest of the summer!

If you would like to hear more, please contact me at *nick.dumbreck@milliman.com.*

Nick Dumbreck
Principal and
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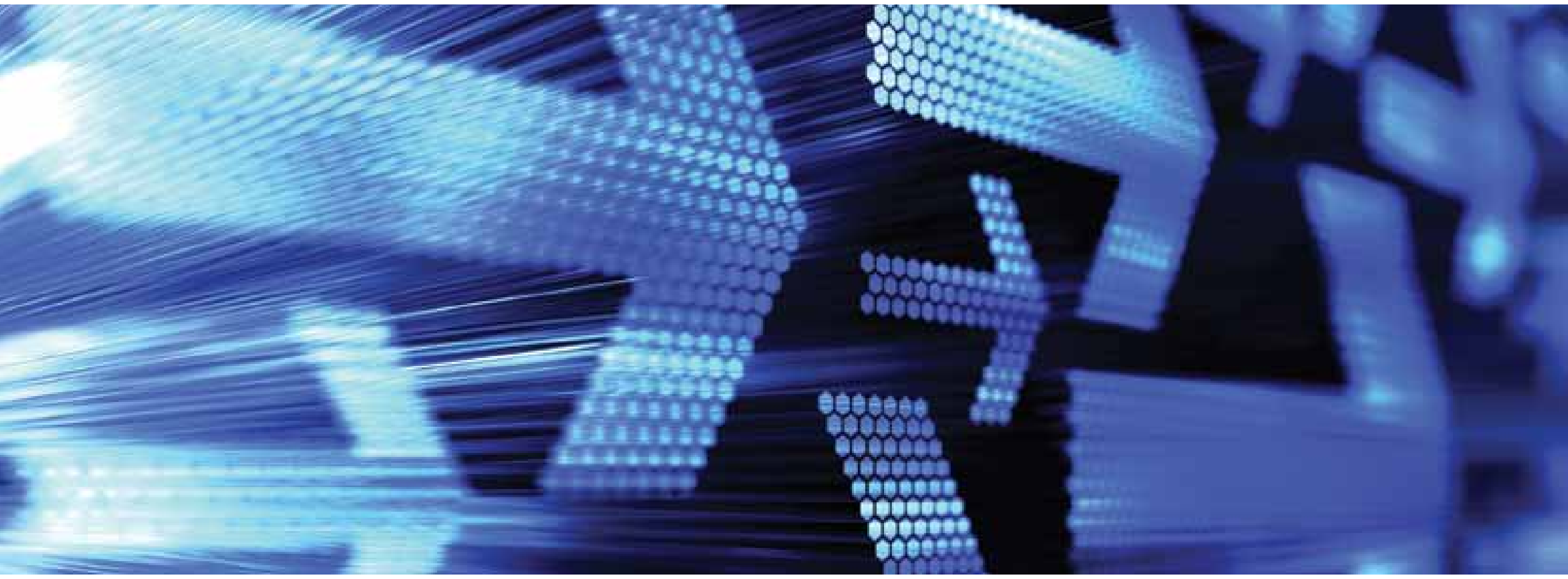
SOLVENCY II
AND INSURANCE RISK MANAGEMENT



Solvency II is likely to lead to an increase in the level of wholesale insurance risk transfer as insurance companies seek to optimise their capital position. As well as being used to reduce risk exposures, as has traditionally been the case, insurance companies should look to increase exposures in key risk areas where appropriate.

Internal reinsurance can play a key role in facilitating this risk transfer in insurance groups.

EXPLOIT UNDER-UTILISED RISK CAPACITY

Most life insurers have a wide variety of insurance risks on their books, and will have historically managed their exposures to these risks through a mixture of controlling sales volumes, external reinsurance and perhaps, more recently, capital market transactions. Generally, the external transactions have been motivated by seeking to reduce the exposure to a particular risk, or risks, which may otherwise have been outside of appetite. In the case of reinsurance they may often have been heavily influenced by capital or liquidity funding for expenses and commission.

It is less common for insurance companies to actively expand exposures to risk types whose risk budgets are relatively under-utilised. As we enter the Solvency II world, there will be opportunities to do so in a highly capital-efficient manner, and this can present a commercial opportunity for insurers.

The first step is to analyse the risk profile of the company on a Solvency II basis. In particular, a company will quickly be able to identify risk areas where there is additional capacity–typically there may be risks that the company has not historically undertaken to any great extent, if at all, and which diversify well against other risk types.

Taking the QIS5 standard formula (or internal model, if appropriate) as a starting point, the incremental capital required to write additional amounts of the new risk can be identified. Initially, and at its simplest level, this could be as straightforward as incrementally increasing the exposure to a particular risk type and determining the additional SCR requirement. More complex modelling and projections may ultimately be required, but these can follow later.

This additional capital requirement will vary as the volume of the new risk increases as a proportion of the overall company's business mix. Due to diversification impacts, a typical profile would be for a low marginal capital requirement while the risk category is relatively small, and trending towards a higher ultimate level as the risk becomes a more significant proportion of the company's business.

By determining the shape of the incremental capital curve, the company can determine excess risk capacity for a specified level of additional capital.

UNDERWEIGHT IN LONGEVITY?

For example, a company which has historically written little or no annuity business will find that it can take on an element of longevity risk for a relatively small level of additional capital. Consequently, the expected marginal return on this additional capital will be high.

This leads to the opportunity to either sell new business at the current market rates, and earn a high return on capital, or to sacrifice some of the return in order to offer more competitive rates than the established players, albeit up to the predetermined capacity limit.

Clearly, when entering an unfamiliar market, companies will need to analyse the risks they are taking on and be aware of the potential consequences; but providing these are understood, the potential for high returns exists.

Of course, the company might not want to enter the annuity market directly due to the cost of entry into the market (e.g., administration systems, distribution, marketing overheads, ongoing pricing capability, etc). Additionally, the fact that writing immediate annuities necessarily entails taking on additional market risks may adversely impact the overall company risk profile and hence negate any capital advantage.

One solution may be to take on pure longevity risk via an inwards longevity swap, for example. Although longevity swaps have been used for many years, they have principally been used by insurance companies looking to reduce their longevity exposure through reinsurance or capital market transactions. Admittedly not without its own complexities, a swap has the advantage of not having to maintain a constant presence in the annuity market, as a meaningful level of risk can be taken on in one transaction.

WANT MORE MORTALITY?

Conversely, a company which has historically written significant amounts of longevity risk but which holds very little assured lives mortality risk (either because it has genuinely low exposure or because it has historically reinsured most of it) is likely to find that it is capital efficient to increase the volume of mortality risk.

In this case, again, a mortality swap or similar could be considered. Where there is already a significant mortality reinsurance program in place, and depending on cancellation terms, an increase in mortality exposure could be achieved by recapturing or renegotiating existing reinsurance. Alternatively, reducing the level of ongoing reinsurance would achieve a similar effect over time.

At the very least, companies should be actively reviewing their existing external reinsurance and other financial risk management programs to ensure that they remain fit for purpose going forward. In particular they should recognise the costs and benefits of the programs allowing for marginal diversified capital impacts under Solvency II.

Although these examples focus on longevity and mortality, similar considerations apply to all other insurance risks. Lapses and morbidity, as well as non-life risks, where relevant, could all be considered.

OPTIMISE RISKS WITHIN INSURANCE GROUPS

For large insurance groups with multiple insurance companies in different countries, there are similarly opportunities to manage local legal entity capital positions via internal reinsurance. This could be simply by reinsuring risks between group companies directly, or via the use of an internal reinsurer as the conduit for such deals.

Although this would not change the group's risk profile and hence would not impact the overall group solvency position, optimising the legal entity solvency positions enables more capital to be held centrally within the group. In addition, it can help reduce peak risk exposures in a particular subsidiary company when there is spare capacity elsewhere in the group, which can help to free up additional new business capacity. This can be particularly helpful where there are very different and complementary product sets across countries.

For composite groups the opportunities are even greater, since diversification between life and non-life risks can be achieved within one legal entity through the use of a composite internal reinsurer. Although it is no longer possible to establish a composite direct writing company in the EU, it is still possible to create a new composite reinsurance company.

SUMMARY

Solvency II will bring commercial opportunities for insurers to exploit under-utilised risk areas in a highly capital-efficient manner, and which could lead to an increased level of wholesale risk trading between companies and/ or reinsurers and the capital markets. For diverse groups, there will similarly be opportunities to improve overall capital management via internal reinsurance.

If you would like to discuss any of the issues raised in this article, please contact Chris Lewis at *christopher.lewis@milliman.com*, Oliver Gillespie at *oliver.gillespie@milliman.com* or your usual Milliman contact.

COMPANIES SHOULD BE ACTIVELY REVIEWING THEIR EXISTING EXTERNAL REINSURANCE AND OTHER FINANCIAL RISK MANAGEMENT PROGRAMS TO ENSURE THAT THEY REMAIN FIT FOR PURPOSE GOING FORWARD.

REGULATORY WATCH:
RESPONSE TO EIOPA CONSULTATION PAPER

One of the key viewpoints of the EIOPA Task Force to attract most attention was the treatment of variable annuity business under a Solvency II framework.

In our first newsletter of 2011, we reported on the release of a consultation paper issued by the EIOPA Task Force on Variable Annuities regarding the supervision and management of the variable annuity (VA) product offering. Milliman has been a strong advocate of establishing minimum risk management standards for this class of business, and so we welcome industry discussion in this area. Final responses to this consultation paper, including that from Milliman, have since been published and feedback from EIOPA provided.

One of the key viewpoints of the EIOPA Task Force to attract most attention was the treatment of variable annuity business under a Solvency II framework. One of its assertions is that, due to the complexity of VAs, the SCR Standard Formula is inadequate for determining capital requirements for VA business. However, the use of internal models is considered to have the necessary scope to be fit for VA, implying that VA providers should be going down this route.

Many respondents, including Milliman, highlighted that making internal models essentially mandatory for VA writers could be unnecessarily onerous and act as a barrier to entry to the VA market for potential small players. These respondents highlighted that consideration should perhaps be given to the principle of proportionality, and models should be reflective of potential benefits of risk transfer, such as from reinsurance. Our response was supportive of the internal model concept although we suggested, as a practical alternative, the use of a 'modified SCR' approach, which would allow for additional capital stresses and for the inclusion of risk factors such as vega risk (higher-than-expected volatility) and basis risk that are particularly relevant for this class of business.

Whilst one of the key themes of the EIOPA Task Force paper is that variable annuity business is worthy of special treatment due to its complexity, the Task Force deemed that any such 'modified' approach would seem not compliant with the Solvency II framework. Furthermore, it seems to be standing firm on its viewpoint on Solvency II treatment; the standard formula is not adequate, internal models will apply and even under a reinsurance framework the VA provider still maintains full responsibility for an SCR calculation.

In the consultation paper, the Task Force does highlight exceptional cases where the use of the standard formula SCR (with capital add-ons) may be considered. These are where the internal model is awaiting approval, and where VA business does not materially affect the insurer's risk profile. However, the response of the EIOPA Task Force on this point is likely to attract continued discussion.

Equity vega risk mitigation

Even under the exceptional use of an SCR, EIOPA highlights the need for a capital add-on for the impact of vega risk. It is clear that any provider of guarantees is going to need to accompany this offering with a defined strategy for management and mitigation of this risk factor under a Solvency II framework.

One technical point that attracts much industry discussion is the market-consistent valuation of equity volatility for long-term guarantees where the market for equity volatility-sensitive instruments typically remains liquid and active for up to five years only. The EIOPA consultation paper provides little guidance on this topic, deferring this to future consultations.

In this area, the Milliman Guarantee Index offers a sophisticated solution to this issue. Approaches that rely purely on extrapolating OTC market volatility from the one-to-five-year market to longer terms would not reflect differences in liquidity between OTC option markets and VA guarantees. The short-term OTC market is dominated by hedge funds and investment banks that are exposed to forced liquidations which can trigger cycles in volatile option price movements, whereas VA guarantees have no liquidity and so should not need to reflect the premium for forced liquidation. The Milliman Guarantee Index instead uses an analytical model for expected future volatility, which is further risk-adjusted to reflect a market premium for the uncertainty in a life insurer's ultimate cost of funding VAs, incorporating transactional data from market surveys. Market participants have viewed the Guarantee Index as an appropriate basis for M&A transactions, as well as fair valuations under FAS157.

To define an appropriate strategy for vega risk management, there are a number of practical solutions in which Milliman has been active.

To define an appropriate strategy for vega risk management, there are a number of practical solutions in which Milliman has been active. One approach is to hedge the underlying vega exposure using a portfolio of assets. This requires the development of tactical strategies, including construction design and effectiveness testing, to suit the unique profile of the liability as well as risk management objectives. It also requires regular reviews of strategies for improvements in light of the market dynamics. As an example, we observed some hedgers showing more appetite for option portfolios than variance swaps as instrument choice, due to the widening of the relative spread. Another approach that has drawn some interest in the market recently is applying volatility protection at the fund level. This strategy aims to reduce the portfolio return volatility by rebalancing between the underlying risk and protection assets. Milliman has the expertise and experience in this area to help fund providers and insurers to develop their ideas and capabilities.

If you would like to discuss any of the topics raised in this article, please contact Neil Dissanayake at *neil.dissanayake@milliman.com*, Peter Lin at *peter.lin@milliman.com* or your usual Milliman consultant.

IMPLICATIONS OF ECJ GENDER RULING FOR INSURERS

On 1 March of this year, the European Court of Justice (ECJ) issued a landmark ruling which prohibits use of gender as a rating factor from 21 December 2012. More specifically, the ruling invalidates article 5(2) of what is colloquially known as the Gender Directive[1] from 21 December 2012, arising from a successful challenge by a Belgian consumer group, Test-Achats. Article 5(2) provided a derogation from article 5(1) which in turn stipulated that '… *use of sex as a factor in the calculation of premiums and benefits … shall not result in differences in individuals' premiums and benefits'.*

It is clear from the ruling that insurers cannot charge different rates to males and females from 21 December 2012. However, the implications of the ruling are less clear in a number of respects, some of which are more significant than others. We expand further on these points below. In particular, the question of whether or not the ruling applies to existing contracts is of paramount importance. Insurers will need to redesign and reprice their products to make them gender-neutral by 21 December 2012 and we may see alternative rating factors being introduced, along with marketing strategies aimed at preventing insurers from attracting adverse portfolio mixes compared with pricing assumptions. However, in advance of redesigning products, the industry is keen to get clarity on the various areas of uncertainty that exist.

To this end, the European Commission held a Forum on 20 June at which representatives of a range of different stakeholders[2] expressed their views on the different areas of uncertainty. The Commission plans to issue guidance on the implications of the ruling later this year and the different stakeholder views will be taken into consideration through this process. However, a number of member states, including the UK, feel that guidance is not sufficient and have called on the Commission to amend the Directive to give effect to the ECJ ruling and provide 'legal certainty'.

EXISTING CONTRACTS

If insurers are required to apply gender-neutral rates to contracts in force at 21 December 2012 which remain in force after that date, there will be significant issues for them from a number of perspectives: pricing/solvency, policyholder communications, administration systems issues, etc.

For consumers, there would be significant implications too. Some consumers would be winners, enjoying premium reductions or benefit increases while others would be losers, assuming that insurers will be able to worsen the terms of existing contracts either through the policy conditions or under the ECJ ruling. The winners or losers could be either male or female depending on the type of insurance cover and age range. For life cover and motor insurance, gender-neutral rates would typically see males benefit from improved terms with worse terms for females, while for annuities and permanent health insurance the opposite would typically be expected to be the case. The implications for critical illness insurance would vary more by age. Premium reductions or benefit improvements would be good news for the affected consumers but premium increases or benefit reductions could result in affordability or hardship issues which could have damaging social implications.

HM Treasury recently issued a statement[3] clearly setting out its view that the ruling only applies to new contracts issued after 21 December 2012 and that gender-specific rates can continue for contracts issued prior to 21 December 2012 after that date. It plans to issue a statutory instrument to give effect to this interpretation in early 2012, with a consultation process and impact assessment to take place in the autumn.

This is welcome news for the UK industry, but concerns still remain regarding 'legal certainty' for as long as the directive remains unchanged as is evident from HM Treasury's statement.

While most member states would appear to adopt a similar interpretation to the UK with regard to existing contracts, it is not clear that this is a unanimous view. If any other member states were to adopt a different interpretation and require that gender-neutral rates apply also to existing contracts post 21 December 2012, this could potentially undermine the majority view, depending on whether specific national reasons existed for the different interpretation or not.

OTHER AREAS OF UNCERTAINTY

The ruling does not explicitly address use of gender information by insurers for other purposes, particularly in relation to underwriting, reserving and aggregate (rather than individual) pricing:

- Current underwriting practices involve questions about medical conditions that are either gender-specific or predominantly suffered by either males or females. For example, prostate cancer is a male-only condition. Breast cancer is predominantly a female condition, but in rare cases males also suffer from this condition.

  Will insurers be allowed to continue to ask questions about prostate cancer? If there is a family history of breast cancer among female relatives, can an insurer apply loadings to a female proposed life but choose not to in the case of a male proposed life?

  Article 5(1) of the Gender Directive stipulates that '*… use of sex as a factor in the calculation of premiums and benefits … shall not result in differences in individuals' premiums and benefits'*. This wording does not distinguish between the concept of 'normal rates' and 'loaded rates' arising from the medical underwriting process. The underwriting process examples cited above are concerned with health status rather than gender per se and so it could be argued that gender is not used as a factor in the calculation of premiums but rather that gender is used as an indicator in assessing propensity to medical conditions. Does this justify current underwriting practices?

- Can insurers collect information about gender status provided that they do not charge different rates to males and females of the same age who buy the same cover and who qualify for normal rates on health status grounds?

  If insurers do not know the gender mix of their portfolio of business, they will need to make more prudent assumptions for reserving purposes and indeed for (aggregate) pricing purposes, which will ultimately mean higher prices for consumers.

- Group schemes (and bulk annuities) are currently priced based on the profile of the scheme rather than on the insurer's general book of business. Will it be permissible to continue pricing group schemes on a scheme-specific basis provided that male and female members within the scheme are charged the same premium and receive the same benefits?

There appears to be broad consensus among the different stakeholders that insurers should be allowed to continue to use gender information for the above purposes, provided that ultimately a man a woman who buy the same cover are charged the same, premium or enjoy the same benefits, where there are no other distinguishing features between them such as health status. It is expected that the guidance which the Commission intends to publish later this year will provide clarity on these issues.

The above list is not exhaustive and there are other issues that need to be considered too. For example, does the ruling apply to non-EU insurers? The Gender Directive was implemented in quite different ways across member states and depending on changes to EU and/or national legislation arising from the Test-Achats ruling, non-EU insurers could fall out of scope with consequent competitive advantages for them.

NEXT STEPS

Over the coming months, the industry's primary concern will be to get clarity on the areas of uncertainty outlined above. We expect that companies will begin redesigning and repricing existing products in earnest from early next year. This will involve considerable modelling work and assessing complex interaction of a range of different factors and expected behavioural changes. Ultimately, insurers will be aiming to strike a balance between protecting themselves from the risk of adverse portfolio mix, remaining competitive for new business and minimising lapse and re-entry risk. We may see some winners and losers emerging from this process as better prepared insurers position themselves well for this period of change.

If you would like to discuss any of the topics raised in this article, please contact Jim Murphy at *jim.murphy@milliman.com*, or your usual Milliman consultant.

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1 Council Directive 2004/113/EC
2 Including the insurance industry, regulators, member states, the actuarial profession and various equality groups.
3 *http://www.theyworkforyou.com/wms/?id=2011-06-30a.53WS.1*

TAX UPDATE

In the spring newsletter, we gave an update on life insurance taxation and proposed changes under Solvency II. Since that newsletter, the consultation has progressed with the publication by HM Revenue and Customs (HRMC) of a consultation document, 'Life Insurance Companies: A New Corporate Tax Regime', released in April 2011; and a technical document, 'Solvency II and the Taxation of Insurance Companies', in March 2011. These documents were open to consultation until 28 June 2011, with draft legislation scheduled to be published in the autumn of 2011; this is expected to be implemented in the 2012 Finance Bill. Some of the decisions are not directly related to Solvency II: HRMC has taken the opportunity to review various aspects of life insurance taxation.

As noted in the spring newsletter, the basis for tax will change to International Financial Reporting Standards (IFRS) or UK GAAP accounting profits, known as 'trading profit'. There have been a number of proposals for how this will work in practice, although there are also a number of points which are still open to consultation.

Trading profit will include items which are recognised directly in shareholders' equity, such as movement in fair value on available for sale financial assets. With-profits bonuses will retain their current treatment as an apportionment of profit rather than a deduction from profit and will remain tax-deductible.

There are various aspects within the definition of trading profits which are still open to consultation, such as the treatment of intangible assets.

The treatment of loan relationships is another item open for consultation. Loan relationships are primarily where the company is creditor or debtor, and the debt arises as the result of a transaction for the lending of money. However, there are various other relationships which are treated as loan relationships, such as repo arrangements, and these are specified in Part 6 of the Corporation Tax Act 2009.

Insurance companies are currently exempt from the normal loan relationship rules in relation to corporation tax, but HMRC is considering whether this should continue. The normal rules specify different treatment of loans relationships for trade and for other activities. For a proprietary insurance company, the activities of the long-term fund are trade and the activities of the shareholder fund are other activities. HMRC is also consulting on an appropriate treatment for derivatives, and if the proposed approach for loan relationships could also be applied to derivatives.

A key factor in moving towards trade profits is the impact of the expected replacement of the accounting standard IFRS 4 on insurance contracts, which is currently being developed. The government will consult further on

A KEY FACTOR IN MOVING TOWARDS TRADE PROFITS IS THE IMPACT OF THE EXPECTED REPLACEMENT OF THE ACCOUNTING STANDARD IFRS 4 ON INSURANCE CONTRACTS, WHICH IS CURRENTLY BEING DEVELOPED.

IFRS 4 when the timing of the new standard and its content are more certain. Specific areas for further consultation are the volatility of profit and the treatment of the Unallocated Divisible Surplus (i.e., the with-profits estate) for proprietary companies.

Another key decision is that protection business will be moved from its current treatment within Income minus Expenses taxation (I-E) to being taxed on trading profits as part of Gross Roll Up Business (GRB). The proposed definition for protection business is:

"A long-term insurance contract where the benefits payable under the contract cannot exceed the return of premiums paid, unless they are payable only on death or in respect of incapacity due to injury, sickness or infirmity."

Protection business written before 1 January 2012 will still be taxed on an I-E basis; business written after that date will be GRB. The treatment of alterations to policies where the alteration is after 1 January 2012, but the original policy was taxed as I-E, is open to consultation. BLAGAB tax will be subject to a minimum profit test to check that the I-E result is at least as great as trading profit.

Another decision is that permanent health insurance (PHI) will be moved into GRB, since the tax basis for PHI is currently trading profit. A specific point around this move which is open to consultation is the treatment of dividends. Currently, the attaching tax credit can be recovered for PHI business; however, GRB dividends are taxed in full.

Under the proposed Solvency II regulations, there is unlikely to be a requirement for proprietary insurers to maintain separate long-term and shareholder funds. The current tax treatment of assets in the long-term fund and assets in the shareholder fund is fundamentally different, with shareholder funds generally treated as standalone investment companies. HRMC proposes that the basis for tax on assets will depend on the purpose of the asset (circulating asset or capital assets). The proposed approach is similar to the current approach for general insurance business.

The approach for apportionment will be simplified. The current rules are very formulaic, and can produce strange results. Under the new regime, factual allocations will be used as far as possible. The purpose of the allocation is to split profit, expenses, investment income and gains to BLAGAB and other tax classes. The proposed simplification is to use factual allocation for revenue items such as premiums and claims. Expenses will be allocated based on the insurers' internal accounting records. The insurer will use its internal asset hypothecation as the basis for allocating income and gains. Where factual allocations cannot be used, a simplified statutory formula will be used. The precise form of this formula is open to consultation.

The consultation includes proposals for simplifying tax on future transfers of business. Between unconnected parties, accounting principles will be followed. There is a question around how any value of in force (VIF) asset set up should be treated to avoid double tax. For connected parties, any profit or loss arising from the transaction will not be recognised.

The consultation proposes the following transitional arrangements in moving from the old rules to the new rules:

- Deferred acquisition costs (DAC) net of deferred income reserves (DIR) are not a feature of FSA returns, but are a feature of accounting profit. For pre-transitional business, the amounts of DAC and DIR should be separately identified so they can be excluded from trading profit.
- There are a number of other differences between accounting basis profit and current FSA forms profit, for example in timing and in asset and liability valuation. These residual differences will be spread over 10 years.
- In some circumstances, profit on a court scheme has resulted in profit being recognised in the accounts but not recognised within the FSA return. Events leading to this include demutualisation, a transfer of business and reattribution of the inherited estate. Tax on this profit will be brought in over a 10-year period, or later where the scheme imposes an absolute bar on releasing profits.
- There is consultation on the treatment of losses and to what extent losses should be available to offset against future profits. Specifically, pension losses within GRB are currently only available for offset against future pension profits. There will be consultation on whether this should be retained. There will also be consultation on whether past PHI losses should be available for future GRB profit or if the losses should be streamed to future PHI losses only.
- Any BLAGAB excess expenses in the old regime will also be available in the new regime.

HRMC has produced a model outlining the anticipated effect of these changes. The key items modelled include:

- Moving protection business to GRB
- Moving GRB and PHI into a new, combined category
- Transitional arrangements

(CONTINUED ON PAGE 11)

INNOVATION IN FINANCIAL PROTECTION STRATEGIES

As predicted in our previous newsletter, 2011 is proving to be the year where new product concepts involving innovation in financial protection strategies begin to take hold internationally. Following the launch of Sanlam's Glacier International Global Life Plan, which we reviewed in the last edition, there have been the following further launches in recent months:

- **Huntington Bank** – Wealth preservation funds
- **ING Belgium** – Variable annuity with guaranteed minimum accumulation benefit
- **ING Denmark** – Variable annuity with guaranteed minimum withdrawal benefit
- **Oman Insurance** – Protection strategy plan
- **Valmark Advisers** – TOPSTM protected ETF portfolios

ING's launches are an example of a European insurance multinational with successful hedge programmes continuing to show commitment to offering financial guarantees, e.g., in the form of variable annuities (VAs). During the first half of 2011, ING launched its second VA product in the Belgian market, as well as an expansion into Denmark. The Belgian product, launched in February 2011, is a single-premium product which offers both a guaranteed return of capital after 10 years, as well as a guarantee on death (for ages below 70). The Danish product, launched in March 2011, is the first VA product to be offered in this market and is sold by ING Life, Luxembourg. It has a guaranteed minimum withdrawal benefit (GMWB), with both fixed term (10, 15 or 20 years) and lifetime versions being offered.

The Oman Insurance product is similar to a variable annuity in that it allows the investor to select individually tailored exposures to a long list of managed funds, with a portion of their investment being allocated towards a protection strategy. However, the funds that would have been set aside as reserves against investment guarantees (i.e., the hedge assets) are held in a separate account, called a protection account, for the benefit of the policyholder.

The protection assets within the protection account include cash as well as hedge assets which are invested to act in an opposite direction to the market. In particular, if the markets fall, the hedge assets increase, thereby mitigating the impact of the falling markets. Of course, if the markets increase, the hedge assets in the protection account fall in value, thereby reducing the impact of the gain; however, as only a relatively small proportion of funds are invested in the protection account, the policyholder still benefits from a substantial upside exposure. Furthermore, the strategy is designed to protect not only the original investment put into the policy, but also a large proportion of any upside investment gains. The Oman Insurance product will be distributed through a number of bank and tied agent channels, with the target market being expatriate investors in Dubai.

ValMark Advisers in its TOPS Protected ETF Portfolio product combines a similar capital protection strategy with a volatility management strategy, to offer an additional layer of protection on their range of professionally managed ETF portfolios. The protection strategy, which is included within its funds, aims to protect against large short-term swings and severe, sustained declines in the market, which could potentially disrupt or devastate retirement income on approach to retirement.

The volatility management strategy is the next generation in techniques that aim to shift fund investment strategy from aggressive to conservative when approaching retirement, with the purpose of protecting long-term wealth accumulation. Traditional 'glide path' techniques (also referred to as life-styling in some parts of Europe) use a predetermined shift in asset allocation from risky assets, such as equities, to more conservative assets, such as fixed income and cash. Although such traditional approaches could lead to lower volatility compared to without the use of a glide path, they may still fail to reduce volatility from period to period–especially at times of severe market stress–as they lock in a fixed amount of equity exposure regardless of the prevailing market volatility.

The new, more sophisticated, volatility management strategy helps investors increase the likelihood of achieving their retirement funding objectives by focusing on a 'glide path' with respect to overall fund return volatility–whereby asset exposures are determined such that fund return volatility is reduced along a predetermined path up until retirement.

Such underlying fund volatility management techniques are also attractive to insurance companies that may choose to offer guarantees on such funds, as it helps to stabilise the cost of hedging these guarantees, thereby reducing the need to vega hedge or increase charges to mitigate the risk of losses due to higher-than-expected volatility.

Huntington Bank has also launched a product which provides policyholders with exposure to protection assets (i.e., cash and hedge assets), as well as a volatility management strategy, which act in a mitigating way to the market. However, both the Huntington Bank and ValMark Advisers products differ from the Sanlam and Oman Insurance products by including the protection strategy within the overall fund, rather than offering it at the individual policyholder account level. Including the product within the fund has the impact of reducing the volatility of unit price movements. Many view this as a more mass market product, as it reduces the level of understanding and decision making needed from the investor. The Huntington product is specifically aimed at target date funds in the US 401(k) defined contribution plan market.

Both variable annuities and protection strategy accounts aim to protect the customer from the impact of market downfalls. Whilst variable annuities offer the customer an explicit return of capital guarantee (and in many cases higher protection), the protection strategies, despite not offering an explicit guarantee, do serve to mitigate the impact of falling markets significantly, thereby cushioning the investor from market volatility. With renewed economic uncertainty surrounding the uprisings in the Middle East, United States and Euro zone government debt issues, and fears of contagion in the banking system, we see an increasing demand for investor protection against asset market falls in the form of both explicit guarantees and cushioned protection strategies. Such product offerings provide an attractive, flexible and capital cost-effective approach to meet these customer needs.

If you would like to discuss any of the topics raised in this article, please contact Gary Finkelstein at *gary.finkelstein@milliman.com*, Neil Dissanayake at *neil.dissanayake@milliman.com* or your usual Milliman consultant.

TAX UPDATE

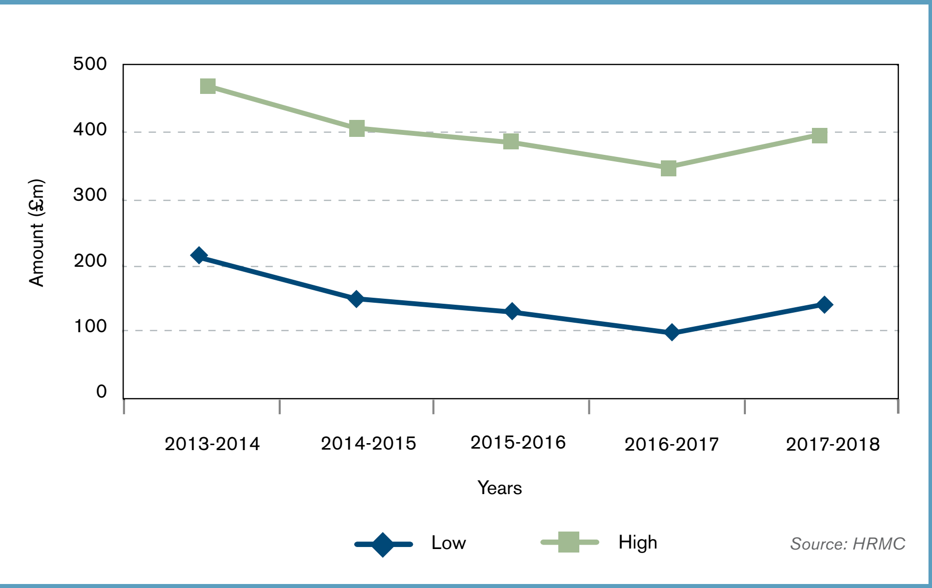
(CONTINUED FROM PAGE 9)

- The model has been run under a number of different assumptions, which produces a high and low range for the estimate. The following chart shows the estimated extra tax collected over the first five years of the new regime.

The consultation goes a long way towards specifying the future structure of life insurance taxation, which will enable companies to start work on the necessary reporting changes. However, there is still uncertainty over a number of areas such as the interaction with IFRS 4 Phase 2. The timetable for implementing the changes is likely to be tight.

If you would like to discuss any of the topics raised in this article, please contact Matthew Cocke at *matthew.cocke@milliman.com*, Philip Simpson at *philip.simpson@milliman.com* or your normal Milliman consultant.

ESTIMATED EXTRA TAX UNDER THE NEW REGIME



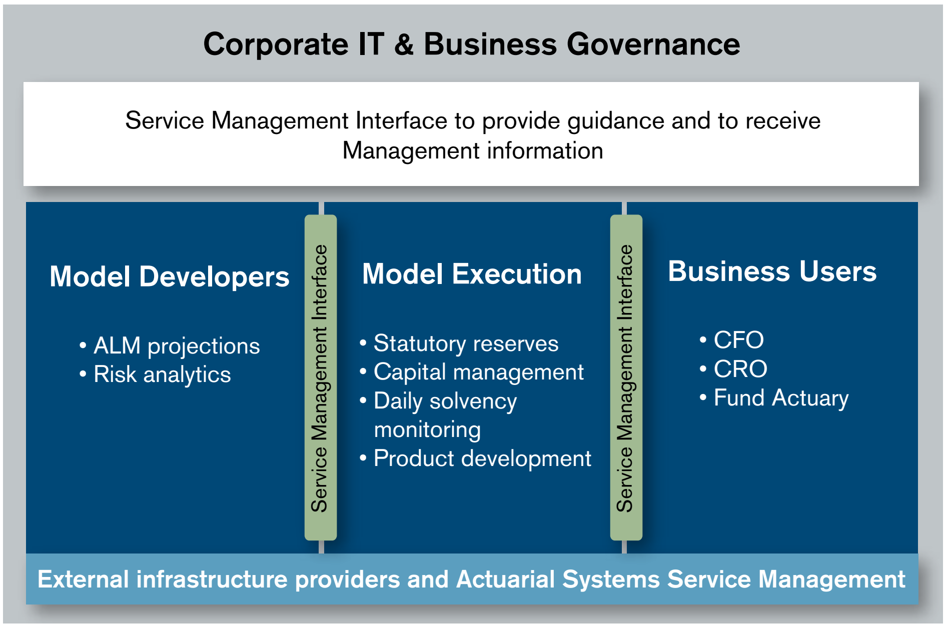
ITIL SERVICE MANAGEMENT PRINCIPLES APPLIED TO ACTUARIAL PROCESSES

With the need to comply with more onerous reporting requirements and tighter reporting deadlines, many insurance companies have restructured their actuarial departments to internally separate the responsibility for the production of the results from the analysis and interpretation of these results by the business users. The production team may be further divided into model development and model execution teams.

In addition, the involvement of corporate IT and multiple technology providers has necessarily become more prevalent. This separation of corporate IT infrastructure provision, system development, system execution and end usage is consistent with other corporate mission-critical systems. This relationship is shown in Figure 1.

In response to this changing actuarial IT landscape, this article considers how international best practice IT service management process methods can be used to support the service management interactions between the key business stakeholders illustrated, given the strategic objectives of the organisation.

FIGURE 1: ACTUARIAL PROCESS ORGANISATION



ITIL SERVICE MANAGEMENT FRAMEWORK

The IT Infrastructure Library (ITIL®)[1] framework for service management, which has been used in the public and private sectors for more than 20 years, focuses on:

- Aligning business operational and governance requirements with IT service delivery
- Delivering consistently good quality of service levels
- Supporting business systems efficiently and effectively

To achieve these objectives, 25 process management areas are defined. A cross section of these is summarised in the table below, together with examples of how they may be applicable within the actuarial process organisation described above.

Service Management Process Description	Examples Within Actuarial Departments
Service Desk & Incident Management To restore normal service operations for business users as quickly as possible and minimise the impact or disruption to the end user. This process also handles service requests and self-service options. It includes invoking escalations as required.	Business user support when assistance is required for the use of actuarial systems, particularly during key times such as quarterly valuations. Management and routing of incidents to resolver groups for both actuarial and infrastructure issues.
Service Catalogue A business service catalogue documents all the services available to the business users	Visibility of services for actuarial staff such as: • Solvency II quarterly assessment cycle • Daily solvency position • Balance sheet management • Product development
Service Level Management To coordinate inputs from the technical areas that monitor the service and to produce management reports based on service requirements. This process is also responsible for instigating actions to improve service quality.	CFOs, CROs and department heads have a point of contact with service management for any matters concerning the achievement of internal and external service-level agreements and new service requirements.
External Supplier Management Provides a single point of accountability for the relationship with service suppliers to deliver the right service in a timely manner. Ensures that all contracts and suppliers support the business needs and meet their contractual agreements.	Engagement with third-party subject matter experts for technical service provision and actuarial knowledge • Economic scenario generator • Market data provider • Actuarial projection system vendor • Risk management system • Market information for new services or products
Capacity Management Ensures IT capacity exists and is matched to the current and future agreed needs of the business.	• Flexible computing processing supply to meet demand for variable-sized actuarial calculations • Responsive to business growth plans
Availability Management Aligns the availability of services with agreed service levels by monitoring and reporting on current performance and planning for future requirements.	The overall service availability and reliability for: Internal processing and storage Cloud processing and storage Internet connectivity
Problem Management Identifies the underlying cause of one or more incidents where the incident management process has been unable to do so within the service-level agreement timescales.	Root cause analysis for behind-the-scenes investigations into problems that can risk service performance.
Change Management Manages change requests in the operational environment and ensures that only authorised changes are made to service components, thereby reducing the risk of service interruption caused by badly assessed/planned or poorly implemented changes. It has a strong association with release and deployment management.	Top-performing service management teams recognise change control as a safety net to guard their reputation. Model and infrastructure change requests are evaluated and assessed for the benefit and/or risk they deliver to the business and the control systems. This requires engagement with the stakeholder groups to make coordinated decisions.
Release & Deployment Management Protects the environment by consolidating changes into manageable units for implementation and ensures all aspects such as training, communications and testing are considered. Strong association with change management.	Approved changes to IT systems and processes are released and deployed into the operational environment with effective control mechanisms to safeguard service reliability and reputation.
Infrastructure Event Management Monitoring tools can detect the thousands of 'events' that occur in an IT infrastructure every day. The majority of events require no human action, but warnings and exception conditions are likely to be a trigger for incident management or a systems operator.	Behind-the-scenes management of technical computing events where the technology that is under the direct management control of the organisation may require human intervention.

CONCLUSION

As with any set of principles, the implementation of the ITIL framework within a given actuarial process organisation needs to be responsive to the particulars of the organisation, such as size, organisational structure and geographic coverage. It is important that the implemented service management model is seen as adding value through improving operational efficiency, rather than imposing unnecessary barriers and bureaucracy. Therefore, all service management activities work most productively when aligned with the leadership and direction provided by business and IT strategy and governance.

This article is co-authored by Martin Sher and Sue Southern[2]. If you would like to discuss any of the issues raised in this article, please contact Martin Sher at *martin.sher@milliman.com*, or contact your usual Milliman contact.

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1 ITIL is a registered trademark of the Office of Government Commerce in the UK and other countries.

2 Sue Southern is the ITIL expert from Purple Griffon Ltd, - an independent ITIL training and consulting firm.

FINANCIAL MARKETS CORNER

EUROPEAN VARIABLE ANNUITY ECONOMIC HEDGE COSTS – MARKET UPDATE

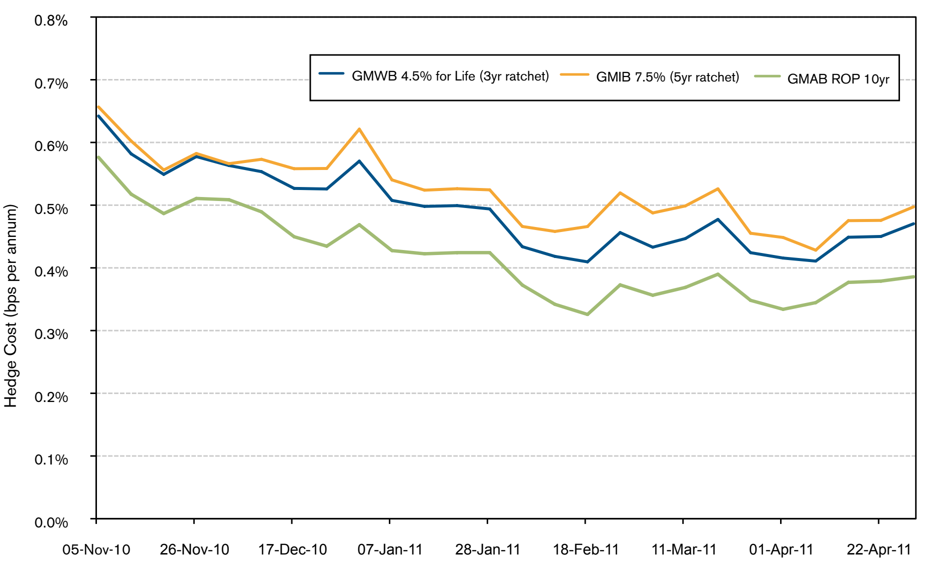
The following graphs illustrate how economic hedge costs for our typical standard example reference variable annuity products and models points have behaved over the past six months in both the UK and Eurozone markets.

In both the UK and Eurozone markets we are seeing that pure economic hedge costs for variable annuity product structures have been falling over the past two quarters. This is been quite dramatic particularly within the Eurozone. At the end of April 2011, in the UK for our example VA model points, hedge costs have now fallen below the 50 basis point level. For the Eurozone model points, hedge costs that only 6 months ago were up to 150bps for a GMIB, have now fallen to 70bps and below.

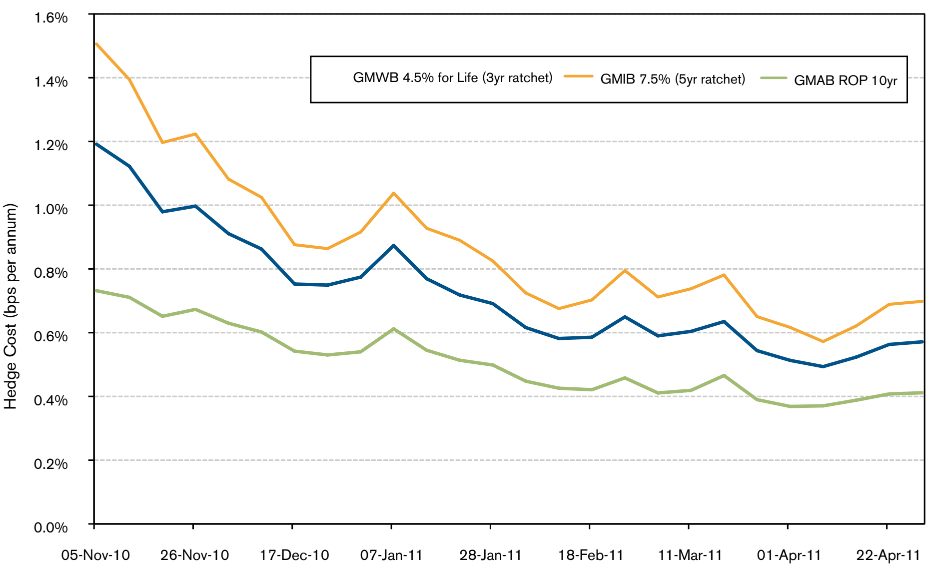
This has been largely driven by the increase in mid- to long-term interest rates, which has been particularly pronounced in the Eurozone in this period, with increases of 75 bp to 85 bp over the period at the longer end of the interest rate term structure. We have also seen some slight reductions in equity-implied volatility (out to five years) of 1% to 2.5%.

If you would like to discuss any of the topics raised in this article, please contact Neil Dissanayake at *neil.dissanayake@milliman.com*, Peter Lin at *peter.lin@milliman.com,* or your usual Milliman consultant.

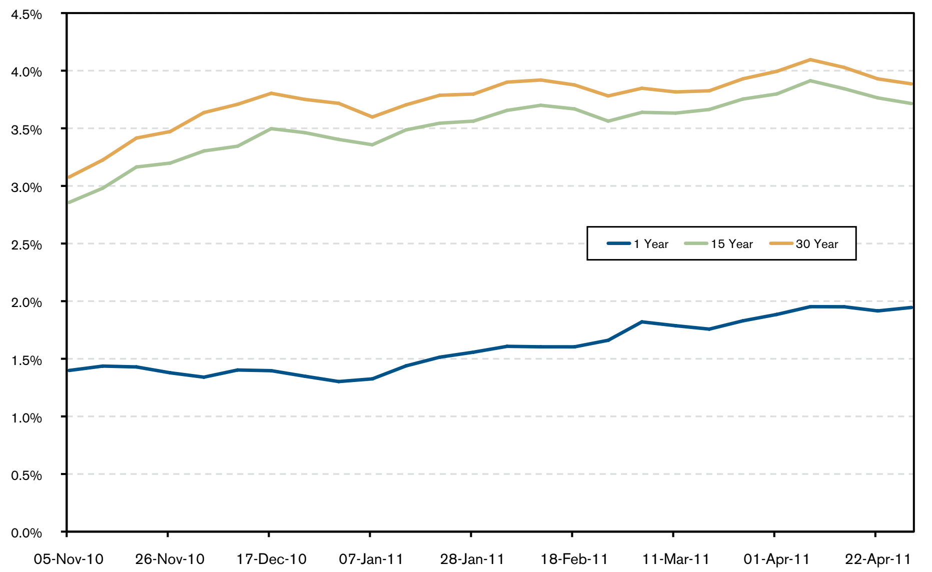
UK Example Variable Annuity Hedge Costs



Eurozone Example Variable Annuity Hedge Costs

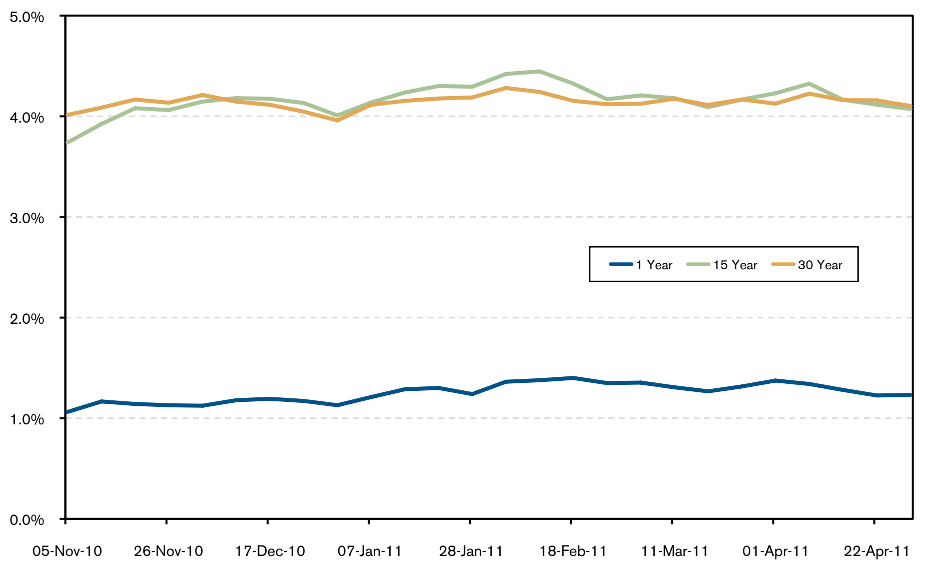


EURO INTEREST RATES (SWAP CURVE ON A SPOT BASIS)



IN BOTH THE UK AND EUROZONE MARKETS WE ARE SEEING THAT PURE ECONOMIC HEDGE COSTS FOR VARIABLE ANNUITY PRODUCT STRUCTURES HAVE BEEN FALLING OVER THE PAST TWO QUARTERS.

UK STERLING INTEREST RATES (SWAP CURVE ON A SPOT BASIS)



NOTEWORTHY

MILLIMAN'S GLOBAL FAMILY TAKAFUL REPORT

This report focuses on recent developments in the family Takaful market. The summary report includes a review of the family Takaful industry growth in key regions as well as future projections, an overview of the regulatory landscape, results of a family Takaful survey and a discussion of business models and products.

Download or order the report at: milliman.com/takaful2011.

MILLIMAN NAMED MICROSOFT PARTNER OF THE YEAR

In recognition for implementing customer solutions using its MG-ALFA® actuarial projection system in conjunction with the Microsoft platform, Milliman has been named a 2011 Microsoft Technical and High-performance Computing Innovation Partner of the Year. The award recognizes Milliman's work to enable innovative simulation and modeling capabilities using cloud-based computing, Windows Azure, and the Microsoft parallel development platform.

EVENTS TO COME

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
21 September 2011	Actuarial Profession	Highlights of the Pension Conference
3 October 2011	Milliman	Milliman Expert Forum
11-14 October 2011	Actuarial Profession	GIRO conference and exhibition 2011
20-22 November 2011	Actuarial Profession	Life conference and exhibition 2011

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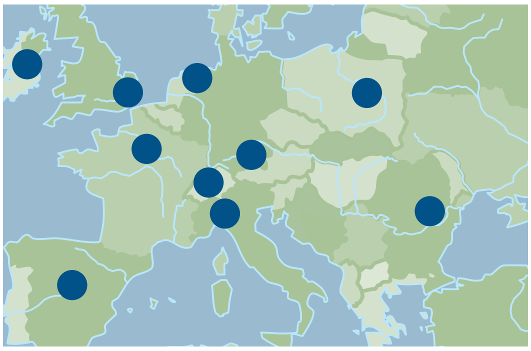
MILLIMAN IN EUROPE

MILLIMAN MAINTAINS A STRONG AND GROWING PRESENCE IN EUROPE WITH 250 PROFESSIONAL CONSULTANTS SERVING CLIENTS FROM OFFICES IN AMSTERDAM, BUCHAREST, DUBLIN, LONDON, MADRID, MILAN, MUNICH, PARIS, WARSAW, AND ZURICH.



ABOUT MILLIMAN

Milliman is among the world's largest independent actuarial and consulting firms. Founded in 1947, the company currently has 53 offices in key locations worldwide employing more than 2,500 people.